

# Alibaba Cloud Elastic Compute Service

## API Reference

Issue: 20190911

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## Generic conventions

Table -1: Style conventions

| Style                                                                             | Description                                                                                                                                | Example                                                                                                                                                                                              |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results. |  <b>Danger:</b><br>Resetting will result in the loss of user configuration data.                                    |
|  | This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.  |  <b>Warning:</b><br>Restarting will cause business interruption. About 10 minutes are required to restore business. |
|  | This indicates warning information, supplementary instructions, and other content that the user must understand.                           |  <b>Notice:</b><br>Take the necessary precautions to save exported data containing sensitive information.           |
|                                                                                   | This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.                       |  <b>Note:</b><br>You can use Ctrl + A to select all files.                                                        |
| >                                                                                 | Multi-level menu cascade.                                                                                                                  | Settings > Network > Set network type                                                                                                                                                                |
| <b>Bold</b>                                                                       | It is used for buttons, menus, page names, and other UI elements.                                                                          | Click OK.                                                                                                                                                                                            |
| Courier font                                                                      | It is used for commands.                                                                                                                   | Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder.                                                                                                                 |
| <i>Italics</i>                                                                    | It is used for parameters and variables.                                                                                                   | <code>bae log list --instanceid Instance_ID</code>                                                                                                                                                   |
| [ ] or [a b]                                                                      | It indicates that it is an optional value, and only one item can be selected.                                                              | <code>ipconfig [-all -t]</code>                                                                                                                                                                      |

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



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# 1 Introduction

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

## Limits

We set limits on the number and specification for the ECS instance, disk, security group, snapshot, and network bandwidth that you can create. For more information, see [Limits](#). Whenever the API description, optional parameter values, and available specifications conflict with the resource or specification limits described in the [Limits](#), the *Limits* topic always takes the precedence.

## Methods

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

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

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



### Note:

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

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

## Glossary

| Item                     | Abbreviation          | Meaning                                                                                                                                                                                                                                                                                    |
|--------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Region</i>            | <i>Region</i>         | A specific data center established by Alibaba Cloud in which you can run your business. To decrease network latency, we have linked the regions all over the world . However, the region cannot be changed once an ECS resource is create in it.                                           |
| <i>Availability Zone</i> | <i>Zone</i>           | Zone for short. An area with independent power grids and networks in a specified region. Each region has one or more zones. The network latency for ECS resources within a specific zone is reduced.                                                                                       |
| <i>Instance</i>          | <i>Instance</i>       | A virtual computing environment that includes CPU, memory, operating system, bandwidth, disks, and other basic computing components. An ECS instance is an independent virtual machine, and is the core element of ECS. For more information, see <a href="#">Instance type families</a> . |
| <i>Image</i>             | <i>Image</i>          | A running environment template for an instance. It includes an operating system and preinstalled software . You can use an image either to create an instance or change the system disk of an instance.                                                                                    |
| <i>Disk</i>              | <i>Disk</i>           | The storage device of instances.                                                                                                                                                                                                                                                           |
| <i>Security group</i>    | <i>Security group</i> | An instance-related security group. An instance must belong to at least one security group. The security policies of a security group apply to all instances in the group.                                                                                                                 |
| <i>Snapshot</i>          | <i>Snapshot</i>       | A restore point created for a disk. It contains the disk data at a specified time and can be used to restore disk data or create custom images.                                                                                                                                            |
| <i>Tag</i>               | <i>Tag</i>            | Consists of a key-value pair. You can assign tags to ECS resources for fast listing and filtering.                                                                                                                                                                                         |
| <i>IP address</i>        | <i>IP address</i>     | The Internet or intranet IP address of an instance.                                                                                                                                                                                                                                        |

## 2 API overview

The following tables list API operations available for use in ECS.

### Instances

| Operation                                         | Description                                                                                                                                                                                                                                            |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">RunInstances</a>                      | Creates one or more Pay-As-You-Go or subscription ECS instances.                                                                                                                                                                                       |
| <a href="#">CreateInstance</a>                    | Creates an ECS instance.                                                                                                                                                                                                                               |
| <a href="#">DescribeInstances</a>                 | Queries the details of one or more ECS instances.                                                                                                                                                                                                      |
| <a href="#">StartInstance</a>                     | Starts an ECS instance.                                                                                                                                                                                                                                |
| <a href="#">RebootInstance</a>                    | Restarts an ECS instance.                                                                                                                                                                                                                              |
| <a href="#">StopInstance</a>                      | Stops an ECS instance.                                                                                                                                                                                                                                 |
| <a href="#">DeleteInstance</a>                    | Releases a Pay-As-You-Go instance or a subscription ECS instance that expires.                                                                                                                                                                         |
| <a href="#">AttachInstanceRamRole</a>             | Attaches a RAM role to one or more ECS instances. You can only attach one RAM role to an ECS instance at any time. If the instance already has a RAM role, an error code is returned because another RAM role cannot be attached to the same instance. |
| <a href="#">DetachInstanceRamRole</a>             | Detaches a RAM role from one or more ECS instances.                                                                                                                                                                                                    |
| <a href="#">DescribeInstanceStatus</a>            | Obtains the states of multiple ECS instances.                                                                                                                                                                                                          |
| <a href="#">RenewInstance</a>                     | Renews a subscription ECS instance.                                                                                                                                                                                                                    |
| <a href="#">ReactivateInstances</a>               | Restarts a Pay-As-You-Go ECS instance that is suspended because of overdue payments or has expired.                                                                                                                                                    |
| <a href="#">RedeployInstance</a>                  | Redeploys an ECS instance when the instance receives an event notification.                                                                                                                                                                            |
| <a href="#">DescribeInstanceVncUrl</a>            | Queries the Web management terminal URL of an ECS instance.                                                                                                                                                                                            |
| <a href="#">DescribeUserData</a>                  | Queries the user data of an ECS instance.                                                                                                                                                                                                              |
| <a href="#">DescribeInstanceAutoRenewalStatus</a> | Queries the auto renewal status of one or more subscription ECS instances.                                                                                                                                                                             |
| <a href="#">DescribeInstanceRamRole</a>           | Queries RAM roles attached to one or more ECS instances.                                                                                                                                                                                               |

| Operation                                       | Description                                                                                                                                                                                                                |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">DescribeSpotPriceHistory</a>        | Queries the price history of the last 30 days for a preemptible instance.                                                                                                                                                  |
| <a href="#">DescribeInstanceTypeFamilies</a>    | Queries the instance type families provided by ECS.                                                                                                                                                                        |
| <a href="#">DescribeInstanceTypes</a>           | Queries the instance type list provided by ECS.                                                                                                                                                                            |
| <a href="#">ModifyInstanceVpcAttribute</a>      | Modifies the VPC attributes of an ECS instance.                                                                                                                                                                            |
| <a href="#">ModifyInstanceAttribute</a>         | Modifies the information of an ECS instance, such as the password, name, description, hostname, and user data. For a burstable performance instance (t5), you can also change its running mode.                            |
| <a href="#">ModifyInstanceVncPasswd</a>         | Modifies the Web management terminal password of an ECS instance.                                                                                                                                                          |
| <a href="#">ModifyInstanceAutoReleaseTime</a>   | Sets or cancels the automatic release time for a Pay-As-You-Go ECS instance. Use caution when you set the automatic release time, because the instance is automatically released upon expiration.                          |
| <a href="#">ModifyInstanceAutoRenewalStatus</a> | Set one or more subscription ECS instances to the auto renewal status. To reduce the maintenance workload when an instance expires, you can set auto renewal for subscription ECS instances.                               |
| <a href="#">ModifyInstanceChargeType</a>        | Modifies the billing method for one or more ECS instances. You can change the billing method between Pay-As-You-Go and subscription, or change all Pay-As-You-Go data disks attached to an instance to subscription disks. |
| <a href="#">ModifyInstanceSpec</a>              | Modifies the instance type or public bandwidth of a Pay-As-You-Go ECS instance.                                                                                                                                            |
| <a href="#">ModifyPrepayInstanceSpec</a>        | Modifies the type of your subscription ECS instance. The new instance type takes effect for the entire lifecycle of the instance.                                                                                          |

## Launch templates

| Operation                            | Description                                                                                                                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CreateLaunchTemplate</a> | Creates an ECS instance launch template (launch template for short). An instance launch template removes the need to configure a large number of parameters every time you create an instance. |



| Operation                                          | Description                                                                                                                                                                                                                              |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CreateLaunchTemplateVersion</a>        | Creates a new version for a specified ECS instance launch template.                                                                                                                                                                      |
| <a href="#">DeleteLaunchTemplate</a>               | Deletes an ECS instance launch template.                                                                                                                                                                                                 |
| <a href="#">DeleteLaunchTemplateVersion</a>        | Deletes an ECS instance launch template version. This operation does not delete the default version of an ECS instance launch template. To delete the default version, you must call the <a href="#">DeleteLaunchTemplate</a> operation. |
| <a href="#">DescribeLaunchTemplates</a>            | Queries one or more ECS instance launch templates.                                                                                                                                                                                       |
| <a href="#">DescribeLaunchTemplateVersions</a>     | Queries one or more ECS instance launch template versions.                                                                                                                                                                               |
| <a href="#">ModifyLaunchTemplateDefaultVersion</a> | Modifies the default version of an ECS instance launch template. If you do not specify a template version number when creating an ECS instance ( <a href="#">RunInstances</a> ), the default version is used.                            |

### Auto provisioning groups

| Operation                                                    | Description                                                 |
|--------------------------------------------------------------|-------------------------------------------------------------|
| <a href="#">CreateAutoProvisioningGroup</a>                  | Creates an auto provisioning group.                         |
| <a href="#">ModifyAutoProvisioningGroup</a>                  | Modifies the configurations of an auto provisioning group.  |
| <a href="#">DeleteAutoProvisioningGroup</a>                  | Deletes an auto provisioning group.                         |
| <a href="#">DescribeAutoProvisioningGroups</a>               | Queries auto provisioning groups.                           |
| <a href="#">DescribeAutoProvisioningGroupInstances</a>       | Queries ECS instances in an auto provisioning group.        |
| <a href="#">DescribeAutoProvisioningGroupSchedulingTasks</a> | Queries the scheduling tasks of an auto provisioning group. |

### Disks

| Operation                     | Description                                                                                                                  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CreateDisk</a>    | Creates a Pay-As-You-Go or subscription data disk. You can create a basic disk, an ultra disk, an SSD disk, or an ESSD disk. |
| <a href="#">DeleteDisk</a>    | Releases a Pay-As-You-Go data disk. You can release a basic disk, an ultra disk, or an SSD disk.                             |
| <a href="#">DescribeDisks</a> | Queries the disks that you have created.                                                                                     |

| Operation                            | Description                                                                                                      |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <a href="#">AttachDisk</a>           | Attaches a data disk to an ECS instance.                                                                         |
| <a href="#">DetachDisk</a>           | Detaches a Pay-As-You-Go disk from an ECS instance . You can detach a basic disk, an ultra disk, or an SSD disk. |
| <a href="#">ModifyDiskChargeType</a> | Modifies the billing method for up to 16 disks that are attached to an ECS instance.                             |
| <a href="#">ModifyDiskAttribute</a>  | Modifies the attributes of a disk.                                                                               |
| <a href="#">ReplaceSystemDisk</a>    | Replaces the system disk or the operating system of an ECS instance.                                             |
| <a href="#">ReInitDisk</a>           | Resets a disk to its initial state.                                                                              |
| <a href="#">ResetDisk</a>            | Rolls back a disk to a specified disk state by using one of its historic disk snapshots.                         |
| <a href="#">ResizeDisk</a>           | Resizes a cloud disk. You can resize both system disks and data disks.                                           |
| <a href="#">ModifyDiskSpec</a>       | Upgrades the performance level of an ESSD disk.                                                                  |

### Reserved instances

| Operation                                          | Description                                                                                           |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <a href="#">PurchaseReservedInstancesOfferings</a> | Purchases reserved instances to pay for the CPU and memory usage fees of Pay-As-You-Go ECS instances. |
| <a href="#">DescribeReservedInstances</a>          | Queries the reserved instances that you have purchased .                                              |
| <a href="#">ModifyReservedInstances</a>            | Modifies reserved instances.                                                                          |

### Images

| Operation                   | Description                                                                                                                                |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">ExportImage</a> | Exports a custom image to an OSS bucket in the same region as the custom image.                                                            |
| <a href="#">CreateImage</a> | Creates a custom image. You can use the created image to create ECS instances (RunInstances) and replace system disks (ReplaceSystemDisk). |
| <a href="#">ImportImage</a> | Imports your locally saved image files to Alibaba Cloud ECS. Such images appears in the corresponding regions as custom images.            |

| Operation                                           | Description                                                                                                                                                                                                                                      |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CopyImage</a>                           | Copies a custom image from one region to another. You can use the copied image to create ECS instances (RunInstances) and replace system disks (ReplaceSystemDisk) in another region.                                                            |
| <a href="#">CancelCopyImage</a>                     | Cancels an ongoing CopyImage operation.                                                                                                                                                                                                          |
| <a href="#">DescribeImages</a>                      | Queries available image resources.                                                                                                                                                                                                               |
| <a href="#">DeleteImage</a>                         | Deletes a specified custom image.                                                                                                                                                                                                                |
| <a href="#">DescribeImageSharePermissions</a>       | Queries the accounts to which a custom image is shared. The response can be displayed over several pages. Ten entries are displayed on each page by default.                                                                                     |
| <a href="#">ModifyImageAttribute</a>                | Modifies the name and description of a custom image.                                                                                                                                                                                             |
| <a href="#">ModifyImageSharePermissions</a>         | Manages which accounts a custom image is shared to. After you share a custom image to other Alibaba Cloud accounts, these accounts can use the shared image to create ECS instances (RunInstances) and replace system disks (ReplaceSystemDisk). |
| <a href="#">DescribeImageSupportedInstanceTypes</a> | Queries the instance types supported by the specified image.                                                                                                                                                                                     |

## Snapshots

| Operation                                | Description                                                                                                                                                                                                                                                                          |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CreateSnapshot</a>           | Creates a snapshot for a specified disk.                                                                                                                                                                                                                                             |
| <a href="#">CreateAutoSnapshotPolicy</a> | Creates an automatic snapshot policy. After you create an automatic snapshot policy, you can call the ApplyAutoSnapshotPolicy operation to apply it to any disks. You can call the ModifyAutoSnapshotPolicyEx operation to modify an existing automatic snapshot policy as required. |
| <a href="#">ApplyAutoSnapshotPolicy</a>  | Applies an automatic snapshot policy to one or more disks. If you apply an automatic snapshot policy to a disk that already has an automatic snapshot policy, the new policy takes effect on the disk and replace the original policy.                                               |
| <a href="#">DeleteSnapshot</a>           | Deletes a snapshot. Snapshots that are currently being created can also be deleted by calling this operation.                                                                                                                                                                        |
| <a href="#">CancelAutoSnapshotPolicy</a> | Cancels the automatic snapshot policies of one or more disks.                                                                                                                                                                                                                        |

| Operation                                    | Description                                                                                                                                                                                                                                                                            |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">DeleteAutoSnapshotPolicy</a>     | Deletes an automatic snapshot policy. After you delete an automatic snapshot policy, the policy is no longer applied to the disks that it previously took effect on.                                                                                                                   |
| <a href="#">DescribeAutoSnapshotPolicies</a> | Queries the automatic snapshot policies that you have created.                                                                                                                                                                                                                         |
| <a href="#">DescribeSnapshots</a>            | Queries all the snapshots of an ECS instance or a disk. Request parameters such as InstanceId, DiskId, and SnapshotIds act as filtering conditions and are in a logical AND relationship.                                                                                              |
| <a href="#">DescribeSnapshotLinks</a>        | Queries the snapshot links of one or more disks. A snapshot chain is a chain of all the snapshots of a disk and a disk corresponds to a chain of snapshots. The snapshot chain ID is the same as the disk ID.                                                                          |
| <a href="#">ModifyAutoSnapshotPolicy</a>     | Modifies an automatic snapshot policy. After you modify an automatic snapshot policy, the new policy takes effect immediately on the disks that have the policy applied.                                                                                                               |
| <a href="#">DescribeSnapshotsUsage</a>       | Queries the number of snapshots stored in a region and the total size of the snapshots. If you want to view the snapshot usage information on each disk in the current region, we recommend that you call the DescribeSnapshotLinks operation to query the snapshot chain information. |
| <a href="#">DescribeSnapshotPackage</a>      | Queries the storage plans that you have purchased within an Alibaba Cloud region. These storage plans can be used to store snapshots.                                                                                                                                                  |

## Security groups

| Operation                                      | Description                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">ModifySecurityGroupEgressRules</a> | Modifies the outbound rules of a security group. You can call the AuthorizeSecurityGroup operation to add a security group rule.                                                                                                                                                                                               |
| <a href="#">CreateSecurityGroup</a>            | Creates a security group. Only instances within the security group are granted access permissions by default. If you want to allow requests from the Internet or requests from instances in other security groups, you can call the AuthorizeSecurityGroup operation to grant access permissions to these instances or groups. |

| Operation                                       | Description                                                                                                                                                                                                                                       |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">AuthorizeSecurityGroup</a>          | Adds an inbound rule for a security group. This operation allows or blocks the inbound traffic from other devices to ECS instances in the security group.                                                                                         |
| <a href="#">AuthorizeSecurityGroupEgress</a>    | Adds an outbound rule for a security group. This operation allows or blocks the outbound traffic from the ECS instances in the security group to other devices.                                                                                   |
| <a href="#">RevokeSecurityGroup</a>             | Deletes an inbound rule from a security group.                                                                                                                                                                                                    |
| <a href="#">RevokeSecurityGroupEgress</a>       | Deletes an outbound rule from a security group.                                                                                                                                                                                                   |
| <a href="#">JoinSecurityGroup</a>               | Adds an ECS instance to a specified security group.                                                                                                                                                                                               |
| <a href="#">LeaveSecurityGroup</a>              | Removes an ECS instance from a specified security group.                                                                                                                                                                                          |
| <a href="#">DeleteSecurityGroup</a>             | Deletes a security group. Before deleting a security group, make sure that no ECS instance exists in the security group and that the security group is not referenced by other security groups. Otherwise, the DeleteSecurityGroup request fails. |
| <a href="#">DescribeSecurityGroupAttribute</a>  | Queries the details of a security group.                                                                                                                                                                                                          |
| <a href="#">DescribeSecurityGroups</a>          | Queries the basic information of your security groups, such as security group IDs and descriptions. Security groups are displayed in descending order of their IDs.                                                                               |
| <a href="#">DescribeSecurityGroupReferences</a> | Queries whether a specified security group has been authorized by other security groups.                                                                                                                                                          |
| <a href="#">ModifySecurityGroupAttribute</a>    | Modifies the attributes of a security group, including its name and description.                                                                                                                                                                  |
| <a href="#">ModifySecurityGroupPolicy</a>       | Modifies the access control policy of a security group.                                                                                                                                                                                           |
| <a href="#">ModifySecurityGroupRule</a>         | Modifies the inbound rules of a security group. You can call the AuthorizeSecurityGroup operation to add a security group rule.                                                                                                                   |

### Deployment sets

| Operation                                    | Description                                            |
|----------------------------------------------|--------------------------------------------------------|
| <a href="#">CreateDeploymentSet</a>          | Creates a deployment set in the specified region.      |
| <a href="#">ModifyInstanceDeployment</a>     | Migrates an ECS instance to a DDH in the same region.  |
| <a href="#">ModifyDeploymentSetAttribute</a> | Modifies the name and description of a deployment set. |
| <a href="#">DeleteDeploymentSet</a>          | Deletes a deployment set.                              |

| Operation                              | Description                                        |
|----------------------------------------|----------------------------------------------------|
| <a href="#">DescribeDeploymentSets</a> | Queries attributes of one or more deployment sets. |

### SSH key pairs

| Operation                        | Description                                                                                                                                                                                                                                            |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CreateKeyPair</a>    | Creates an SSH key pair. The system stores the public key and returns the unencrypted private key. The private key is encoded by using PEM and is in the PKCS #8 format. You must store the private key on your own and guarantee its confidentiality. |
| <a href="#">ImportKeyPair</a>    | Imports the public key of an RSA-encrypted key pair that was created by other key pair generators. After the public key is imported, you must store the private key on your own and its guarantee confidentiality.                                     |
| <a href="#">AttachKeyPair</a>    | Attaches an SSH key pair to one or more Linux instances.                                                                                                                                                                                               |
| <a href="#">DetachKeyPair</a>    | Detaches an SSH key pair from one or more Linux instances.                                                                                                                                                                                             |
| <a href="#">DeleteKeyPairs</a>   | Deletes one or more SSH key pairs. The entry of a deleted SSH key pair is removed from the database. However, the instances to which the SSH key pair is attached can still use the SSH key pair.                                                      |
| <a href="#">DescribeKeyPairs</a> | Queries one or more SSH key pairs.                                                                                                                                                                                                                     |

### Network configurations

| Operation                               | Description                                                                                                                                                                                                                              |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">AllocatePublicIpAddress</a> | Assigns a public IP address to an ECS instance.                                                                                                                                                                                          |
| <a href="#">ConvertNatPublicIpToEip</a> | Converts the public IP address of a VPC-type ECS instance to an EIP.                                                                                                                                                                     |
| <a href="#">AttachClassicLinkVpc</a>    | Establishes a ClassicLink between a classic network -type instance and a VPC to allow the instance to communicate with resources in the VPC over the internal network. For more information, see ClassicLink overview in VPC User Guide. |

| Operation                                    | Description                                                                                                                                                                                                                                       |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">DetachClassicLinkVpc</a>         | Removes the ClassicLink between a classic network-type instance and a VPC. For more information, see ClassicLink overview in VPC User Guide. After the ClassicLink is removed, the classic network-type instance cannot communicate with the VPC. |
| <a href="#">DescribeBandwidthLimitation</a>  | Queries available bandwidth resources.                                                                                                                                                                                                            |
| <a href="#">DescribeClassicLinkInstances</a> | Queries one or more classic network-type instances that have established ClassicLink with VPCs.                                                                                                                                                   |
| <a href="#">ModifyInstanceNetworkSpec</a>    | Modifies the bandwidth configurations of an ECS instance. When the network specifications of an ECS instance cannot meet your needs, you can modify its bandwidth configurations to improve network performance.                                  |

## ENIs

| Operation                                       | Description                                                                                                                                                                                                                                                |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CreateNetworkInterface</a>          | Creates an ENI.                                                                                                                                                                                                                                            |
| <a href="#">AttachNetworkInterface</a>          | Attaches an ENI to a VPC-type instance.                                                                                                                                                                                                                    |
| <a href="#">AssignPrivateIpAddresses</a>        | Assigns one or more secondary private IP addresses to an ENI. Specifically, you can specify private IP addresses within the CIDR block of the VSwitch to which an ENI belongs, or the number of private IP addresses for ECS to assign them automatically. |
| <a href="#">UnassignPrivateIpAddresses</a>      | Deletes one or more secondary private IP addresses from an ENI.                                                                                                                                                                                            |
| <a href="#">DetachNetworkInterface</a>          | Detaches an ENI from an ECS instance.                                                                                                                                                                                                                      |
| <a href="#">DeleteNetworkInterface</a>          | Deletes an ENI.                                                                                                                                                                                                                                            |
| <a href="#">DescribeNetworkInterfaces</a>       | Queries available ENIs.                                                                                                                                                                                                                                    |
| <a href="#">ModifyNetworkInterfaceAttribute</a> | Modifies the attributes of an ENI. You can modify the name, description, and security group of the ENI.                                                                                                                                                    |

## System events

| Operation                                     | Description                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">DescribeInstancesFullStatus</a>   | Queries the full status information of one or more ECS instances. The full status information is made up of the instance status and the instance event status. The instance status is the lifecycle status of the instance. The instance event status is the health status of the maintenance event. For more information, see ECS instance lifecycle and System events. |
| <a href="#">DescribeInstanceHistoryEvents</a> | Queries the system events of the specified ECS instance. You can query system events within the last week. You can specify the InstanceEventCycleStatus parameter to query system events that are in the Scheduled or Executing state.                                                                                                                                   |
| <a href="#">DescribeDisksFullStatus</a>       | Queries the full status information of one or more disks.                                                                                                                                                                                                                                                                                                                |
| <a href="#">CancelSimulatedSystemEvents</a>   | Cancels one or more simulated system events that are in the Scheduled or Executing state. After you cancel a simulated system event, the simulated event is in the Canceled state.                                                                                                                                                                                       |
| <a href="#">CreateSimulatedSystemEvents</a>   | Schedules simulated system events for one or more ECS instances. The simulated system events do not occur in the actual system and the simulation does not affect ECS instances.                                                                                                                                                                                         |

## O&amp;M and monitoring

| Operation                               | Description                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">DescribeEniMonitorData</a>  | Queries traffic information of a secondary ENI over a specific period.                                                                                                                                                                                                                                                                                                                         |
| <a href="#">DescribeDiskMonitorData</a> | Queries the usage information of a specified disk over a specific period. You can query the read IOPS, write IOPS, read bandwidth (Byte/s), write bandwidth (Byte/s), read latency (ms), and write latency (ms) of the disk. A portion of the information may be missing. This is because the system cannot obtain the relevant information, such as when the disk is not in the In Use state. |



| Operation                                      | Description                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">DescribeInstanceMonitoringData</a> | Queries all the monitoring data of an ECS instance. You can query the CPU usage, inbound data traffic, outbound data traffic, network traffic, and average bandwidth of the ECS instance. A portion of the information may be missing. This is because the system cannot obtain the relevant information, such as when the instance is in the Stopped state. |
| <a href="#">GetInstanceScreenshot</a>          | Obtains the screenshot information of an ECS instance.                                                                                                                                                                                                                                                                                                       |
| <a href="#">GetInstanceConsoleOutput</a>       | Obtains the command line output of an ECS instance. The returned output is encoded in Base64.                                                                                                                                                                                                                                                                |

### Cloud assistant

| Operation                                    | Description                                                                                                                                               |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CreateCommand</a>                | Creates a cloud assistant command.                                                                                                                        |
| <a href="#">InstallCloudAssistant</a>        | Installs the cloud assistant client on one or more ECS instances.                                                                                         |
| <a href="#">InvokeCommand</a>                | Triggers a cloud assistant command on one or more ECS instances.                                                                                          |
| <a href="#">StopInvocation</a>               | Stops the process of a running cloud assistant command on one or more ECS instances.                                                                      |
| <a href="#">DeleteCommand</a>                | Deletes a cloud assistant command.                                                                                                                        |
| <a href="#">DescribeCloudAssistantStatus</a> | Checks whether the cloud assistant client is installed on one or more instances.                                                                          |
| <a href="#">DescribeCommands</a>             | Queries the cloud assistant commands that you have created. If you only specify the Action and RegionId parameters, all available commands are displayed. |
| <a href="#">DescribeInvocations</a>          | Queries the invocation information and status of cloud assistant commands.                                                                                |
| <a href="#">DescribeInvocationResults</a>    | Queries the invocation result of a cloud assistant command, or the actual output on a specified ECS instance.                                             |

### Tags

| Operation                    | Description                                               |
|------------------------------|-----------------------------------------------------------|
| <a href="#">TagResources</a> | Creates and attaches tags to the specified ECS resources. |

| Operation                        | Description                                                  |
|----------------------------------|--------------------------------------------------------------|
| <a href="#">ListTagResources</a> | Queries tags that are attached to one or more ECS resources. |
| <a href="#">UntagResources</a>   | Detaches and deletes tags from the specified ECS resources.  |

## Regions

| Operation                                     | Description                                                                                                                                                                                                     |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">DescribeRegions</a>               | Queries the Alibaba Cloud regions available to you.                                                                                                                                                             |
| <a href="#">DescribeZones</a>                 | Queries zones available in a specified region.                                                                                                                                                                  |
| <a href="#">DescribeResourcesModification</a> | Queries resources available in a certain zone upon upgrading or downgrading an ECS instance type or system disk.                                                                                                |
| <a href="#">DescribeAvailableResource</a>     | Queries resources available in a certain zone. For example, you can view resources available in a certain zone before creating an ECS instance (RunInstances) or modify the instance type (ModifyInstanceSpec). |

## Other operations

| Operation                                 | Description                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">CancelTask</a>                | Cancels an ongoing task. You can cancel the following asynchronous tasks: importing images (ImportImage) and exporting images (ExportImage).                                                                                                                                                                                                |
| <a href="#">DescribeTasks</a>             | Queries the progress of one or more asynchronous tasks.                                                                                                                                                                                                                                                                                     |
| <a href="#">DescribeTaskAttribute</a>     | Queries the details of a specified asynchronous task . You can query the following asynchronous tasks: importing images (ImportImage) and exporting images (ExportImage).                                                                                                                                                                   |
| <a href="#">DescribeAccountAttributes</a> | Queries the maximum number of ECS resources that you can create in a region. Specifically, you can query the maximum number of security groups, ENIs, Pay-As-You-Go instance vCPUs, preemptible instance vCPUs, and Dedicated Hosts (DDHs), local network type, and whether your account has been authenticated with real-name credentials. |

## 3 Quick start for ECS APIs

---

This topic describes how to call ECS APIs by using different developer tools, such as the Alibaba Cloud CLI, OpenAPI Explorer, and the Alibaba Cloud Java SDK. The topic takes CreateSnapshot as the example API to call.

### Use the Alibaba Cloud CLI

#### Prerequisites

You have [installed](#) and [configured](#) the Alibaba Cloud CLI.

#### Procedure

This example shows how to create a snapshot by calling the API ([#unique\\_162](#)) through Alibaba Cloud CLI. Before calling the API, please read the API documentation to understand its usage and learn about the required request parameters. If errors are reported when you call the API, you can check the corresponding API documentation for troubleshooting.

### 1. Get the instance ID.

- If you have connected to the ECS instance, you can use [metadata](#) to get the instance ID. For example, Linux instance can run the following commands:

```
curl http://100.100.100.200/2016-01-01/meta-data/instance-id
```

- On your local computer, you can call [DescribeInstances](#) to get the instance ID:

```
aliyun ecs DescribeInstances --output cols=InstanceId,InstanceName
```

### 2. Use [DescribeInstances](#) to filter for the target disk ID:

```
aliyun ecs DescribeInstances --RegionId cn-hangzhou --InstanceId i-bp1afnc98r8k69XXXXXX --output cols=DiskId
```

### 3. Use [#unique\\_162](#) to create a snapshot based on the disk ID:

```
aliyun ecs CreateSnapshot --DiskId d-bp19pjyf12hebpXXXXXX
```

If the following information is returned, the snapshot creation task has been successfully initiated:

```
{"RequestId":"16B856F6-EFFB-4397-8A8A-CB73FAXXXX XX","SnapshotId":"s-bp1afnc98r8kjhXXXXXX"}
```

4. Use [DescribeSnapshots](#) to query the snapshot creation status. If "SnapshotId" `"s-bp1afnc98r8kjhXXXXXX"` and "Status" `"accomplished"` are shown at the same time, it indicates that the snapshot has been successfully created.

```
aliyun ecs DescribeSnapshots --RegionId cn-hangzhou --InstanceId i-bp1afnc98r8k69XXXXXX --output cols=SnapshotId,Status
```

### Use OpenAPI Explorer to call an API

This example shows how to create a snapshot ([#unique\\_162](#)) through [Alibaba Cloud OpenAPI Explorer](#). For more information about OpenAPI Explorer, see [What is OpenAPI Explorer](#). Before calling [#unique\\_162](#), please read the API documentation to understand its usage and learn about the required request parameters.

1. Use [DescribeInstances](#) to get the instance ID and the disk ID.
2. Use [CreateSnapshot](#) to create a snapshot based on the disk ID.

3. Use [DescribeSnapshots](#) to query the snapshot creation status. If " `SnapshotId` " `" s - bp1afnc98r 8kjhXXXXXX "` and " `Status` ":" `accomplish ed` " are shown at the same time, it indicates that the snapshot has been successfully created.

#### Use the Java SDK

This example shows how to create a snapshot ([#unique\\_162](#)) through [Java SDK](#). For how to configure ECS SDK, see [Install the new Java SDK](#).



#### Note:

For the `< AccessKey >` (your `AccessKeyId`), `< AccessSecret >` (your `AccessKeySecret`), `< RegionId >` (the ID of the region to which the instance belongs), and `< DiskId >` (disk ID), you need to enter them according to your actual scenario. For more information, see [Create an accesskey](#) and [Regions and zones](#).

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.ecs.model.v20140526.CreateSnapshotRequest;
import com.aliyuncs.ecs.model.v20140526.CreateSnapshotResponse;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;

/* pom.xml
< dependency >
    < groupId > com.aliyun </ groupId >
    < artifactId > aliyun-java-sdk-core </ artifactId >
    < version > 3.0.9 </ version >
</ dependency >
< dependency >
    < groupId > com.aliyun </ groupId >
    < artifactId > aliyun-java-sdk-ecs </ artifactId >
    < version > 4.10.1 </ version >
</ dependency >
*/

public class CreateSnapshotExample {

    private String accessKeyId = "< AccessKey >";
    private String accessSecret = "< AccessSecret >";

    /**
     * Region
     */
    private String regionId = "< RegionId >";

    /**
     * DiskId
     */
    private String diskId = "< DiskId >";
```

```

    public void createSnapshot () {
        DefaultProfile profile = DefaultProfile.getProfile
( regionId , accessKeyId , accessSecret );
        IAcsClient client = new DefaultAcsClient ( profile );

        CreateSnapshotRequest request = new CreateSnapshotRequest ();
        request.setRegionId ( regionId );
        request.setDiskId ( diskId );
        try {
            CreateSnapshotResponse response = client.getAcsResponse ( request );
            logInfo ( response.getSnapshotId () );
        } catch ( ServerException e ) {
            logInfo ( String.format ( " Fail . Something with
your connection with Aliyun go incorrect . ErrorCode : % s
",
                e.getErrCode () ) );
        } catch ( ClientException e ) {
            logInfo ( String.format ( " Fail . Business error .
ErrorCode : % s , RequestId : % s ",
                e.getErrCode (), e.getRequestId () ) );
        }
    }

    private static void logInfo ( String message ) {
        System.out.println ( message );
    }

    public static void main ( String [] args ) {
        new CreateSnapshotExample ().createSnapshot ();
    }
}

```

## 4 Getting started

---

### 4.1 How to make a request

This section is applicable for users who make a GET request over HTTP or HTTPS protocol by sending a URL.

If you prefer using [SDK](#), Alibaba Cloud [CLI](#), or [API Explorer](#), skip this section.

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



#### Note:

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

### 4.2 Request structure

This topic describes the request structure in GET requests and provides the endpoints of ECS. Alibaba Cloud ECS APIs allow you to initiate GET requests by sending a URL over the HTTP or HTTPS protocol. The request parameters must be included in the URL.

#### Structure example

The following example is an unencoded URL request of [CreateSnapshot](#).

```
https://ecs.aliyuncs.com/?Action=CreateSnapshot&DiskId=d-28m5zbua0
```

< Common request parameters >

- `https` indicates the communication protocol.
- `ecs.aliyuncs.com` is an ECS service endpoint.
- `Action = CreateSnapshot` indicates the target API, and `DiskId = d-28m5zbua0` is one of the [CreateSnapshot](#) parameters.
- < Common request parameters > are the common parameters of the system.

### Communication protocol

Requests over HTTP or HTTPS are supported. We recommend that you send requests over HTTPS for a higher level of security.

If such sensitive information as an SSH key pair or a password exists in your request, we recommend that you choose HTTPS.

### Service endpoints

The following table describes the API service access endpoints of ECS. To reduce network latency, we recommend that you configure endpoints based on the source from which you call the service.

| Region (Location)       | Endpoint                        |
|-------------------------|---------------------------------|
| Default                 | ecs.aliyuncs.com                |
| China (Zhangjiakou)     | ecs.cn-zhangjiakou.aliyuncs.com |
| China (Hohhot)          | ecs.cn-huhehaote.aliyuncs.com   |
| Japan (Tokyo)           | ecs.ap-northeast-1.aliyuncs.com |
| Australia (Sydney)      | ecs.ap-southeast-2.aliyuncs.com |
| Malaysia (Kuala Lumpur) | ecs.ap-southeast-3.aliyuncs.com |
| Indonesia (Jakarta)     | ecs.ap-southeast-5.aliyuncs.com |
| India (Mumbai)          | ecs.ap-south-1.aliyuncs.com     |
| UAE (Dubai)             | ecs.me-east-1.aliyuncs.com      |
| Germany (Frankfurt)     | ecs.eu-central-1.aliyuncs.com   |
| UK (London)             | ecs.eu-west-1.aliyuncs.com      |

The endpoints in the following table are accelerated through the virtual network and Express Connect. This reduces network latency that results from communication across different countries or regions.



| Region (Location)           | Endpoint                        |
|-----------------------------|---------------------------------|
| Default (US Silicon Valley) | ecs.us-west-1.aliyuncs.com      |
| Default (US Virginia)       | ecs.us-east-1.aliyuncs.com      |
| Default (China Hong Kong)   | ecs.cn-hongkong.aliyuncs.com    |
| Default (Singapore)         | ecs.ap-southeast-1.aliyuncs.com |

**Note:**

The endpoints provided by Alibaba Cloud ECS can be used to send API calls over the Internet through HTTP or HTTPS. However, if your ECS instance is not assigned an Internet bandwidth package or a public IP address, the instance cannot initiate an API action request by using the Alibaba Cloud CLI or corresponding SDK. To resolve this issue, you can use PrivateZone to associate the VPC with the region to which your ECS instance belongs. For information about how to call API actions through an intranet for ECS instances in a VPC that cannot access the Internet, see [#unique\\_173](#).

## Request Parameters

You must specify the target operation (for example, `Action=StartInstance`) by using the `Action` parameter. Additionally, you must set other API parameters and [Common request parameters](#).

## Character encoding

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

## 4.3 Common parameters

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

### Common request parameters

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

| Name   | Type   | Required | Description                                                                                        |
|--------|--------|----------|----------------------------------------------------------------------------------------------------|
| Action | String | Yes      | The target API. For more information about the optional values, see <a href="#">API overview</a> . |

| Name             | Type   | Required | Description                                                                                                                                                                                                                               |
|------------------|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AccessKeyId      | String | Yes      | Equivalent to a logon password. However, an AccessKey is used to call APIs, while logon password is used to log on to the <a href="#">ECS console</a> . For more information, see <a href="#">Create an AccessKey</a> .                   |
| Signature        | String | Yes      | Your signature. For more information, see <a href="#">Signature</a> .                                                                                                                                                                     |
| SignatureMethod  | String | Yes      | Signature method. Value: HMAC-SHA1.                                                                                                                                                                                                       |
| SignatureVersion | String | Yes      | Signature algorithm version. Value: 1.0.                                                                                                                                                                                                  |
| SignatureNonce   | String | Yes      | Unique random number, which is used to prevent network replay attacks. Different random numbers must be used for different requests.                                                                                                      |
| Timestamp        | String | Yes      | Request time stamp. The time format follows the <a href="#">ISO8601</a> standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ. For example, 2018-01-01T12:00:00Z indicates 20:00:00, Jan 01, 2018, Beijing time (UTC+8). |
| Version          | String | Yes      | The API version to use. Value: 2014-05-26.                                                                                                                                                                                                |
| Format           | String | No       | Type of the response parameters. Optional values: json   xml. Default value: xml.                                                                                                                                                         |

### Request example

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

...

### Common response parameters

| Name      | Type   | Description                                                                                               |
|-----------|--------|-----------------------------------------------------------------------------------------------------------|
| RequestId | String | Request ID. We return a unique RequestId for every API request, whether the request is successful or not. |

## 4.4 Digital signature

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

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



#### Note:

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

### Step 1. Compose a standardized request URL

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



#### Note:

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

2. Encode the request parameters by using the UTF-8 character set and according to the [RFC3986](#) rules.

- Do not encode the A~Z and a~z characters, numbers (0~9), hyphens -, underscores \_, periods ., and tildes ~.
- Encode other characters in the % XY format, with XY representing the hexadecimal ASCII value of the characters. For example, the half-width double quotes (") are encoded as % 22 .
- Encode the extended UTF-8 characters in % XY % ZA ... format.
- Encode the whitespaces ( ) to % 20 instead of the plus signs (+).

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

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

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

3. Connect the encoded parameters and their values with the equal signs (=).

4. Concatenate the encoded parameters with ampersands (&).

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

## Step 2. Construct a signature string

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

```
StringToSign =
HTTPMethod + "&" + // HTTPMethod : HTTP method used for
making request, for example GET .
percentEncode ("/") + "&" + // percentEncode ("/"): Encode
backslash (/) to % 2F .
```

```
percentEncode ( CanonicalizedQueryString ) // Encode the
canonicalized query string created in the Step 1
.
```

## 2. Create a variable `Signature` by calculating the HMAC-SHA1 value of the

`StringToSign` according to the [RFC2104](#) rules. Here we use the Java Base64 encoding method.

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



### Note:

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

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

### Sample 1. Parameter Concatenation Method

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

## 1. Create a canonicalized query string.

```
http :// ecs . aliyuncs . com /? Timestamp = 2016 - 02 - 23T12 %
3A46 % 3A24Z & Format = XML & AccessKeyID = testid & Action =
DescribeRegions & SignatureMethod = HMAC - SHA1 & SignatureN
once = 3ee8c1b8 - 83d3 - 44af - a94f - 4e0ad82fd6 cf & Version =
2014 - 05 - 26 & SignatureVersion = 1 . 0
```

## 2. Create a variable `StringToSign` to be calculated by using the canonicalized query string.

```
GET &% 2F & AccessKeyID % 3Dtestid % 26Action % 3DDescribe
Regions % 26Format % 3DXML % 26SignatureMethod % 3DHMAC - SHA1 %
26SignatureNonce % 3D3ee8c1b8 - 83d3 - 44af - a94f - 4e0ad82fd6
cf % 26SignatureVersion % 3D1 . 0 % 26Timestamp % 3D2016 - 02 -
23T12 % 253A46 % 253A24Z % 26Version % 3D2014 - 05 - 26
```

## 3. Calculate the HMAC-SHA1 value. Because you have the

`AccessKeySecret=testsecret`, the Key used in the RFC2104 rules is `testsecret &`,

and the HMAC-SHA1 value is `0LeaidS1Jv xuMvnyH0wu J + uX5qY =`. Here we use the Java Base64 encoding method.

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

4. Encode the value of Signature according to the [RFC3986](#) rules and add `Signature = 0LeaidS1Jv xuMvnyH0wu J % 2BuX5qY % 3D` to the URL in [Step 1](#).

```
http :// ecs . aliyuncs . com /? SignatureVersion = 1 . 0 &
Action = DescribeRegions & Format = XML & SignatureNonce =
3ee8c1b8 - 83d3 - 44af - a94f - 4e0ad82fd6 cf & Version = 2014
- 05 - 26 & AccessKeyId = testid & Signature = 0LeaidS1Jv
xuMvnyH0wu J % 2BuX5qY % 3D & SignatureMethod = HMAC - SHA1 &
Timestamp = 2016 - 02 - 23T12 % 253A46 % 253A24Z
```

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

## Sample 2. Programming Language Method

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

1. Predefined encoding methods.

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

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

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

3. Construct a request string.

```
final String HTTP_METHOD = " GET ";
```

```

Map parameters = new HashMap ();
// Add request parameters
parameters . put ( " Action ", " DescribeRegions " );
parameters . put ( " Version ", " 2014 - 05 - 26 " );
parameters . put ( " AccessKeyId ", " testid " );
parameters . put ( " Timestamp ", formatIso8601Date ( new Date ( ) ) );
parameters . put ( " SignatureMethod ", " HMAC - SHA1 " );
parameters . put ( " SignatureVersion ", " 1 . 0 " );
parameters . put ( " SignatureNonce ", UUID . randomUUID ( ) . toString ( ) );
parameters . put ( " Format ", " XML " );
// Sort the parameters
String [] sortedKeys = parameters . keySet ( ) . toArray ( new String [ ] { } );
Arrays . sort ( sortedKeys );
final String SEPARATOR = "&";
// Create the variable stringToSign
StringBuilder stringToSign = new StringBuilder ( );
stringToSign . append ( HTTP_METHOD ) . append ( SEPARATOR );
stringToSign . append ( percentEncode ( "/" ) ) . append ( SEPARATOR );
StringBuilder canonicalizedQueryString = new
StringBuilder ( );
for ( String key : sortedKeys ) {
// Encode the key and its value
canonicalizedQueryString . append ( "&" )
. append ( percentEncode ( key ) ) . append ( "=" )
. append ( percentEncode ( parameters . get ( key ) ) );
}
// Encode the variable canonicalizedQueryString
stringToSign . append ( percentEncode ( canonicalizedQueryString . toString ( ) . substring ( 1 ) ) );

```

4. Sign and encode the signature. Because you have the AccessKeySecret=testsecret, the Key for computing HMAC is testsecret & and the value of signature after calculation is 0LeaidS1Jv xuMvnyH0wu J % 2BuX5qY % 3D .

```

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

```

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

```

http :// ecs . aliyuncs . com /? SignatureVersion = 1 . 0 &
Action = DescribeRegions & Format = XML & SignatureNonce =
3ee8c1b8 - 83d3 - 44af - a94f - 4e0ad82fd6 cf & Version = 2014
- 05 - 26 & AccessKeyId = testid & Signature = 0LeaidS1Jv

```

```
xuMvnyHOwu J % 2BuX5qY % 3D & SignatureM ethod = HMAC - SHA1 &
Timestamp = 2016 - 02 - 23T12 % 253A46 % 253A24Z
```

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

```
< DescribeRegionsResponse >
  < Regions >
    < Region >
      < LocalName > Qingdao </ LocalName >
      < RegionId > cn - qingdao </ RegionId >
    </ Region >
    < Region >
      < LocalName > Hangzhou </ LocalName >
      < RegionId > cn - hangzhou </ RegionId >
    </ Region >
  </ Regions >
  < RequestId > 833C6B2C - E309 - 45D4 - A5C3 - 03A7A7A48A CF </
RequestId >
</ DescribeRegionsResponse >
```

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

## 4.5 Response results

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

### Success response example

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

#### • XML format

```
<? xml version =" 1 . 0 " encoding =" UTF - 8 "> <!-- Result
root node -->
< ActionResponse > <!-- Response request tag -->
  < RequestId > 4C467B38 - 3910 - 447D - 87BC - AC049166F2 16 </
RequestId > <!-- Response result data -->
</ ActionResponse >
```

#### • JSON format

```
{
  "RequestId": "4C467B38 - 3910 - 447D - 87BC - AC049166F2 16"
  /* Response result data */
}
```



```
}
```

## Error response example

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

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

### • XML format

```
<? xml    version =" 1 . 0 "    encoding =" UTF - 8 "><!-- Result
root    node -->
< Error >
  < RequestId > 540CFF28 - 407A - 40B5 - B6A5 - 74Bxxxxxxx  xx </
RequestId > <!-- Request    ID -->
  < HostId > ecs . aliyuncs . com </ HostId > <!-- Endpoint -->
  < Code > MissingPar  ameter . CommandId </ Code > <!-- Error
code -->
  < Message > The    input    parameter “ CommandId ” that    is
required    for    processing    this    request    is    not    supplied
.</ Message > <!-- Error    message -->
</ Error >
```

### • JSON format

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

## Common error codes

| Error code                   | HTTP status code | Error code                                                                                               |
|------------------------------|------------------|----------------------------------------------------------------------------------------------------------|
| Idempotent ParameterMismatch | 400              | The request is retried with updated parameters.                                                          |
| IllegalTimestamp             | 400              | The input parameter <code>Timestamp</code> that is required for processing this request is not supplied. |

| Error code                  | HTTP status code | Error code                                                                                                |
|-----------------------------|------------------|-----------------------------------------------------------------------------------------------------------|
| Incomplete Signature        | 400              | The request signature does not conform to Alibaba Cloud standards.                                        |
| InsufficientBalance         | 400              | Your account does not have enough balance.                                                                |
| InvalidAccessKeyId.NotFound | 400              | The specified AccessKey ID does not exist.                                                                |
| InvalidOwner                | 400              | OwnerId and OwnerAccount can't be used at one API access.                                                 |
| InvalidOwnerAccount         | 400              | The specified OwnerAccount is not valid.                                                                  |
| InvalidOwnerId              | 400              | The specified OwnerId is not valid.                                                                       |
| InvalidParameter            | 400              | The specified parameter <code>SignatureMethod</code> is not valid.                                        |
| InvalidParameter            | 400              | The specified parameter <code>SignatureVersion</code> is not valid.                                       |
| InvalidParameter            | 400              | The specified parameter is not valid                                                                      |
| InvalidParameter            | 400              | The specified parameter <code>Action</code> or <code>Version</code> is not valid.                         |
| InvalidParameter.IsNull     | 400              | The required parameter must be not null.                                                                  |
| MissingParameter            | 400              | The input parameter <code>Action</code> that is required for processing this request is not supplied      |
| MissingParameter            | 400              | The input parameter <code>AccessKeyId</code> that is required for processing this request is not supplied |
| MissingParameter            | 400              | The input parameter <code>Signature</code> that is required for processing the request is not supplied.   |
| MissingParameter            | 400              | The input parameter <code>TimeStamp</code> that is required for processing this request is not supplied   |
| MissingParameter            | 400              | The input parameter <code>Version</code> that is required for processing this request is not supplied     |

| Error code                          | HTTP status code | Error code                                                                                             |
|-------------------------------------|------------------|--------------------------------------------------------------------------------------------------------|
| SignatureNonceUsed                  | 400              | The request signature nonce has been used.                                                             |
| Throttling                          | 400              | You have made too many requests within a short time; your request is denied due to request throttling. |
| UnsupportedParameter                | 400              | The parameters is unsupported.                                                                         |
| UnknownError                        | 400              | The request processing has failed due to some unknown error.                                           |
| ChargeTypeViolation                 | 403              | The operation is not permitted due to charge type of the instance.                                     |
| Forbidden.AccessKeyIdDisabled       | 403              | The AccessKey is disabled.                                                                             |
| Forbidden.NotSupportRAM             | 403              | This action does not support accessed by RAM mode.                                                     |
| Forbidden.RAM                       | 403              | User not authorized to operate on the specified resource, or this API doesn't support RAM.             |
| Forbidden.RiskControl               | 403              | This operation is forbidden by Alibaba Cloud RiskControl system.                                       |
| Forbidden.SubUser                   | 403              | The specified action is not available for you.                                                         |
| Forbidden.Unauthorized              | 403              | User not authorized to operate on the specified resource.                                              |
| InvalidAccount.NotFound             | 403              | The specified Account does not exist.                                                                  |
| InvalidAction                       | 403              | Specified action is not valid.                                                                         |
| InvalidIdempotenceParameterMismatch | 403              | The specified parameters are different from before.                                                    |
| InvalidParameter.OwnerAccount       | 403              | OwnerAccount is Invalid.                                                                               |

| Error code                                | HTTP status code | Error code                                                                                             |
|-------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------|
| InvalidParameter.<br>ResourceOwnerAccount | 403              | ResourceOwnerAccount is Invalid.                                                                       |
| LastTokenProcessing                       | 403              | The last token request is processing.                                                                  |
| MissingParameter                          | 403              | The input parameter OwnerId,OwnerAccount that is required for processing this request is not supplied. |
| RealNameAuthenticationError               | 403              | Your account has not passed the real-name authentication yet.                                          |
| UnsupportedHTTPMethod                     | 403              | This HTTP method is not supported.                                                                     |
| InvalidDiskId.<br>NotFound                | 404              | The specified DiskId does not exist.                                                                   |
| InvalidImageId.<br>NotFound               | 404              | The specified ImageId does not exist.                                                                  |
| InvalidInstanceId.<br>NotFound            | 404              | The specified InstanceId does not exist.                                                               |
| InvalidRegionId.<br>NotFound              | 404              | The specified RegionId does not exist.                                                                 |
| InvalidSecurityGroupId.<br>NotFound       | 404              | The specified SecurityGroupId does not exist.                                                          |
| InvalidSnapshotId.<br>NotFound            | 404              | The specified SnapshotId does not exist.                                                               |
| OperationConflict                         | 409              | Request was denied due to conflict with a previous request.                                            |
| InternalError                             | 500              | The request processing has failed due to some unknown error, exception or failure.                     |
| ServiceUnavailable                        | 503              | The request has failed due to a temporary failure of the server.                                       |

| Error code                               | HTTP status code | Error code                                                                                               |
|------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------|
| ServiceUnavailable.<br>RegionMaintaining | 503              | System maintenance is in progress on the selected region, please wait a few minutes before trying again. |

## 5 Authentication rules

---

This topic describes how to use Alibaba Cloud Resource Names (ARN) in ECS to authenticate users or user groups, grant RAM user accounts access to resources, and implement access authorization across cloud services.

### Background information

**Note:**

If you can access resources without authorization, skip this topic.

You can use your Alibaba Cloud account or RAM user account to perform operations on ECS resources through the ECS API by default. Operation permissions are required when:

- A RAM user account that you created has no permissions to perform operations on the ECS resources under your Alibaba Cloud account.
- You want to access ECS resources from other Alibaba Cloud services, or access other Alibaba Cloud services from ECS.
- You want to perform operations on ECS resources that require operation permissions to be granted by the resource owners.

When an account requests access to ECS resources under your Alibaba Cloud account by calling ECS API operations, Alibaba Cloud ECS instructs RAM to perform a permission check to ensure that the required permissions have been granted to the account that sends the request. Depending on the requested resources and API operation syntaxes, ECS determines which resources require a permission check. For more information about authorization policies and permission control, see [What is RAM?](#) and [API overview](#) in the RAM documentation.

### Use ARN values in policies

The following section describes how to use an ARN value in a custom policy in the RAM console. You can also call the [CreatePolicy](#) operation to do so.

1. Log on to the [RAM console](#).
2. In the left-side navigation pane, choose Permissions > Policies.
3. On the Policies page, click Create Policy.
4. On the Create Custom Policy page, set Policy Name and Note.

## 5. Select Script for Configuration Mode.



### Note:

You can also select Visualized for Configuration Mode to complete the policy settings without referring to following ARN values section.

- Set the parameters in the Policy Document section based on the JSON template. Set the **Resource** parameter to one of the ARN values in the ARN values table. For the settings of other parameters, see [Policy elements](#) in the RAM documentation.

```
{
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "",
      "Resource": ""
    }
  ],
  "Version": "1"
}
```

- Click OK.

## ARN values

The following table lists the ARN values that correspond to some ECS API operations. For information about the ARN format, see [Terms](#) in the RAM documentation.

| Action                       | ARN value                                                                                                                                                            |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AddTags                      | acs:ecs:\$regionid:\$accountid:\$resourceType/\$resourceId                                                                                                           |
| AllocatePublicIpAddress      | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                 |
| ApplyAutoSnapshotPolicy      | acs:ecs:*\$accountid:snapshot/*                                                                                                                                      |
| AttachClassicLinkVpc         | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                 |
| AttachDisk                   | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:instance/\$diskId</li> </ul>     |
| AttachKeyPair                | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:keypair/\$keypairName</li> </ul> |
| AuthorizeSecurityGroup       | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                               |
| AuthorizeSecurityGroupEgress | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                               |
| CancelAutoSnapshotPolicy     | acs:ecs:*\$accountid:snapshot/*                                                                                                                                      |

| Action                   | ARN value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CancelCopyImage          | acs:ecs:\$regionid:\$accountid:image/\$imageNo                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CopyImage                | <ul style="list-style-type: none"> <li>· acs:ecs:\$fromRegionid:\$accountid:image/\$imageNo</li> <li>· acs:ecs:\$toRegionid:\$accountid:image/*</li> </ul>                                                                                                                                                                                                                                                                                                                               |
| ConvertNatPublicIpToEip  | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| CreateAutoSnapshotPolicy | acs:ecs:*\$accountid:snapshot/*                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CreateDisk               | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:disk/*</li> <li>· acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId</li> </ul>                                                                                                                                                                                                                                                                                                                                |
| CreateImage              | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:image/*</li> <li>· acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId</li> <li>· acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> </ul>                                                                                                                                                                                                                                                               |
| CreateInstance           | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:instance/*</li> <li>· acs:ecs:\$regionid:\$accountid:image/\$imageNo</li> <li>· acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo</li> <li>· acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId</li> <li>· (Optional) acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName</li> <li>· acs:vpc:\$regionid:\$accountid:vswitch/\$vswitchId</li> <li>· acs:vpc:\$regionid:\$accountid:vpc/\$vpcId</li> </ul> |
| CreateKeyPair            | acs:ecs:\$regionid:\$accountid:keypair/*                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CreateSecurityGroup      | acs:ecs:\$regionid:\$accountid:securitygroup/*                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CreateSnapshot           | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:snapshot/*</li> <li>· acs:ecs:\$regionid:\$accountid:disk/\$diskId</li> <li>· acs:ecs:\$regionid:\$accountid:volume/\$volumeId</li> </ul>                                                                                                                                                                                                                                                                        |
| DeleteAutoSnapshotPolicy | acs:ecs:*\$accountid:snapshot/*                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DeleteDisk               | acs:ecs:\$regionid:\$accountid:disk/\$diskId                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| DeleteImage              | acs:ecs:\$regionid:\$accountid:image/\$imageNo                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DeleteInstance           | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DeleteKeyPairs           | acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DeleteSecurityGroup      | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DeleteSnapshot           | acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId                                                                                                                                                                                                                                                                                                                                                                                                                                     |



| Action                         | ARN value                                                                                                                                                            |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DescribeClassicLinkInstances   | acs:ecs:\$regionid:\$accountid:instance/*                                                                                                                            |
| DescribeDiskMonitorData        | acs:ecs:\$regionid:\$accountid:disk/\$diskId                                                                                                                         |
| DescribeDisks                  | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:disk/\$diskId</li> <li>· acs:ecs:\$regionid:\$accountid:disk/*</li> </ul>                    |
| DescribeImages                 | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:image/\$imageNo</li> <li>· acs:ecs:\$regionid:\$accountid:image/*</li> </ul>                 |
| DescribeInstanceMonitorData    | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                 |
| DescribeInstances              | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>· acs:ecs:\$regionid:\$accountid:instance/*</li> </ul>        |
| DescribeInstanceStatus         | acs:ecs:\$regionid:\$accountid:instance/*                                                                                                                            |
| DescribeInstanceVncPassword    | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                 |
| DescribeInstanceVncUrl         | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                 |
| DescribeKeyPairs               | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName</li> <li>· acs:ecs:\$regionid:\$accountid:keypair/*</li> </ul>         |
| DescribePrice                  | acs:ecs:*\$accountid:*                                                                                                                                               |
| DescribeRenewalPrice           | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                 |
| DescribeSecurityGroupAttribute | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                               |
| DescribeSecurityGroups         | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo</li> <li>· acs:ecs:\$regionid:\$accountid:securitygroup/*</li> </ul> |
| DescribeSnapshotAttribute      | acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId                                                                                                                 |
| DescribeSnapshotLinks          | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:disk/\$diskId</li> <li>· acs:ecs:\$regionid:\$accountid:disk/*</li> </ul>                    |
| DescribeSnapshotMonitorData    | acs:ecs:*\$accountid:snapshot/*                                                                                                                                      |
| DescribeSnapshots              | <ul style="list-style-type: none"> <li>· acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId</li> <li>· acs:ecs:\$regionid:\$accountid:snapshot/*</li> </ul>        |

| Action                        | ARN value                                                                                                                                                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DescribeTags                  | acs:ecs:\$regionid:\$accountid:\$resourceType/\$resourceId                                                                                                             |
| DetachClassicLinkVpc          | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                   |
| DetachDisk                    | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:disk/\$diskId</li> </ul>           |
| DetachKeyPair                 | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:keypair/\$keypairName</li> </ul>   |
| ExportImage                   | acs:ecs:\$regionid:\$accountid:image/\$imageNo                                                                                                                         |
| ImportImage                   | acs:ecs:\$regionid:\$accountid:image/*                                                                                                                                 |
| ImportKeyPair                 | acs:ecs:\$regionid:\$accountid:keypair/*                                                                                                                               |
| JoinSecurityGroup             | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo</li> </ul> |
| LeaveSecurityGroup            | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo</li> </ul> |
| ModifyAutoSnapshotPolicy      | acs:ecs:*. \$accountid:snapshot/*                                                                                                                                      |
| ModifyDiskAttribute           | acs:ecs:\$regionid:\$accountid:disk/\$diskId                                                                                                                           |
| ModifyImageAttribute          | acs:ecs:\$regionid:\$accountid:image/\$imageNo                                                                                                                         |
| ModifyInstanceAttribute       | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                   |
| ModifyInstanceAutoReleaseTime | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                   |
| ModifyInstanceChargeType      | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                   |
| ModifyInstanceNetworkSpec     | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                   |
| ModifyInstanceVncPasswd       | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                   |
| ModifyInstanceVpcAttribute    | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:vswitch/\$vSwitchId</li> </ul>     |
| ModifySecurityGroupAttribute  | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                                 |

| Action                        | ARN value                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ModifySecurityGroupEgressRule | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                                                                                                                                                                                                          |
| ModifySecurityGroupRule       | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                                                                                                                                                                                                          |
| ModifyPrepayInstanceSpec      | acs:ecs:\$regionid:\$accountid:                                                                                                                                                                                                                                                                                                                 |
| ModifySnapshotAttribute       | acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId                                                                                                                                                                                                                                                                                            |
| RebootInstance                | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                                                                                                                                                                                            |
| ReInitDisk                    | acs:ecs:\$regionid:\$accountid:disk/\$diskId                                                                                                                                                                                                                                                                                                    |
| ReleasePublicIpAddress        | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                                                                                                                                                                                            |
| RemoveTags                    | acs:ecs:\$regionid:\$accountid:\$resourceType/\$resourceId                                                                                                                                                                                                                                                                                      |
| RenewInstance                 | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                                                                                                                                                                                            |
| ReplaceSystemDisk             | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/\$instanceId</li> <li>acs:ecs:\$regionid:\$accountid:image/\$imageNo</li> </ul>                                                                                                                                                                                  |
| ResetDisk                     | acs:ecs:\$regionid:\$accountid:disk/\$diskId                                                                                                                                                                                                                                                                                                    |
| ResizeDisk                    | acs:ecs:\$regionid:\$accountid:disk/\$diskId                                                                                                                                                                                                                                                                                                    |
| RevokeSecurityGroup           | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                                                                                                                                                                                                          |
| RevokeSecurityGroupEgress     | acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo                                                                                                                                                                                                                                                                                          |
| RunInstances                  | <ul style="list-style-type: none"> <li>acs:ecs:\$regionid:\$accountid:instance/*</li> <li>acs:ecs:\$regionid:\$accountid:image/\$imageNo</li> <li>acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo</li> <li>acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId</li> <li>acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName</li> </ul> |
| StartInstance                 | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                                                                                                                                                                                            |
| StopInstance                  | acs:ecs:\$regionid:\$accountid:instance/\$instanceId                                                                                                                                                                                                                                                                                            |

## 6 Instances

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### 6.1 RunInstances

Creates one or more Pay-As-You-Go or Subscription ECS instances.

#### Description

Before creating an instance, you can call the [DescribeAvailableResource](#) action to view the available resources in the specified region or zone.

You must fully understand the ECS billing methods before you create an instance, because resource billing is involved when creating instances. For more information, see [Billing overview](#).

When you call this action, note that:

- You can create a maximum of 100 instances at a time.
- You can use the `AutoReleaseTime` parameter to set the automatic release time of the instance.
- After the instance is created, you can call the [DescribeInstances](#) action to check the status of the new instance.
- Before creating an instance, make sure you have created a security group. For more information, see [CreateSecurityGroup](#).
- An instance is enabled automatically after it is created. It is ready to use when it is in the `Running` state.
- Before creating a VPC-based instance, you must [create a VPC](#) in the same region.
- Unlike [CreateInstance](#), when you call `RunInstances` to create an instance, a public IP address is configured for it if the value of `InternetMaxBandwidthOut` is greater than 0.
- After you submit the instance creation task, an error is returned if the parameters are invalid or no resources are available. For more information, see [Error codes](#).

#### Best practice

`RunInstances` can be called to create multiple instances at a time. For the sake of future management and retrieval, we recommend that you specify the `Tag.N.Key` and `Tag.N.Value` tags for instances created in each batch creation task.

For their `HostName` and `InstanceName` values, we recommend that you add `UniqueSuffix`.

An instance launch template allows you to automatically set configuration parameters that are used each time you create a new instance. You can call the [CreateLaunchTemplate](#) action to create an instance launch template. After that, you can specify `RunInstances` and `LaunchTemplateId` in `LaunchTemplateVersion` to enable this template.

You can use the [ECS console](#) to obtain `RunInstances` best practices when creating an ECS instance. When you confirm the order, in the API Workflow pane at the left side, the APIs and request parameters that can be associated with `RunInstances` are listed. At the right side, the programming language-specific examples are provided. Java and Python examples are available.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name     | Type   | Required? | Example      | Description                                                                                                            |
|----------|--------|-----------|--------------|------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes       | cn-hangzhou  | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> action to view the latest region list. |
| Action   | String | No        | RunInstances | The operation that you want to perform. Set the value to <code>RunInstances</code> .                                   |

| Name    | Type   | Required? | Example                                             | Description                                                                                                                                                                                                                                                                                                                            |
|---------|--------|-----------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZoneId  | String | No        | cn-hangzhou-b                                       | The zone ID that is available in the specified region. You can call the <a href="#">DescribeZones</a> action to obtain the latest zone list. It is allocated randomly by the system by default.                                                                                                                                        |
| ImageId | String | No        | win2008r2_64_ent_sp1_en-us_40G_alibase_20170915.vhd | The ID of the image resource that you specify when you create the instance. You can call the <a href="#">DescribeImages</a> action to view the image resources available. If you do not use <code>LaunchTemplateId</code> or <code>LaunchTemplateName</code> to specify an instance launch template, <code>ImageId</code> is required. |

| Name            | Type   | Required? | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|--------|-----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SecurityGroupId | String | No        | sg-bp15ed6xe1yxeycg7ov3 | <p>The ID of the security group to which the instance belongs. Instances in the same security group can access each other. One security group can contain a maximum of 1,000 instances.</p> <div>  <b>Note:</b> SecurityGroupId determines the network type of its instances. For example, if a security group is of the VPC type, its instances must be of the VPC type. You must also specify VSwitchId for them. </div> <p>If you do not use <code>LaunchTemplateId</code> or <code>LaunchTemplateName</code> to specify an instance launch template, <code>SecurityGroupId</code> is required.</p> |
| VSwitchId       | String | No        | vsw-bp1s5fnvk4gn2tw3ziX | The ID of the VSwitch. It must be specified when you create VPC-based instances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Name                    | Type    | Required? | Example      | Description                                                                                                                                                                                                                                                                                                                  |
|-------------------------|---------|-----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceType            | String  | No        | ecs.g5.large | The type of the instance.<br>For more information, see <a href="#">Instance type families</a> , or call the <a href="#">DescribeInstanceTypes</a> action to obtain the latest instance type list. If you do not use LaunchTemplateId or LaunchTemplateName to specify an instance launch template, InstanceType is required. |
| InternetMaxBandwidthIn  | Integer | No        | 200          | The maximum inbound bandwidth for the public network. Unit: Mbit/s. Valid values: 1 to 200.<br><br>Default value: 200.                                                                                                                                                                                                       |
| InternetMaxBandwidthOut | Integer | No        | 5            | The maximum outbound bandwidth for the public network. Unit: Mbit/s. Valid values: 0 to 100.<br><br>Default value: 0.                                                                                                                                                                                                        |



| Name         | Type   | Required? | Example    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|--------|-----------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceName | String | No        | JoshuaHost | <p>The name of the instance. It must be 2 to 128 characters in length and can contain uppercase and lowercase letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter. It cannot start with http:// or https://. <code>InstanceId</code> is used by default.</p> <div> <b>Note:</b><br/>When batch creating instances, you can use <code>UniqueSuffix</code> to set different <code>InstanceName</code> values for the instances.</div> |

| Name     | Type   | Required? | Example    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|--------|-----------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HostName | String | No        | JoshuaHost | <p>The hostname of the instance.</p> <ul style="list-style-type: none"> <li>• It cannot start or end with a period (.) or a hyphen (-). It cannot contain consecutive periods (.) or hyphens (-).</li> <li>• For Windows: The hostname must be 2 to 15 characters in length and can contain uppercase and lowercase letters, digits, periods (.), and hyphens (-). It cannot only contain digits.</li> <li>• For other operating systems : The hostname must be 2 to 64 characters in length and can contain uppercase and lowercase letters, digits , and hyphens (-). It can be segments separated by periods (.).</li> </ul> <div>  <b>Note:</b><br/>           When batch creating instances, you can use <code>UniqueSuffix</code> to set different <code>HostName</code> values for the instances.         </div> |

| Name            | Type    | Required? | Example     | Description                                                                                                                                                                                                                                                                                                    |
|-----------------|---------|-----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UniqueSuffix    | Boolean | No        | true        | Indicates whether to add sequential suffixes to <code>HostName</code> and <code>InstanceName</code> values. The sequential suffix ranges from 001 to 999. Example: <code>LocalHost001</code> , <code>LocalHost002</code> , <code>MyInstance001</code> , and <code>MyInstance002</code> . Default value: false. |
| Description     | String  | No        | FinanceDept | The description of the instance. It must be 2 to 256 characters in length. It cannot start with <code>http://</code> or <code>https://</code> .                                                                                                                                                                |
| PasswordInherit | Boolean | No        | false       | Indicates whether to use the password predefined in the image. If <code>PasswordInherit</code> is specified, the <code>Password</code> must be null. Make sure that the selected image has a password configured.                                                                                              |

| Name        | Type   | Required? | Example      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|--------|-----------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Password    | String | No        | EcsV587!     | <p>The password of the instance . It must be 8 to 30 characters in length, and must be a combination of uppercase and lowercase letters, digits , and special characters. The following special characters can be used:</p> <pre>( ) ` ~ ! @ # \$ % ^ &amp; * - _ + =   { }</pre> <p>For Windows, the password cannot start with a forward slash (/).</p> <div>  <b>Note:</b><br/>           If Password is specified, we recommend that you send requests over the HTTPS protocol to keep the password confidential.         </div> |
| KeyPairName | String | No        | Instancetest | <p>The name of the key pair.</p> <ul style="list-style-type: none"> <li>For Windows instances, ignore this parameter. Default value: null. Even if this parameter is specified, the Password value is used.</li> <li>For Linux instances, the password logon method is forbidden during initialization.</li> </ul>                                                                                                                                                                                                                                                                                                       |

| Name                     | Type   | Required? | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|--------|-----------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk<br>. Size     | String | No        | 40        | <p>The size of the system disk.<br/>Unit: GiB. Valid values: 20 to 500.</p> <p>This value must be equal to or greater than max {20, ImageSize}. Default value: max {40, ImageSize}.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| SystemDisk<br>. Category | String | No        | cloud_ssd | <p>The category of the system disk. The default value of the non-optimized instance for <a href="#">phased-out instance types</a> for which I/O optimization is not performed is cloud. The default value for other instances is cloud_efficiency. Valid values:</p> <ul style="list-style-type: none"> <li>• cloud: basic disk.</li> <li>• cloud_efficiency: ultra disk.</li> <li>• cloud_ssd: SSD.</li> <li>• ephemeral_ssd: local SSD.</li> <li>• cloud_essd: ESSD. ESSDs are still in the public beta test phase and only available in some regions. For more information, see <a href="#">ESSD FAQ</a>.</li> </ul> |

| Name                       | Type    | Required? | Example         | Description                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|---------|-----------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk.<br>DiskName    | String  | No        | cloud_ssdSystem | The name of the system disk. It must be 2 to 128 characters in length and can contain uppercase and lowercase letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter. It cannot start with http:// or https://. Default value: null.                                                                                                              |
| SystemDisk.<br>Description | String  | No        | FinanceDept     | The description of the system disk. It must be 2 to 256 characters in length. It cannot start with http:// or https://.                                                                                                                                                                                                                                                               |
| DataDisk.<br>N . Size      | Integer | No        | 2,000           | The size of the nth data disk. n ranges from 1 to 16. Unit: GiB. Valid values: <ul style="list-style-type: none"> <li>cloud: 5 to 2,000.</li> <li>cloud_efficiency: 20 to 32,768.</li> <li>cloud_ssd: 20 to 32,768.</li> <li>cloud_essd: 20 to 32,768.</li> <li>ephemeral_ssd: 5 to 800.</li> </ul> This value must be equal to or greater than the size of <code>SnapshotId</code> . |

| Name                      | Type   | Required? | Example                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|--------|-----------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDisk . N . SnapshotId | String | No        | s-bp17441ohwka0yuhx3h0               | The ID of the snapshot used to create the nth data disk. n ranges from 1 to 16. When <code>DataDisk . N . SnapshotId</code> is specified, the value of <code>DataDisk . N . Size</code> is ignored. The size of the new data disk is equal to that of the specified snapshot. Those snapshots created on or before July 15, 2013 cannot be used here. Otherwise, an error will be returned and your request will be rejected. |
| DataDisk . N . Category   | String | No        | cloud_ssd                            | The category of the nth data disk. Default value: cloud. Valid values: <ul style="list-style-type: none"> <li>cloud: basic disk.</li> <li>cloud_efficiency: ultra disk.</li> <li>cloud_ssd: SSD.</li> <li>ephemeral_ssd: local SSD.</li> <li>cloud_essd: ESSD. ESSDs are still in the public beta test phase and only available in some regions. For more information, see <a href="#">ESSD FAQ</a>.</li> </ul>               |
| DataDisk . N . Encrypted  | String | No        | false                                | Indicates whether the nth data disk is encrypted. Default value : false.                                                                                                                                                                                                                                                                                                                                                      |
| DataDisk . N . KMSKeyId   | String | No        | 0e478b7a-4262-4802-b8cb-00d3fb40826X | The KMS ID for the nth data disk.                                                                                                                                                                                                                                                                                                                                                                                             |

| Name                              | Type    | Required? | Example       | Description                                                                                                                                                                                                                                                                        |
|-----------------------------------|---------|-----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDisk . N . DiskName           | String  | No        | cloud_ssdData | The name of the <i>n</i> th data disk. It must be 2 to 128 characters in length and can contain uppercase and lowercase letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter. It cannot start with http:// or https://. Default value: null. |
| DataDisk . N . Description        | String  | No        | FinanceDept   | The description of the <i>n</i> th data disk. It must be 2 to 256 characters in length. It cannot start with http:// or https://.                                                                                                                                                  |
| DataDisk . N . Device             | String  | No        | /dev/vda      | The mount point of the <i>n</i> th data disk.<br><br> <b>Note:</b><br>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.        |
| DataDisk . N . DeleteWithInstance | Boolean | No        | true          | Indicates whether the data disk is released along with the instance. Default value: true.                                                                                                                                                                                          |



| Name                                                 | Type   | Required? | Example             | Description                                                                                                                                                                                                                                                                      |
|------------------------------------------------------|--------|-----------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>IoOptimized</code>                             | String | No        | optimized           | Specifies whether the instance is an I/O optimized instance. The default value for <a href="#">phased-out instance types</a> is none, while that for other instances is optimized. Valid values: <ul style="list-style-type: none"> <li>• none.</li> <li>• optimized.</li> </ul> |
| <code>NetworkInterface.N.PrimaryIpAddress</code>     | String | No        | 172.16.236.14X      | The primary IP address of the nth ENI.                                                                                                                                                                                                                                           |
| <code>NetworkInterface.N.VSwitchId</code>            | String | No        | vsw-vswitchid2      | The ID of the VSwitch for the nth ENI.                                                                                                                                                                                                                                           |
| <code>NetworkInterface.N.SecurityGroupId</code>      | String | No        | sg-securitygroupid2 | The ID of security group for the nth ENI.                                                                                                                                                                                                                                        |
| <code>NetworkInterface.N.NetworkInterfaceName</code> | String | No        | FinanceJoshua       | The name of the nth ENI.                                                                                                                                                                                                                                                         |
| <code>NetworkInterface.N.Description</code>          | String | No        | FinanceDept         | The description of the nth ENI. It must be 2 to 256 characters in length. It cannot start with http:// or https://.                                                                                                                                                              |

| Name        | Type    | Required? | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|---------|-----------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RamRoleName | String  | No        | FinanceDept          | The RAM role name for the instance. You can call the <a href="#">ListRoles</a> action to view RAM roles for the specified instance.                                                                                                                                                                                                                                                                |
| UserData    | String  | No        | ZWNobyBoZWxsbyBly3Mh | The user data of the instance. It must be encoded in Base64. The maximum size of the user data is 16 KB.                                                                                                                                                                                                                                                                                           |
| MinAmount   | Integer | No        | 2                    | The minimum number of the specified instances to purchase. Valid values: 1 to 100. <ul style="list-style-type: none"> <li>If the number of ECS instances in stock is lower than the MinAmount value, the instance creation operation fails.</li> <li>If the number of ECS instances in stock is equal to or greater than the MinAmount value, the instance creation operation succeeds.</li> </ul> |
| Amount      | Integer | No        | 3                    | The specified number of instances you want to create. Valid values: 1 to 100. Default value: 1.                                                                                                                                                                                                                                                                                                    |

| Name                     | Type   | Required? | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------|--------|-----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotPriceLimit           | Float  | No        | 0.97      | The maximum hourly price for the instance. It is precise up to three decimal places. It is valid only when <code>SpotStrategy</code> is set to <code>SpotWithPriceLimit</code> .                                                                                                                                                                                                                                                                                                                           |
| SpotStrategy             | String | No        | NoSpot    | The preemption policy of the Pay-As-You-Go instance. The parameter is valid only when <code>InstanceChargeType</code> is set to <code>PostPaid</code> . Valid values: <ul style="list-style-type: none"> <li>• <code>NoSpot</code>: a standard Pay-As-You-Go instance.</li> <li>• <code>SpotWithPriceLimit</code>: a preemptible instance with the upper price limit defined.</li> <li>• <code>SpotAsPriceGo</code>: a Pay-As-You-Go instance with its price based on the current market price.</li> </ul> |
| SpotInterruptionBehavior | String | No        | Terminate | The interruption mode of the preemptible instance. Only the <code>Terminate</code> mode is supported, in which the instance is released.                                                                                                                                                                                                                                                                                                                                                                   |

| Name                         | Type   | Required? | Example                 | Description                                                                                                                                                                                                                                                                                                                                    |
|------------------------------|--------|-----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CreditSpecification          | String | No        | Standard                | <p>The running mode of the burstable performance instance (t5). Valid values:</p> <ul style="list-style-type: none"> <li>Standard: standard mode. For more information, see <a href="#">Standard mode</a>.</li> <li>Unlimited: unlimited mode. For more information, see <a href="#">Unlimited mode</a>.</li> </ul> <p>Default value: null</p> |
| SecurityEnhancementsStrategy | String | No        | Active                  | <p>Indicates whether to enable security hardening. Valid values:</p> <ul style="list-style-type: none"> <li>Active: enables security hardening. It is applicable only to Alibaba Cloud public images.</li> <li>Deactive: disables security hardening. It is applicable to all images.</li> </ul>                                               |
| DeploymentSetId              | String | No        | ds-bp1brhwhoqinyjd6tnXX | The ID of the deployment set.                                                                                                                                                                                                                                                                                                                  |

| Name            | Type   | Required? | Example                | Description                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|--------|-----------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DedicatedHostId | String | No        | dh-dedicatedhost1      | <p>Indicates whether to create an ECS instance on the specified Dedicated Host (DDH). You can call the <a href="#">DescribeDedicatedHosts</a> action to view the DDH list.</p> <p>No preemptible instances can be created on the DDH. Therefore, if you specify <code>DedicatedHostId</code>, the values of <code>SpotStrategy</code> and <code>SpotPriceLimit</code> will be ignored.</p> |
| Tag.N.Key       | String | No        | FinanceDept            | <p>The tag key of the instance, disk, and primary NIC. n ranges from 1 to 20. This parameter cannot be left empty. It must be no more than 64 characters in length. It cannot start with <code>aliyun</code> or <code>acs:</code>, and cannot contain <code>http://</code> or <code>https://</code>.</p>                                                                                   |
| Tag.N.Value     | String | No        | FinanceDept.<br>Joshua | <p>The tag value of the instance, disk, and primary NIC. n ranges from 1 to 20. This parameter can be left empty. It must be no more than 128 characters in length. It cannot start with <code>aliyun</code> or <code>acs:</code>, and cannot contain <code>http://</code> or <code>https://</code>.</p>                                                                                   |

| Name                  | Type   | Required? | Example                 | Description                                                                                                                                                                                                                         |
|-----------------------|--------|-----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HpcClusterId          | String | No        | hpc-clusterid           | The ID of the EHPC cluster to which the instance belongs.                                                                                                                                                                           |
| ResourceGroupId       | String | No        | rg-resourcegroupid1     | The ID of the resource group to which the instance belongs.                                                                                                                                                                         |
| LaunchTemplateId      | String | No        | lt-bp1apo0bbbkuy0rj3b9X | The ID of the instance launch template. For more information, call <a href="#">DescribeLaunchTemplates</a> . You must use <code>LaunchTemplateId</code> or <code>LaunchTemplateName</code> to specify the instance launch template. |
| LaunchTemplateName    | String | No        | JoshuaWinPostPaid       | The name of the instance launch template. You must use <code>LaunchTemplateId</code> or <code>LaunchTemplateName</code> to specify the instance launch template.                                                                    |
| LaunchTemplateVersion | Long   | No        | 3                       | The version of the instance launch template. If you specify <code>LaunchTemplateId</code> or <code>LaunchTemplateName</code> , but skip <code>LaunchTemplateVersion</code> , the default template version is used.                  |

| Name               | Type    | Required? | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|---------|-----------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DeletionProtection | Boolean | No        | false                | <p>The release protection attribute of the instance. It indicates whether you can use the ECS console or call the <a href="#">DeleteInstance</a> action to release the instance. Default value: false. Valid values:</p> <ul style="list-style-type: none"> <li>· true: enables release protection.</li> <li>· false: disables release protection.</li> </ul> <div>  <b>Note:</b><br/>           This attribute is applicable only to Pay-As-You-Go instances. It can only be used to block manual release operations, but not automatic release operations by the system.         </div> |
| AutoReleaseTime    | String  | No        | 2018-01-01T12:05:00Z | <p>The automatic release time of the instance. The time follows the <a href="#">ISO 8601</a> standard and is in UTC time. Format: yyyy-MM-ddTHH:mm:ssZ.</p> <ul style="list-style-type: none"> <li>· If <code>ss</code> is set to a value other than <code>00</code>, only the value of <code>mm</code> is used, with <code>ss</code> changed to <code>00</code>.</li> <li>· The automatic release time must be at least half an hour later than the current time.</li> <li>· The automatic release time must be less than 3 years from the current time.</li> </ul>                                                                                                        |

| Name               | Type    | Required? | Example      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|---------|-----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InternetChargeType | String  | No        | PayByTraffic | The billing method of the instance. Default value: PayByTraffic. Valid values: <ul style="list-style-type: none"> <li>PayByTraffic: charged based on actual traffic.</li> </ul>                                                                                                                                                                                                                                                                                                                                                   |
| Period             | Integer | No        | 1            | The subscription period of the instance. Unit: month. The parameter is valid and required only when InstanceChargeType is set to PrePaid . If DedicatedHostId is specified, the value range of the Period parameter must be within the subscription period of the DDH. Valid values: <ul style="list-style-type: none"> <li>{ "1" , "2" , "3" , "4" } if PeriodUnit is set to Week.</li> <li>{ "1" , "2" , "3" , "4" , "5" , "6" , "7" , "8" , "9" , "12" , "24" , "36" , "48" , "60" } if PeriodUnit is set to Month.</li> </ul> |
| AutoRenew          | Boolean | No        | true         | Indicates whether to enable automatic renewal. The parameter is valid only when InstanceChargeType is set to PrePaid . Default value: false. Valid values: <ul style="list-style-type: none"> <li>true.</li> <li>false.</li> </ul>                                                                                                                                                                                                                                                                                                |



| Name               | Type    | Required? | Example | Description                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|---------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PeriodUnit         | String  | No        | Month   | <p>The unit of the subscription period. Default value: Month.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>• Week</li> <li>• Month</li> </ul>                                                                                                                                                                                               |
| AutoRenewPeriod    | Integer | No        | 1       | <p>The automatic renewal period of the instance. Valid values:</p> <ul style="list-style-type: none"> <li>• { "1" , "2" , "3" } if PeriodUnit is set to Week.</li> <li>• {"1", "2", "3", "12", "24", "36", "48", "60"} if PeriodUnit is set to Month.</li> </ul> <p>Default value: 1.</p>                                                                      |
| InstanceChargeType | String  | No        | PrePaid | <p>The billing method of the instance. Default value: PostPaid. Valid values:</p> <ul style="list-style-type: none"> <li>• PrePaid: subscription.</li> <li>• PostPaid: Pay-As-You-Go.</li> </ul> <p>If it is set to PrePaid, you must confirm that your payment account has sufficient credit. Otherwise, the InvalidPaymentMethod error code is returned.</p> |

| Name               | Type       | Required? | Example                               | Description                                                                                                                                                                                                                                                                                                                                              |
|--------------------|------------|-----------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ipv6AddressesCount | Integer    | No        | 1                                     | <p>The number of randomly generated IPv6 addresses which are allocated to the ENI.</p> <div>  <b>Note:</b><br/>           You cannot specify both <code>Ipv6Addresses.N</code> and <code>Ipv6AddressesCount</code>.         </div>                                     |
| PrivateIpAddress   | String     | No        | 172.16.236.14X                        | <p>The private IP address of the instance. PrivateIpAddress depends on VSwitchId and cannot be specified separately.</p> <div>  <b>Note:</b><br/>           When <code>PrivateIpAddress</code> is specified, <code>Amount</code> can only be set to 1.         </div> |
| Ipv6Addresses.N    | RepeatList | No        | Ipv6Address.1=2001:db8:1234:1a00::XXX | <p>Allocates one or more IPv6 addresses to the ENI. N can only be 1.</p> <p>Sample:</p> <div>  <b>Note:</b><br/>           You cannot specify both <code>Ipv6Addresses.N</code> and <code>Ipv6AddressesCount</code>.         </div>                                  |

| Name        | Type    | Required? | Example                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|---------|-----------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DryRun      | Boolean | No        | false                                | <p>Indicates whether to send a check request only. Default value: false.</p> <ul style="list-style-type: none"> <li>· true: Only a check request is sent and no instance is created. The system checks whether the required parameters are set, and verifies the request format, service limits, and available ECS instances. If the check fails, the corresponding error code is returned. If the check succeeds, the <code>DryRunOperation</code> error code is returned.</li> <li>· false: A request is sent and then the instance is created.</li> </ul> |
| ClientToken | String  | No        | 123e4567-e89b-12d3-a456-426655440000 | <p>The token used to ensure idempotence. You can generate the token in your client, but you must ensure that it is globally unique. ClientToken can contain only ASCII characters. It must be no more than 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a>.</p>                                                                                                                                                                                                                                                 |

| Name     | Type   | Required<br>? | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|--------|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Affinity | String | No            | default | <p>Indicates whether to associate an ECS instance with the DDH on which the instance is created. Valid values:</p> <ul style="list-style-type: none"><li>• <code>default</code> : The instance is not associated with the DDH on which the instance is created. For an instance that is enabled with the No fees for stopped instances (VPC-Connected) feature, if the original DDH does not have sufficient resources after the instance is restarted, the instance will be hosted on another DDH in the automatic DDH resource pool.</li><li>• <code>host</code> : The instance is associated with the DDH on which the instance is created. An instance that is enabled with the No fees for stopped instances (VPC-Connected) feature is still hosted on the original DDH after it is restarted. If the original DDH does not have sufficient resources, the instance restart fails.</li></ul> <p>Default value: <code>default</code></p> |

| Name                                     | Type       | Required? | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------|------------|-----------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>DataDisk.N.PerformanceLevel</code> | String     | No        | PL2                      | <p>The performance level you select for an ESSD cloud disk that is used as a data disk. The value of <i>N</i> must be the same as that in <code>DataDisk.N.Category = cloud_essd</code>.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>PL1 (default value): The maximum random read/write IOPS of a single disk is 50,000.</li> <li>PL2 : The maximum random read/write IOPS of a single disk is 100,000.</li> <li>PL3 : The maximum random read/write IOPS of a single disk is 1,000,000.</li> </ul> <p>For information about how to select a performance level for an ESSD cloud disk, see <a href="#">ESSD cloud disk</a>.</p> |
| <code>SecurityGroupIds.N</code>          | RepeatList | No        | sg-bp15ed6xe1yxeycg7o*** | <p>The IDs of security groups to which an ECS instance belongs. You can add one ECS instance to multiple security groups. The value range of <i>N</i> depends on the maximum number of security groups that an ECS instance can be added to. For more information, see <a href="#">Security group limits</a>.</p>                                                                                                                                                                                                                                                                                                                                   |

| Name                            | Type   | Required? | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------|--------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk.<br>PerformanceLevel | String | No        | PL1     | <p>The performance level you select for an ESSD cloud disk that is used as a system disk.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>PL1 (default value): The maximum random read/write IOPS of a single disk is 50,000.</li> <li>PL2 : The maximum random read/write IOPS of a single disk is 100,000.</li> <li>PL3 : The maximum random read/write IOPS of a single disk is 1,000,000.</li> </ul> <p>For information about how to select a performance level for an ESSD cloud disk, see <a href="#">ESSD cloud disk</a>.</p> |
| Tenancy                         | String | No        | default | <p>Indicates whether to create an ECS instance on a DDH. Valid values:</p> <ul style="list-style-type: none"> <li>default : The ECS instance is not created on a DDH.</li> <li>host : The ECS instance is created on a DDH. If you do not specify <code>DedicatedHostId</code>, Alibaba Cloud will automatically select a DDH for your instance.</li> </ul> <p>Default value: default</p>                                                                                                                                                            |

## Response parameters

| Name            | Type   | Example                                             | Description                                           |
|-----------------|--------|-----------------------------------------------------|-------------------------------------------------------|
| InstanceId Sets |        | ["i-instanceid1", "i-instanceid2", "i-instanceid3"] | The list of instance IDs ( <code>InstanceId</code> ). |
| RequestId       | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E                | The request ID.                                       |

## Examples

## Sample request

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

## Successful response examples

## XML format

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

## JSON format

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

## Errors

| HTTP status code | Error code                                  | Error message                                                                  | Meaning                                                                                                                  |
|------------------|---------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId                      | The specified SecurityGroupId is invalid or does not exist.                    | The error message returned when the specified security group ID does not exist.                                          |
| 400              | InvalidInternetChargeType.ValueNotSupported | The specified InternetChargeType is not valid.                                 | The error message returned when the specified instance configuration change type does not exist.                         |
| 400              | InvalidHostName.Malformed                   | The specified parameter "HostName" is not valid.                               | The error message returned when the format of the specified HostName is invalid.                                         |
| 403              | InvalidParams.InstanceNameExceed            | The uniqueSuffix takes three naming places , please shorten your InstanceName. | The error message returned when the instance name needs to be shortened, because uniqueSuffix occupies three namespaces. |
| 403              | InvalidParams.HostnameExceed                | The uniqueSuffix takes three naming places , please shorten your Hostname.     | The error message returned when the hostname needs to be shortened, because uniqueSuffix occupies three namespaces.      |
| 400              | InvalidPasswordParam.Mismatch               | The input password should be null when PasswdInherit is true.                  | The error message returned when no password can be configured if PasswdInherit is set to true.                           |
| 400              | InvalidSystemDiskCategory.ValueNotSupported | The specified parameter "SystemDisk.Category" is not valid.                    | The specified SystemDisk.Category is invalid.                                                                            |



| HTTP status code | Error code                                | Error message                                                                                                                                                                                                                                             | Meaning                                                                                        |
|------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 400              | InvalidDataDiskSize.ValueNotSupported     | The specified DataDisk.N.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category.                                                                                                              | The error message returned when the maximum size of the specified data disk is reached.        |
| 400              | InvalidDataDiskCategory.ValueNotSupported | The specified parameter "DataDisk.N.Category" is not valid.                                                                                                                                                                                               | The error message returned when the specified DataDisk.N.Category is invalid.                  |
| 400              | InvalidSnapshotId.BasedSnapshotTooOld     | The specified snapshot is created before 2013-07-15.                                                                                                                                                                                                      | The error message returned when the specified snapshot was created on or before July 15, 2013. |
| 403              | InvalidSnapshotId.NotReady                | The specified snapshot has not completed yet.                                                                                                                                                                                                             | The error message returned when the specified snapshot has not been completed.                 |
| 403              | InvalidDevice.InUse                       | The specified device has been occupied.                                                                                                                                                                                                                   | The error message returned when the specified device has been attached to a disk.              |
| 403              | 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. | The error message returned when the specified marketplace image is unavailable.                |
| 404              | InvalidClusterId.NotFound                 | The ClusterId provided does not exist in our records.                                                                                                                                                                                                     | The error message returned when the specified ClusterId does not exist.                        |

| HTTP status code | Error code                       | Error message                                                                                | Meaning                                                                                                        |
|------------------|----------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 400              | InvalidDiskDescription.Malformed | The specified parameter "SyatemDisk.DiskDescription or DataDisk.N.Description" is not valid. | The error message returned when the specified SyatemDisk.DiskDescription or DataDisk.N.Description is invalid. |
| 403              | RegionUnauthorized               | There is no authority to create instance in the specified region.                            | The error message returned when you are not authorized to create instances in the specified region.            |
| 403              | CategoryNotSupported             | The specified Zone or cluster does not offer the specified disk category.                    | The error message returned when the specified disk category is unavailable in the specified zone or cluster.   |
| 403              | CategoryNotSupported             | The specified cluster does not offer the specified disk category.                            | The error message returned when the specified disk category is unavailable in the specified cluster.           |
| 404              | InvalidVSwitchId.NotFound        | Specified virtual switch does not exist.                                                     | The error message returned when the specified VSwitch does not exist.                                          |
| 400              | InvalidParameter.Mismatch        | Specified security group and virtual switch are not in the same VPC.                         | The error message returned when the specified security group is not in the same VPC as the VSwitch.            |
| 400              | InvalidPrivateIpAddress          | Specified private IP address is not in the CIDR block of virtual switch.                     | The error message returned when the specified private IP address is not in the same CIDR block as the VSwitch. |

| HTTP status code | Error code                        | Error message                                                                                  | Meaning                                                                                                                       |
|------------------|-----------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidPrivateIpAddress.Malformed | Specified private IP address is malformed.                                                     | The error message returned when the specified private IP address is invalid.                                                  |
| 400              | IncorrectVSwitchStatus            | The current status of virtual switch does not support this operation.                          | The error message returned when the specified VSwitch in the pending state and cannot be deleted.                             |
| 400              | InvalidParameter.Mismatch         | Specified virtual switch is not in the specified zone.                                         | The error message returned when the specified VSwitch does not exist in the specified zone.                                   |
| 400              | MissingParameter                  | The input parameter "VSwitchId" that is mandatory for processing this request is not supplied. | The error message returned when the VSwitchId parameter is empty.                                                             |
| 400              | InvalidDiskCategory.Mismatch      | The specified disk categories' combination is not supported.                                   | The error message returned when the specified disk types are used together.                                                   |
| 403              | Forbidden                         | User not authorized to operate on the specified resource.                                      | The error message returned when you are not authorized to perform operations on the specified resource.                       |
| 404              | InvalidImageId.NotFound           | The specified ImageId does not exist.                                                          | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct. |

| HTTP status code | Error code                                  | Error message                                                                                                                                | Meaning                                                                                          |
|------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 403              | InvalidDiskSize.TooSmall                    | Specified disk size is less than the size of snapshot                                                                                        | The error message returned when the specified disk has insufficient space for the snapshot.      |
| 404              | InvalidInstanceChargeType.NotFound          | The InstanceChargeType does not exist in our records                                                                                         | The error message returned when the specified instance configuration change type does not exist. |
| 400              | InvalidPeriod                               | The specified period is not valid.                                                                                                           | The error message returned when the specified period is invalid.                                 |
| 400              | InvalidDataDiskCategory.ValueNotSupported   | The specified parameter "DataDisk.N.Category" is not valid.                                                                                  | The error message returned when the specified disk type is invalid.                              |
| 400              | InvalidSystemDiskCategory.ValueNotSupported | The specified parameter "SystemDisk.Category" is not valid.                                                                                  | The error message returned when the specified disk type is invalid.                              |
| 403              | InvalidDiskCategory.NotSupported            | The specified disk category does not support the specified instance type.                                                                    | The error message returned when the specified disk type is not supported in the instance type.   |
| 400              | InstanceDiskCategoryLimitExceed             | The specified DataDisk.N.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category. | The error message returned when the maximum size of the specified data disk is reached.          |

| HTTP status code | Error code                                   | Error message                                                                                          | Meaning                                                                                                     |
|------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 403              | QuotaExceed.<br>BuyImage                     | The specified image is from the image market ? You have not bought it or your quota has been exceeded. | The error message returned when the specified image has not been purchased or its maximum quota is reached. |
| 400              | InvalidClientToken.<br>ValueNotSupported     | clienttoken is not valid.                                                                              | The error message returned when the specified ClientToken is invalid.                                       |
| 400              | InvalidHostName.<br>Malformed                | The specified parameter HostName is not valid.                                                         | The error message returned when the specified HostName is invalid.                                          |
| 400              | InvalidInternetMaxBandwidthOut.<br>Malformed | The specified parameter internetMaxBandwidthOut is not valid.                                          | The error message returned when the specified InternetMaxBandwidthOut is invalid.                           |
| 400              | InvalidTagValue.<br>Malformed                | The specified Tag.N.Value is not valid.                                                                | The error message returned when the specified Tag.n.Value is invalid.                                       |
| 400              | InvalidMinAmount.<br>Malformed               | The specified parameter MinAmount is not valid.                                                        | The error message returned when the specified MinAmount is invalid. Check whether it is correct.            |
| 400              | InvalidMaxAmount.<br>Malformed               | The specified parameter MaxAmount is not valid.                                                        | The error message returned when the specified MaxAmount is invalid.                                         |

| HTTP status code | Error code                              | Error message                                                                          | Meaning                                                                                                                                                                                      |
|------------------|-----------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidAutoReleaseTime.Malformed        | The specified parameter AutoReleaseTime is not valid.                                  | The error message returned when the specified AutoReleaseTime is invalid. The time follows the ISO 8601 standard and is in UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.                     |
| 400              | InvalidPrivateIpAddress.Malformed       | The specified parameter PrivateIpAddress is not valid.                                 | The error message returned when the specified PrivateIpAddress is invalid.                                                                                                                   |
| 404              | InvalidSystemDiskSize.LessThanImageSize | The specified parameter SystemDisk.Size is less than the image size.                   | The error message returned when the specified SystemDisk.Size is less than the image size.                                                                                                   |
| 403              | OperationDenied                         | The specified RegionId does not support the creation of the network type ECS instance. | The error message returned when the ECS instance of this network type cannot be created in the specified region. Check whether this network type is still available in the specified region. |
| 400              | OperationDenied.NoVlan                  | The specified parameter "VlanId" is not valid or vlan has not enough IP address.       | The error message returned when the specified VLAN ID is invalid or no IP address is available in this VLAN.                                                                                 |
| 403              | OperationDenied.SnapshotNotValid        | The specified snapshot is not allowed to create disk.                                  | The error message returned when no disk can be created for the specified snapshot.                                                                                                           |

| HTTP status code | Error code                             | Error message                                                                                                               | Meaning                                                                                                                                          |
|------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | OperationDenied.NoStock                | The resource is out of usage.                                                                                               | The error message returned when the instance is not in the running status. Enable the instance or check whether a proper operation is performed. |
| 403              | OperationDenied.SnapshotParamsNotValid | The capacity of snapshot exceeds the size limit of the specified disk category or the specified category is not authorized. | The error message returned when the maximum snapshot size is reached or you are not authorized to use the specified disk type.                   |
| 403              | OperationDenied.DiskTypeNotSupport     | The type of the disk does not support the operation                                                                         | The error message returned when the specified operation is invalid.                                                                              |
| 400              | Account.Arrearage                      | Your account has been in arrears.                                                                                           | The error message returned when your account has insufficient balance. Charge your account and try it again.                                     |
| 403              | InvalidUserData.Forbidden              | User not authorized to input the parameter "UserData", please apply for permission "UserData"                               | The error message returned when you are not authorized to configure UserData.                                                                    |
| 400              | InvalidUserData.NotSupported           | The specified parameter "UserData" only support the vpc and IoOptimized Instance.                                           | The error message returned when the specified UserData is only supported in VPC or optimized instances.                                          |
| 400              | InvalidUserData.NotSupported           | The specified parameter "UserData" only support the vpc and IoOptimized Instance.                                           | The error message returned when the specified UserData is only supported in VPC or optimized instances.                                          |

| HTTP status code | Error code                                | Error message                                                                                           | Meaning                                                                                               |
|------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 404              | InvalidZoneId.NotFound                    | The specified zoneId does not exist.                                                                    | The error message returned when the specified zone ID does not exist.                                 |
| 403              | Zone.NotOnSale                            | The resource in the specified zone is no longer available for sale. Please try other regions and zones. | The error message returned when no resources are available in the specified zone.                     |
| 403              | InvalidResourceType.NotSupported          | This resource type is not supported. Please try other resource types.                                   | The error message returned when the specified resource type is not supported.                         |
| 403              | InvalidInstanceType.ZoneNotSupported      | The specified zone does not support this instancetype.                                                  | The error message returned when the specified instance type is not supported in the specified zone.   |
| 400              | InstanceDiskNumber.LimitExceed            | The total number of specified disk in an instance exceeds.                                              | The error message returned when the maximum number of the specified disks in the instance is reached. |
| 400              | InvalidDiskCategory.ValueNotSupported     | The specified parameter "DiskCategory" is not valid.                                                    | The error message returned when the specified DiskCategory is invalid.                                |
| 400              | InvalidParameter.Bandwidth                | %s                                                                                                      | The error message returned when the parameter is invalid.                                             |
| 400              | InvalidDataDiskCategory.ValueNotSupported | %s                                                                                                      | The error message returned when the parameter is invalid.                                             |



| HTTP status code | Error code                                  | Error message                                                        | Meaning                                                                              |
|------------------|---------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 400              | InvalidSystemDiskCategory.ValueNotSupported | %s                                                                   | The error message returned when the parameter is invalid.                            |
| 400              | InvalidParameter.Conflict                   | %s                                                                   | The error message returned when the parameter is in conflict with another parameter. |
| 400              | InvalidInternetChargeType.ValueNotSupported | %s                                                                   | The error message returned when the parameter is invalid.                            |
| 400              | InvalidInstanceType.ValueNotSupported       | %s                                                                   | The error message returned when the specified instance type is invalid.              |
| 403              | InstanceType.Offline                        | %s                                                                   | The error message returned when the specified instance type is unavailable.          |
| 400              | InvalidSystemDiskSize.ValueNotSupported     | %s                                                                   | The error message returned when the parameter is invalid.                            |
| 400              | InvalidDataDiskSize.ValueNotSupported       | %s                                                                   | The error message returned when the parameter is invalid.                            |
| 404              | InvalidKeyPairName.NotFound                 | The specified parameter "KeyPairName" does not exist in our records. | The error message returned when the specified KeyPairName does not exist.            |
| 403              | DependencyViolation.WindowsInstance         | The instance creating is window, cannot use ssh key pair to login.   | The error message returned when SSH key pairs are not supported in Windows.          |

| HTTP status code | Error code                                                  | Error message                                                                                                                                   | Meaning                                                                                 |
|------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 400              | InvalidInstanceType.<br>ValueNotSupported                   | The specified parameter "KeyPairName" only support IoOptimized Instance.                                                                        | The error message returned when SSH key pairs are not supported in optimized instances. |
| 403              | InvalidNetworkType.<br>MismatchRamRole                      | A RAM role can't be used for classic instance.                                                                                                  | The error message returned when RAM roles are not supported in classic instances.       |
| 404              | InvalidRamRole.<br>NotFound                                 | The specified parameter "RAMRoleName" does not exist.                                                                                           | The error message returned when the specified RAMRoleName does not exist.               |
| 404              | InvalidLaunchTemplate.<br>NotFound                          | %s                                                                                                                                              | The error message returned when the specified template name is not found.               |
| 404              | InvalidLaunchTemplateVersion.<br>NotFound                   | %s                                                                                                                                              | The error message returned when the specified template version is not found.            |
| 400              | InvalidInstanceType.<br>ElasticNetworkInterfaceNotSupported | The specified instance type does not support Elastic Network Interface , you cannot attach Elastic Network Interface to generation I instances. | The error message returned when ENIs are not supported in the specified instance type.  |
| 400              | InvalidParameter.<br>EncryptedIllegal                       | %s                                                                                                                                              | The error message returned when the parameter is invalid.                               |
| 400              | InvalidParameter.<br>EncryptedNotSupported                  | %s                                                                                                                                              | The error message returned when the parameter is invalid.                               |
| 400              | InvalidParameter.<br>Encrypted.<br>KmsNotEnabled            | The encrypted disk need enable KMS                                                                                                              | The error message returned when the KMS is not enabled for encrypted disks.             |

| HTTP status code | Error code                                     | Error message                                                                      | Meaning                                                                                                    |
|------------------|------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 500              | InternalServerError                            | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.                                                   |
| 403              | Forbidden.<br>RiskControl                      | This operation is forbidden by Aliyun RiskControl system.                          | The error message returned when the operation is forbidden by the risk control system.                     |
| 403              | InvalidInstance.<br>UnPaidOrder                | The specified Instance has unpaid order.                                           | The error message returned when you have unpaid orders under the specified instance.                       |
| 403              | RealNameAuthenticati<br>onError                | Your account has not passed the real-name authentication yet.                      | The error message returned when you failed the real-name authentication.                                   |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance      | Your account does not have enough balance.                                         | The error message returned when your account has insufficient balance.                                     |
| 400              | InvalidSpotPriceLimit.<br>LowerThanPublicPrice | The specified parameter "spotPriceLimit" can't be lower than current public price. | The error message returned when the specified spotPriceLimit is lower than the current open market price.  |
| 400              | InvalidRelationResource.<br>NotFound           | The relation resource has been deleted.                                            | The error message returned when the related resource is deleted.                                           |
| 400              | IncorrectRecycleBinStatus                      | The operation is not permitted due to resource status.                             | The error message returned when the operation is not supported while the resource is in the current state. |
| 400              | InvalidHpcClusterId.<br>Unnecessary            | The specified HpcClusterId is unnecessary                                          | The error message returned when the specified HpcClusterId is not required.                                |

| HTTP status code | Error code                           | Error message                                                    | Meaning                                                                                              |
|------------------|--------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 400              | InvalidVSwitchId.Necessary           | The VSwitchId is necessary                                       | The error message returned when a required parameter is not specified .                              |
| 400              | InvalidHpcClusterId.Necessary        | The HpcClusterId is necessary                                    | The error message returned when a required parameter is not specified .                              |
| 400              | InvalidHpcClusterId.NotFound         | The specified HpcClusterId is not found                          | The error message returned when the specified HPC cluster does not exist.                            |
| 400              | InvalidHpcClusterId.Creating         | The specified HpcClusterId is creating                           | The error message returned when the specified HPC cluster is being created.                          |
| 404              | InvalidVSwitchId.NotExist            | %s                                                               | The error message returned when the specified VSwitch does not exist.                                |
| 403              | ImageNotSupportInstanceType          | The specified image does not support the specified InstanceType. | The error message returned when the specified instance type is not supported in the specified image. |
| 400              | InvalidSecurityGroup.NotInDefaultVpc | %s                                                               | The error message returned when the specified security group is not in the default VPC.              |
| 400              | InvalidSpotInterruptionBehavior      | %s                                                               | The error message returned when SpotInterruptionBehavior is not supported.                           |

| HTTP status code | Error code                                               | Error message                                                                     | Meaning                                                                                                    |
|------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | InvalidSpotInterruptionBehavior.ClassicNetworkNotSupport | The specified SpotInterruptionBehavior does not support Classic network Instance. | The error message returned when the preemptible instance is a classic instance.                            |
| 403              | InvalidSpotInterruptionBehavior.LocalDiskNotSupport      | The specified SpotInterruptionBehavior does not support local disk instance.      | The error message returned when you try to use preemptible instances with local disks.                     |
| 400              | InvalidDeploymentOnHost                                  | %s                                                                                | The error message returned when DDHs are not supported in the specified deployment set.                    |
| 400              | InvalidInstanceChargeType.NotSupport                     | The Dedicated host not support the specified Instance charge type.                | The error message returned when the billing method is not supported in DDHs.                               |
| 400              | InvalidNetworkType.NotSupported                          | The classic networkType not support create ECS on dedicatedHost                   | The error message returned when you try to use classic network with DDHs.                                  |
| 400              | InvalidDedicatedHostId.NotFound                          | The specified DedicatedHostId does not exist.                                     | The error message returned when the specified DDH ID does not exist.                                       |
| 400              | InvalidDedicatedHostStatus.NotSupport                    | Operation denied due to dedicated host status.                                    | The error message returned when the operation is not supported while the resource is in the current state. |
| 400              | IncorrectDedicatedHostStatus                             | The current status of the resource does not support this operation.               | The error message returned when the operation is not supported while the resource is in the current state. |

| HTTP status code | Error code                                  | Error message                                                                                   | Meaning                                                                                            |
|------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 400              | ChargeType Violation. PostPaidDedicatedHost | Prepaid instance onto postpaid dedicated host is not allowed                                    | The error message returned when the billing method is changed for DDHs.                            |
| 400              | InvalidPeriod.ExceededDedicatedHost         | Instance expired date can't exceed dedicated host expired date.                                 | The error message returned when the expiration date of the instance is later than that of the DDH. |
| 400              | InvalidInstanceType.ValueUnauthorized       | The specified InstanceType is not authorize.                                                    | The error message returned when you are not authorized to use this instance type.                  |
| 400              | DedicatedHostType.Unmatched                 | The specified DedicatedHostType doesn't match the instance type.                                | The error message returned when preemptible instances do not support the instance type.            |
| 400              | LackResource                                | There's no enough resource on the specified dedicated host.                                     | The error message returned when the DDH has insufficient resources.                                |
| 400              | MissingParameter                            | The input parameter ImageId that is mandatory for processing this request is not supplied.      | The error message returned when a required parameter is not specified.                             |
| 400              | MissingParameter                            | The input parameter InstanceType that is mandatory for processing this request is not supplied. | The error message returned when a required parameter is not specified.                             |
| 400              | ChargeType Violation. PostPaidDedicatedHost | Prepaid instance onto postpaid dedicated host is not allowed.                                   | The error message returned when the billing method is changed for DDHs.                            |
| 400              | InvalidParameter.NetworkInterface           | %s                                                                                              | The error message returned when the specified parameter is invalid.                                |

| HTTP status code | Error code                                  | Error message                                                                                            | Meaning                                                                                             |
|------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 401              | InvalidRamRole.<br>NotEcsRole               | The specified ram role is not authorized for ecs , please check your role policy.                        | The error message returned when the specified RAM role is not authorized to access ECS.             |
| 403              | InvalidParameter.<br>NotMatch               | %s                                                                                                       | The error message returned when the parameter is in conflict with another parameter.                |
| 403              | InvalidVSwitch.<br>DefaultVSwitchNotSupport | The specified zone in vpc can't support create default vSwitch.                                          | The error message returned when the default VSwitch is not supported in VPCs of the specified zone. |
| 400              | InvalidParameter.<br>CreditSpecification    | The specified CreditSpecification is not supported in this region.                                       | The error message returned when the specified CreditSpecification is not supported in this region.  |
| 404              | InvalidMarketImage.<br>NotFound             | The specified marketplace image does not exist, please change the imageId and try again.                 | The error message returned when the specified image is not available on the Alibaba Cloud market.   |
| 400              | InvalidInstanceType.<br>NotSupported        | The specified instanceType is not supported by the deployment set.                                       | The error message returned when the instance type is not supported in the specified deployment set. |
| 400              | InvalidVpcZone.<br>NotSupported             | The specified operation is not allowed in the zone to which your VPC belongs, please try in other zones. | The error message returned when the operation is not supported in the specified zone.               |
| 400              | IncorrectDefaultVpcStatus                   | The status of the default VPC is invalid.                                                                | The error message returned when the status of the default VPC is incorrect.                         |

| HTTP status code | Error code                               | Error message                                                                        | Meaning                                                                                                    |
|------------------|------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 404              | DeploymentSet.NotFound                   | The specified deployment set does not exist.                                         | The error message returned when the specified deployment set does not exist.                               |
| 400              | InvalidAutoRenewPeriod.ValueNotSupported | The specified autoRenewPeriod is invalid.                                            | The error message returned when the specified autoRenewPeriod is invalid.                                  |
| 403              | DefaultVswitch.Existed                   | The default vswitch for VPC already exists.                                          | The error message returned when the default VSwitch has been created for the VPC.                          |
| 400              | InvalidMarketImageChargeType.NotSupport  | The specified chargeType of marketImage is unsupported.                              | The error message returned when the billing method for marketplace images is invalid.                      |
| 403              | IncorrectInstanceState                   | The current status of the resource does not support this operation.                  | The error message returned when the operation is not supported while the resource is in the current state. |
| 403              | CategoryViolation                        | The specified instance does not support this operation because of its disk category. | The error message returned when configurations are changed for instances with local disks attached.        |
| 400              | InvalidPeriodType.ValueNotSupported      | The specified parameter PeriodType is invalid.                                       | The error message returned when the specified PeriodType is invalid.                                       |
| 403              | InvalidDisk.SystemDiskSize               | The specified SystemDiskSize beyond the permitted range.                             | The error message returned when the maximum size of the specified system disk is reached.                  |



| HTTP status code | Error code                         | Error message                                     | Meaning                                                                                                           |
|------------------|------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 400              | IncorrectImageStatus               | The specified marketplace image is not available. | The error message returned when the specified marketplace image is unavailable.                                   |
| 403              | MaxEniIpv6IpsCountExceeded         | %s                                                | The error message returned when the maximum number of IPv6 addresses that can be allocated to the ENI is reached. |
| 403              | InvalidIp.IpRepeated               | %s                                                | The error message returned when the IP address is specified repeatedly.                                           |
| 403              | InvalidIp.IpAssigned               | %s                                                | The error message returned when the specified IP address has been allocated.                                      |
| 403              | InvalidIp.Address                  | %s                                                | The error message returned when the specified IP address is invalid.                                              |
| 403              | InvalidOperation.Ipv4CountExceeded | %s                                                | The error message returned when the maximum number of IPv4 addresses is reached.                                  |
| 403              | InvalidOperation.Ipv6CountExceeded | %s                                                | The error message returned when the maximum number of IPv6 addresses is reached.                                  |
| 403              | InvalidOperation.Ipv6NotSupport    | %s                                                | The error message returned when IPv6 addresses are not supported by the instance type.                            |

| HTTP status code | Error code                          | Error message                                                                            | Meaning                                                                                               |
|------------------|-------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 403              | InvalidVSwitch.Ipv6NotTurnOn        | %s                                                                                       | The error message returned when the IPv6 feature is not enabled on the VSwitch.                       |
| 403              | InvalidParam.Amount                 | %s                                                                                       | The error message returned when the specified Amount is invalid.                                      |
| 403              | InvalidVSwitchId.IpInvalid          | %s                                                                                       | The error message returned when the specified private IP address is invalid.                          |
| 403              | Forbidden.RegionId                  | %s                                                                                       | The error message returned when the feature is not supported in the specified region.                 |
| 400              | IncorrectVpcStatus                  | The current status of vpc does not support this operation.                               | The error message returned when the operation is not supported while the VPC is in the current state. |
| 403              | InvalidChargeType.ValueNotSupported | The operation is not permitted due to deletion protection only support postPaid instance | The error message returned when release protection is not supported.                                  |
| 403              | InvalidRegion.NotSupport            | The specified region does not support byok.                                              | The error message returned when BYOK is not supported in the specified region.                        |
| 403              | UserNotInTheWhiteList               | The user is not in byok white list.                                                      | The error message returned when you use BYOK.                                                         |
| 400              | InvalidParameter.EncryptedIllegal   | The specified parameter Encrypted must be true when kmsKeyId is not empty.               | The error message returned when the Encrypted feature is not enabled after you set KmsKeyId.          |

| HTTP status code | Error code                                        | Error message                                                                   | Meaning                                                                                  |
|------------------|---------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 400              | IoOptimized.<br>NotSupported                      | The specified instance must be IoOptimized instance when kmsKeyId is not empty. | The error message returned when optimized instances are not used after you set KmsKeyId. |
| 404              | InvalidParameter.<br>KMSKeyId.<br>NotFound        | The specified KMSKeyId does not exist.                                          | The error message returned when the specified KMSKeyId is invalid.                       |
| 403              | InvalidParameter.<br>KMSKeyId.<br>KMSUnauthorized | ECS service have no right to access your KMS.                                   | The error message returned when ECS is not authorized to access your KMS.                |

[View error codes](#)

## 6.2 CreateInstance

Creates an ECS instance.

### Description



#### Note:

Before creating an instance, you can call the [DescribeAvailableResource](#) action to view the available resources in the specified region or zone. If you want to create multiple instances that automatically enter the running state, we recommend that you call the [RunInstances](#) action.

You must fully understand the ECS billing methods before you create an instance, because resource billing is involved when creating instances. For more information, see [Billing overview](#). If the billing method is set to `PrePaid`, coupons available under your account will be used.

When you call this action, note that:

For instance types:

- You can use the `IoOptimized` parameter to indicate whether to create an optimized instance.
- For an `ephemeral_ssd` instance, the instance type cannot be changed after it is created.

For images:

When creating an instance, you must select an image to determine the system disk configuration of the new instance. After an instance is created, its system disk is a clone of that image.

- If the instance memory is 512 MiB, you can only use the Windows Server 1709 image.
- If the instance memory is 4 GiB or more, the 32-bit OS image cannot be used.

For network configuration:

- To create a VPC-type instance, you must specify the VPC network and a VSwitch. One instance can only belong to one VSwitch.
- When you specify `VSwitchId`, `SecurityGroupId` must be in the same VPC as `VSwitchId`.
- If you specify both `PrivateIpAddress` and `PrivateIpAddress`, `PrivateIpAddress` must be in the same CIDR block as the VSwitch.
- `PrivateIpAddress` depends on `VSwitchId`, so you cannot specify only `PrivateIpAddress`.
- When you call this action to create an instance, no public IP address is allocated to the instance. You can call the [AllocatePublicIpAddress](#) action to allocate a public IP address to the instance.
- You can use the `InternetChargeType` and `InternetMaxBandwidthOut` parameters to limit the bandwidth fees. `InternetMaxBandwidthIn` is not related to bandwidth billing, because the inbound data traffic for the instance is free.

- The relationship between `InternetChargeType` and `InternetMaxBandwidthOut` is as follows:
  - indicates that the instance is charged based on a fixed bandwidth, so `InternetMaxBandwidthOut` is the selected bandwidth value.
  - indicates that the instance is charged based on actual traffic, so `InternetMaxBandwidthOut` is the upper limit of the specified bandwidth. The Pay-As-You-Go billing method is used.

For security groups:

- You can call the [CreateSecurityGroup](#) action to create a security group in advance.
- You can also specify a security group when creating an instance or call the [ModifyInstanceAttribute](#) action to change the security group of the instance.
- Instances that belong to the same security group can access each other, but not instances that belong to different security groups. However, you can configure firewall permissions by using the security group authorization to allow instances in different security groups to access each other. For more information, see [AuthorizeSecurityGroup](#) and [AuthorizeSecurityGroupEgress](#).
- One security group can contain a maximum of 1,000 instances.

For storage:

- The maximum capacity of data disks varies based on disk categories:
  - The maximum capacity of a single basic disk ( `cloud` ) is 2,000 GiB.
  - The maximum capacity of a single ultra disk ( `cloud_efficiency` ) is 32 TiB (32,768 GiB).
  - The maximum capacity of a single SSD ( `cloud_ssd` ) is 32 TiB (32,768 GiB).
  - The maximum capacity of a single ESSD ( `cloud_essd` ) is 32 TiB (32,768 GiB).
  - The maximum capacity of a single local SSD ( `ephemeral_ssd` ) is 800 GiB.
- ECS allocates a system disk of an appropriate size for the instance that you create. The system disk capacity must be equal to or greater than `max {20, ImageSize}`. The system disk can be a basic disk ( `cloud` ), ultra disk ( `cloud_efficiency` ), SSD ( `cloud_ssd` ), or local SSD ( `ephemeral_ssd` ).
- When the system disk is a basic disk ( `cloud` ), ultra disk ( `cloud_efficiency` ), or SSD ( `cloud_ssd` ), the data disk cannot be a local SSD ( `ephemeral_ssd` ).

- When you select an optimized instance, the system disk can only be an ultra disk ( `cloud_efficiency` ) or SSD ( `cloud_ssd` ).
- A maximum of 16 data disks can be attached to an instance. The mount points of data disks are allocated by the system in the default order, from `/dev/xvdb` to `/dev/xvdz`. If a local SSD ( `ephemeral_ssd` ) is used as the data disk, the system disk must be a local SSD. The total capacity of local SSDs for an instance cannot exceed 1 TiB (1,024 GiB, excluding the system disk).
- The local SSD `ephemeral_ssd` must be specified when you create an instance. It cannot be added after the instance is created. For more information, see [Instance type families](#).

For user data:

If the instance meets the requirements for [user data](#), you can import UserData information. User data is encoded in Base64. We recommend that you do not import confidential information, such as passwords and keys, because user data is imported in plain-text mode. If you need to transfer confidential information, we recommend that you encrypt it and encode it in Base64 before importing it and decrypt it in the instance.

For others:

When you call this action in the Alibaba Cloud CLI and SDK, first delete the period (.) from the following parameters: `SystemDisk . Category` , `SystemDisk . Size` , `SystemDisk . Descriptio n` , `DataDisk . N . Size` , `DataDisk . N . Category` , `DataDisk . N . SnapshotId` , `DataDisk . N . DiskName` , `DataDisk . N . Descriptio n` , `DataDisk . N . DeleteWith Instance` , and `DataDisk . N . Performanc eLevel` .

For example, in the [Alibaba Cloud CLI](#) and [SDK](#), `Systemdisk category` is used to represent `SystemDisk . Category` .

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name         | Type    | Required | Example                                             | Description                                                                                                                                                                                                                           |
|--------------|---------|----------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ImageId      | String  | Yes      | win2008r2_64_ent_sp1_en-us_40G_alibase_20170915.vhd | The ID of the image file that you specified when you create the instance. For more information about marketplace images, see <code>ImageId</code> on the Product Details page at Alibaba Cloud Marketplace.                           |
| InstanceType | String  | Yes      | ecs.g5.large                                        | The type of the instance. For more information, see <a href="#">Instance type families</a> , or call the <a href="#">DescribeInstanceTypes</a> action to obtain the latest instance type list.                                        |
| RegionId     | String  | Yes      | cn-hangzhou                                         | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> action to view the latest region list.                                                                                                                |
| Action       | String  | No       | CreateInstance                                      | The operation that you want to perform. Set the value to <code>CreateInstance</code> .                                                                                                                                                |
| AutoRenew    | Boolean | No       | true                                                | Indicates whether to enable automatic renewal. The parameter is valid only when <code>InstanceChargeType</code> is set to <code>PrePaid</code> . Valid values: <ul style="list-style-type: none"><li>· true</li><li>· false</li></ul> |

| Name            | Type    | Required | Example                              | Description                                                                                                                                                                                                                                                                                                         |
|-----------------|---------|----------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AutoRenewPeriod | Integer | No       | 2                                    | <p>The automatic renewal period of the instance. This parameter is required when AutoRenew is set to true. Valid values:</p> <p>{ “1” , “2” , “3” , “6” , “12” } if PeriodUnit is set to Month.</p>                                                                                                                 |
| ClientToken     | String  | No       | 123e4567-e89b-12d3-a456-426655440000 | <p>The token used to ensure idempotence. You can generate the token in your client, but you must ensure that it is globally unique. ClientToken can contain only ASCII characters. It must be no more than 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a>.</p>        |
| ClusterId       | String  | No       | c-clusterid1                         | <p>The ID of the cluster to which the instance belongs.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |



| Name                          | Type    | Required | Example         | Description                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|---------|----------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CreditSpecification           | String  | No       | Standard        | <p>The running mode of the burstable performance instance (t5). Valid values:</p> <ul style="list-style-type: none"> <li>Standard: the standard mode. For more information, see <a href="#">Standard t5 instances</a>.</li> <li>Unlimited: the unlimited performance mode. For more information, see <a href="#">Unlimited-performance t5 instances</a>.</li> </ul> <p>Default value: null.</p>                        |
| DataDisk.N.Category           | String  | No       | cloud-ssd       | <p>The category of the nth data disk. Default value: cloud. Valid values:</p> <ul style="list-style-type: none"> <li>cloud: basic disk.</li> <li>cloud_efficiency: ultra disk.</li> <li>cloud_ssd: SSD.</li> <li>ephemeral_ssd: local SSD.</li> <li>cloud_essd: ESSD. ESSDs are still in the public beta test phase and only available in some regions. For more information, see <a href="#">ESSD FAQ</a>.</li> </ul> |
| DataDisk.N.DeleteWithInstance | Boolean | No       | true            | <p>Indicates whether the data disk is released along with the instance. Default value: true.</p>                                                                                                                                                                                                                                                                                                                       |
| DataDisk.N.Description        | String  | No       | DataDiskFinance | <p>The description of the data disk. It must be 2 to 256 characters in length. It cannot start with http:// or https://. Default value: null.</p>                                                                                                                                                                                                                                                                      |

| Name                     | Type    | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|---------|----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDisk . N . Device    | String  | No       | /dev/xvda | The mount point of the nth data disk.                                                                                                                                                                                                                                                                                                                                    |
| DataDisk . N . DiskName  | String  | No       | DataDisk  | The name of the nth data disk . It must be 2 to 128 characters in length and can contain uppercase and lowercase letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter. It cannot start with http:// or https://. Default value: null.                                                                                              |
| DataDisk . N . Encrypted | Boolean | No       | false     | Indicates whether the nth data disk is encrypted. Default value : false.                                                                                                                                                                                                                                                                                                 |
| DataDisk . N . Size      | Integer | No       | 2,000     | The size of the nth data disk. n ranges from 1 to 16. Unit: GiB. Valid values: <ul style="list-style-type: none"> <li>cloud: 5 to 2,000.</li> <li>cloud_efficiency: 20 to 32,768.</li> <li>cloud_ssd: 20 to 32,768.</li> <li>cloud_essd: 20 to 32,768.</li> <li>ephemeral_ssd: 5 to 800.</li> </ul> This value must be equal to or greater than the size of SnapshotId . |

| Name                                   | Type   | Required | Example                | Description                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------|--------|----------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>DataDisk . N . SnapshotId</code> | String | No       | s-bp17441ohwka0yuhx3h0 | The ID of the snapshot used to create the <i>n</i> th data disk. <i>n</i> ranges from 1 to 16. When <code>DataDisk . N . SnapshotId</code> is specified, the value of <code>DataDisk . N . Size</code> is ignored. The size of the new data disk is equal to that of the specified snapshot. Snapshots created on or before July 15, 2013 cannot be used here. Otherwise, an error will be returned and your request will be rejected. |
| <code>DedicatedHostId</code>           | String | No       | dh-dedicatedhost1      | Indicates whether to create an ECS instance on the specified Dedicated Host (DDH). You can call the <a href="#">DescribeDedicatedHosts</a> action to view the DDH list.<br><br>No preemptible instances can be created on the DDH. Therefore, if you specify <code>DedicatedHostId</code> , the values of <code>SpotStrategy</code> and <code>SpotPriceLimit</code> will be ignored.                                                   |

| Name               | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|---------|----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DeletionProtection | Boolean | No       | false   | <p>The release protection attribute of the instance. It indicates whether you can use the ECS console or call the <a href="#">DeleteInstance</a> action to release the instance. Default value: false. Valid values:</p> <ul style="list-style-type: none"><li>· true: enables release protection.</li><li>· false: disables release protection.</li></ul> <div> <b>Note:</b><br/>This attribute is applicable to Pay-As-You-Go instances. It can only be used to block manual release operations, but not automatic release operations by the system.</div> |

| Name                            | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------|--------|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk.<br>PerformanceLevel | String | No       | PL1     | <p>The performance level you select for an ESSD cloud disk that is used as a system disk.</p> <p>Valid values:</p> <ul style="list-style-type: none"><li>• PL1 (default value): The maximum random read/write IOPS of a single disk is 50,000.</li><li>• PL2 : The maximum random read/write IOPS of a single disk is 100,000.</li><li>• PL3 : The maximum random read/write IOPS of a single disk is 1,000,000.</li></ul> <p>For information about how to select a performance level for an ESSD cloud disk, see <a href="#">ESSD cloud disk</a>.</p> |

| Name                                     | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------|--------|----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>DataDisk.N.PerformanceLevel</code> | String | No       | PL2     | <p>The performance level you select for an ESSD cloud disk that is used as a data disk. The value of N must be the same as that in <code>DataDisk.N.Category = cloud_essd</code>.</p> <p><b>Valid values:</b></p> <ul style="list-style-type: none"> <li>PL1 (default value): The maximum random read/write IOPS of a single disk is 50,000.</li> <li>PL2 : The maximum random read/write IOPS of a single disk is 100,000.</li> <li>PL3 : The maximum random read/write IOPS of a single disk is 1,000,000.</li> </ul> <p>For information about how to select a performance level for an ESSD cloud disk, see <a href="#">ESSD cloud disk</a>.</p> |

| Name     | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|--------|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Affinity | String | No       | default | <p>Indicates whether to associate an ECS instance with the DDH on which the instance is created. Valid values:</p> <ul style="list-style-type: none"><li>• <code>default</code> : The instance is not associated with the DDH on which the instance is created. For an instance that is enabled with the No fees for stopped instances (VPC-Connected) feature, if the original DDH does not have sufficient resources after the instance is restarted, the instance will be hosted on another DDH in the automatic DDH resource pool.</li><li>• <code>host</code> : The instance is associated with the DDH on which the instance is created. An instance that is enabled with the No fees for stopped instances (VPC-Connected) feature is still hosted on the original DDH after it is restarted. If the original DDH does not have sufficient resources, the instance restart fails</li></ul> <p>Default value: default</p> |

| Name            | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|--------|----------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tenancy         | String | No       | default                 | <p>Indicates whether to create an ECS instance on a DDH. Valid values:</p> <ul style="list-style-type: none"><li>• <code>default</code> : The ECS instance is not created on a DDH.</li><li>• <code>host</code> : The ECS instance is created on a DDH. If you do not specify <code>DedicatedHostId</code>, Alibaba Cloud will automatically select a DDH for your instance.</li></ul> <p>Default value: <code>default</code></p> |
| DeploymentSetId | String | No       | ds-bp1brhwhoqinyjd6tn3x | The ID of the deployment set.                                                                                                                                                                                                                                                                                                                                                                                                     |
| Description     | String | No       | InstanceFinance         | The description of the instance. It must be 2 to 256 characters in length. It cannot start with <code>http://</code> or <code>https://</code> . Default value: <code>null</code> .                                                                                                                                                                                                                                                |



| Name     | Type    | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------|---------|----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DryRun   | Boolean | No       | false     | <p>Indicates whether to send a check request only. Default value: false.</p> <ul style="list-style-type: none"> <li>· true: Only a check request is sent and no instance is created. The system checks whether the required parameters are set, and verifies the request format, service limits, and available ECS instances. If the check fails, the corresponding error code is returned. If the check succeeds, the <code>DryRunOperation</code> error code is returned.</li> <li>· false: A request is sent and then the instance is created.</li> </ul>                                                                     |
| HostName | String  | No       | LocalHost | <p>The hostname of the instance.</p> <ul style="list-style-type: none"> <li>· It cannot start or end with a period (.) or a hyphen (-). It cannot contain consecutive periods (.) or hyphens (-).</li> <li>· For Windows: The hostname must be 2 to 15 characters in length and can contain uppercase and lowercase letters, digits, and hyphens (-). It cannot contain periods (.) or contain only digits.</li> <li>· For other operating systems : The hostname must be 2 to 64 characters in length and can contain uppercase and lowercase letters, digits , and hyphens (-). It can be separated by periods (.).</li> </ul> |

| Name               | Type   | Required | Example          | Description                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|--------|----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HpcClusterId       | String | No       | hpc-hpcclusterid | The ID of the HPC cluster to which the instance belongs.                                                                                                                                                                                                                                                                                                                    |
| InnerIpAddress     | String | No       | XX.XXX.XX.XXX    | The private IP address of the instance.                                                                                                                                                                                                                                                                                                                                     |
| InstanceChargeType | String | No       | PrePaid          | <p>The billing method of the instance. Default value: PostPaid. Valid values:</p> <ul style="list-style-type: none"> <li>PrePaid: subscription. If it is set to PrePaid, you must confirm that your payment account has sufficient balance or credit. Otherwise, the <code>InvalidPaymentMethod</code> error code is returned.</li> <li>PostPaid: Pay-As-You-Go.</li> </ul> |
| InstanceName       | String | No       | yk201812061032   | <p>The name of the instance. It must be 2 to 128 characters in length and can contain uppercase and lowercase letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter. It cannot start with http:// or https://. If this parameter is not specified, InstanceId is used by default.</p>                                                  |
| InternetChargeType | String | No       | PayByTraffic     | <p>The billing method of the instance. Default value: PayByTraffic. Valid values:</p> <ul style="list-style-type: none"> <li>PayByTraffic: charged based on actual traffic.</li> </ul>                                                                                                                                                                                      |

| Name                    | Type    | Required | Example      | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|---------|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InternetMaxBandwidthIn  | Integer | No       | 200          | The maximum inbound bandwidth for the public network. Unit: Mbit/s. Valid values: 1 to 200.<br><br>Default value: 200                                                                                                                                                                                                                                                                                                |
| InternetMaxBandwidthOut | Integer | No       | 5            | The maximum outbound bandwidth for the public network. Unit: Mbit/s. Valid values: 0 to 100.<br><br>Default value: 0                                                                                                                                                                                                                                                                                                 |
| IoOptimized             | String  | No       | optimized    | Specifies whether the instance is an I/O optimized instance. The default value for <a href="#">phased-out instance types</a> is none, but that for other instances is optimized. Valid values: <ul style="list-style-type: none"> <li>· none.</li> <li>· optimized.</li> </ul>                                                                                                                                       |
| KeyPairName             | String  | No       | Instancetest | The name of the key pair. <ul style="list-style-type: none"> <li>· For Windows instances, ignore this parameter. Default value: null. Even if this parameter is specified, the <code>Password</code> value is used.</li> <li>· For Linux instances, the password logon method is forbidden during initialization. To improve instance security, we recommend that you use the key pair connection method.</li> </ul> |

| Name             | Type   | Required | Example                 | Description                        |
|------------------|--------|----------|-------------------------|------------------------------------|
| NodeControllerId | String | No       | nc-nodecontroller       | This parameter has been discarded. |
| OwnerAccount     | String | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.    |

| Name     | Type   | Required | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|--------|----------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Password | String | No       | EcsV587! | <p>The password of the instance . It must be 8 to 30 characters in length and can contain uppercase and lowercase letters, digits, and special characters. The following special characters can be used:</p> <pre> Parentheses (()), grave accents (`), tildes (~), exclamation points (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), carets (^), ampersands (&amp;), asterisks (*), hyphens (-), underscores (_), plus signs (+), equal signs (=), vertical bars ( ), braces {}, brackets [], colons (:), semicolons (;), acute accents ('), angle brackets (&lt;&gt;), commas (,), periods (.), question marks (?), and forward slashes (/).</pre> <p>For Windows, the password cannot start with a forward slash (/).</p> <div>  <b>Note:</b><br/> If Password is specified, we recommend that you send requests over the HTTPS protocol to keep the password confidential. To improve instance security, we recommend that you use the key pair connection method. </div> |

| Name             | Type    | Required | Example        | Description                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------|----------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PasswordInherit  | Boolean | No       | false          | Indicates whether to use the password predefined in the image. If PasswordInherit is specified, Password must be null. Make sure that the selected image has a password configured.                                                                                                                                                                                                                             |
| Period           | Integer | No       | 1              | The subscription period of the instance. Unit: month. The parameter is valid and required only when InstanceChargeType is set to PrePaid . If DedicatedHostId is specified, the value range of the Period parameter must be within the subscription period of the DDH. Valid values: { "1" , "2" , "3" , "4" , "5" , "6" , "7" , "8" , "9" , "12" , "24" , "36" , "48" , "60" } if PeriodUnit is set to Month . |
| PeriodUnit       | String  | No       | Month          | The unit of the subscription period. Default value: Month. Valid values: Week and Month.                                                                                                                                                                                                                                                                                                                        |
| PrivateIpAddress | String  | No       | 172.16.236.14X | The private IP address of the instance. PrivateIpAddress depends on VSwitchId and cannot be specified separately.                                                                                                                                                                                                                                                                                               |

| Name                         | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                    |
|------------------------------|--------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RamRoleName                  | String | No       | FinanceDept             | The RAM role name of the instance. You can call the <a href="#">ListRoles</a> action to view RAM roles for the specified instance.                                                                                                                                             |
| ResourceGroupId              | String | No       | rg-resourcegroupid      | The ID of the resource group to which the instance belongs.                                                                                                                                                                                                                    |
| SecurityEnhancementsStrategy | String | No       | Active                  | Indicates whether to enable security hardening. Valid values: <ul style="list-style-type: none"> <li>Active: enables security hardening. It is applicable only to the system image.</li> <li>Deactive: disables security hardening. It is applicable to all images.</li> </ul> |
| SecurityGroupId              | String | No       | sg-bp15ed6xe1yxeycg7ov3 | The ID of the security group to which the instance belongs. Instances in the same security group can access each other.                                                                                                                                                        |
| SpotInterruptionBehavior     | String | No       | Terminate               | The interruption mode of the preemptible instance. Only the Terminate mode is supported, in which the instance is released.                                                                                                                                                    |
| SpotPriceLimit               | Float  | No       | 0.98                    | The maximum hourly price for the instance. It is precise up to three decimal places. It is valid only when <code>SpotStrategy</code> is set to <code>SpotWithPriceLimit</code> .                                                                                               |

| Name                | Type   | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|--------|----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotStrategy        | String | No       | NoSpot    | <p>The preemption policy of the Pay-As-You-Go instance. The parameter is valid only when <code>InstanceChargeType</code> is set to <code>PostPaid</code>. Default value: <code>NoSpot</code>. Valid values:</p> <ul style="list-style-type: none"> <li>• <code>NoSpot</code>: a standard Pay-As-You-Go instance.</li> <li>• <code>SpotWithPriceLimit</code>: a preemptible instance with the upper price limit defined.</li> <li>• <code>SpotAsPriceGo</code>: a Pay-As-You-Go instance with its price based on the current market price.</li> </ul>                                                                                                                              |
| SystemDisk.Category | String | No       | cloud-ssd | <p>The category of the system disk. The default value of the non-optimized instance for <a href="#">phased-out instance types</a> is <code>cloud</code>. The default value for other instances is <code>cloud_efficiency</code>. Valid values:</p> <ul style="list-style-type: none"> <li>• <code>cloud</code>: basic disk.</li> <li>• <code>cloud_efficiency</code>: ultra disk.</li> <li>• <code>cloud_ssd</code>: SSD.</li> <li>• <code>ephemeral_ssd</code>: local SSD.</li> <li>• <code>cloud_essd</code>: ESSD. ESSD cloud disks are still in the public beta test phase and only available in some regions. For more information, see <a href="#">ESSD FAQ</a>.</li> </ul> |



| Name                           | Type    | Required | Example               | Description                                                                                                                                                                                                                                                              |
|--------------------------------|---------|----------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk<br>.<br>Description | String  | No       | SystemDisk<br>Finance | The description of the system disk. It must be 2 to 256 characters in length. It cannot start with http:// or https://. Default value: null.                                                                                                                             |
| SystemDisk<br>.<br>DiskName    | String  | No       | SystemDisk            | The name of the system disk. It must be 2 to 128 characters in length and can contain uppercase and lowercase letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter. It cannot start with http:// or https://. Default value: null. |
| SystemDisk<br>.<br>Size        | Integer | No       | 40                    | The size of the system disk. Unit: GiB. Valid values: 20 to 500. This value must be equal to or greater than max {20, ImageSize}. Default value: max {40, ImageSize}.                                                                                                    |
| Tag . N .<br>Key               | String  | No       | FinanceDept           | The tag key of the instance , disk, and primary NIC. n ranges from 1 to 20. If you specify this parameter, it cannot be left empty. It must be no more than 64 characters in length. It cannot start with aliyun, acs:, http://, or https://.                            |

| Name                 | Type    | Required | Example           | Description                                                                                                                                                                                                                                                                    |
|----------------------|---------|----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . Value      | String  | No       | FinanceDeptJoshua | The tag value of the instance, disk, and primary NIC. n ranges from 1 to 20. If you specify this parameter, it can be left empty. It must be no more than 128 characters in length. It cannot start with aliyun, acs:, http://, or https://.                                   |
| Tag . N . key        | String  | No       | FinanceDept       | The tag key of the instance, disk, and primary NIC.<br><br> <b>Note:</b><br>This parameter will be removed in the future. We recommend that you use Tag.N.Key to ensure compatibility.       |
| Tag . N . value      | String  | No       | FinanceDeptJoshua | The tag value of the instance, disk, and primary NIC.<br><br> <b>Note:</b><br>This parameter will be removed in the future. We recommend that you use Tag.N.Value to ensure compatibility. |
| UseAdditionalService | Boolean | No       | true              | Indicates whether to use the virtual machine system configuration provided by Alibaba Cloud (Windows: NTP and KMS. Linux: NTP and YUM).                                                                                                                                        |

| Name      | Type   | Required | Example                           | Description                                                                                                                                                                             |
|-----------|--------|----------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UserData  | String | No       | ZWNobyBoZW<br>xsbyBly3Mh          | The user data of the instance.<br>It must be encoded in Base64.<br>The maximum size of the user data is 16 KB.                                                                          |
| VSwitchId | String | No       | vsw-<br>bp1s5fnvk4<br>gn2tw503ziX | The ID of the VSwitch. It must be specified when you create VPC-type instances.                                                                                                         |
| VlanId    | String | No       | 10                                | The VLAN ID of the instance.                                                                                                                                                            |
| ZoneId    | String | No       | cn-hangzhou-b                     | The zone ID of the instance.<br>For more information, see <a href="#">DescribeZones</a> .<br><br>Default value: null. If you do not specify a zone, the system randomly selects a zone. |

### Response parameters

| Name       | Type   | Example                                      | Description                                                                                                                     |
|------------|--------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | i-instance1                                  | The ID of the instance. It is a unique identifier of the instance.                                                              |
| RequestId  | String | 473469C7-AA6F-<br>4DC5-B3DB-<br>A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API action is successful. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=CreateInstance
&RegionId=cn-hangzhou
&ImageId=_32_23c472_201208221_72155_aliguest.vhd
&SecurityGroupIds=sg-c0003e8b9
```

```
& HostName = Bctest01
& InstanceType = ecs . t1 . small
&< Common request parameters >
```

## Successful response examples

### XML format

```
< CreateInstanceResponse >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 </
    RequestId >
  < InstanceId > i - instance1 </ InstanceId >
</ CreateInstanceResponse >
```

### JSON format

```
{
  " InstanceId ":" i - instance1 ",
  " RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 "
}
```

## Errors

| HTTP status code | Error code                                  | Error message                                                                                                                                | Meaning                                                                                        |
|------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 400              | InvalidInternetChargeType.ValueNotSupported | The specified InternetChargeType is not valid.                                                                                               | The error message returned when the specified instance type does not exist.                    |
| 400              | InvalidSystemDiskCategory.ValueNotSupported | The specified parameter "SystemDisk.Category" is not valid.                                                                                  | The error message returned when the specified disk type is invalid.                            |
| 400              | InvalidDataDiskSize.ValueNotSupported       | The specified DataDisk.N.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category. | The error message returned when the maximum size of the specified data disk is reached.        |
| 403              | InvalidDiskCategory.NotSupported            | The specified disk category is not support the specified instance type .                                                                     | The error message returned when the specified disk type is not supported in the instance type. |

| HTTP status code | Error code                                       | Error message                                                                                  | Meaning                                                                                                                                        |
|------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidInstanceType.<br>ValueNotSupported        | The specified InstanceType does not exist or beyond the permitted range.                       | The error message returned when the specified instance type is not supported.                                                                  |
| 404              | InvalidSecurityGroupId.<br>NotFound              | The specified SecurityGroupId does not exist.                                                  | The error message returned when the specified SecurityGroupId does not exist under this account. Check whether the SecurityGroupId is correct. |
| 400              | InvalidHostName.<br>Malformed                    | The specified parameter "HostName" is not valid.                                               | The error message returned when the format of the specified HostName is invalid.                                                               |
| 400              | InvalidPasswordParam.<br>Mismatch                | The input password should be null when passwdInherit is true.                                  | The error message returned when no password can be configured if PasswordInherit is set to true.                                               |
| 400              | InvalidSystemDiskCategory.<br>.ValueNotSupported | The specified parameter "SystemDisk.Category" is not valid.                                    | The error message returned when the specified SystemDisk.Category is invalid.                                                                  |
| 400              | InvalidDiskDescription.<br>Malformed             | The specified parameter "SystemDisk.DiskDescription" or "DataDisk.N.Description" is not valid. | The error message returned when the specified SyatemDisk.DiskDescription or DataDisk.N.Description is invalid.                                 |
| 400              | InvalidDataDiskCategory.<br>.ValueNotSupported   | The specified parameter "DataDisk.N.Category" is not valid.                                    | The error message returned when the specified DataDisk.N.Category is invalid.                                                                  |

| HTTP status code | Error code                                  | Error message                                                                    | Meaning                                                                                                              |
|------------------|---------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 400              | OperationDenied                             | The specified parameter "VlanId" is not valid or vlan has not enough IP address. | The error message returned when the specified VLAN ID is invalid or no more IP addresses are available in this VLAN. |
| 400              | InvalidSnapshotId.<br>BasedSnapshotTooOld   | The specified snapshot is created before 2013-07-15.                             | The error message returned when the specified snapshot was created on or before July 15, 2013.                       |
| 400              | InvalidMarketImageChargeType.<br>NotSupport | The specified chargeType of marketImage is unsupported.                          | The error message returned when the billing method for marketplace images is invalid.                                |
| 403              | OperationDenied                             | The specified Image is disabled or is deleted.                                   | The error message returned when the specified image is disabled or deleted.                                          |
| 403              | InvalidSnapshotId.<br>NotReady              | The specified snapshot has not completed yet.                                    | The error message returned when the specified snapshot has not been completed.                                       |
| 403              | OperationDenied                             | The specified snapshot is not allowed to create disk.                            | The error message returned when no disk can be created for the specified snapshot.                                   |
| 403              | InvalidDevice.<br>InUse                     | The specified device has been occupied.                                          | The error message returned when the specified device has been attached to a disk.                                    |

| HTTP status code | Error code                       | Error message                                                                                                                                                                                                                                             | Meaning                                                                                                                                                           |
|------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | 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. | The error message returned when the specified marketplace image is unavailable.                                                                                   |
| 404              | InvalidClusterId.NotFound        | The ClusterId provided does not exist in our records.                                                                                                                                                                                                     | The error message returned when the specified ClusterId does not exist.                                                                                           |
| 403              | OperationDenied                  | The creation of Instance to the specified Zone is not allowed.                                                                                                                                                                                            | The error message returned when no instance can be created in the specified zone.                                                                                 |
| 403              | OperationDenied                  | The specified Zone or cluster does not offer the specified disk category or the specified zone and cluster do not match.                                                                                                                                  | The error message returned when the specified disk category is unavailable in the specified zone or cluster, or when the specified zone and cluster do not match. |
| 400              | InvalidDiskDescription.Malformed | The specified parameter "SystemDisk.DiskDescription or DataDisk.N.Description" is not valid.                                                                                                                                                              | The error message returned when the specified SyatemDisk.DiskDescription or DataDisk.N.Description is invalid.                                                    |
| 403              | RegionUnauthorized               | There is no authority to create instance in the specified region.                                                                                                                                                                                         | The error message returned when you are not authorized to create instances in the specified region.                                                               |

| HTTP status code | Error code                        | Error message                                                             | Meaning                                                                                                        |
|------------------|-----------------------------------|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 403              | CategoryNotSupported              | The specified Zone or cluster does not offer the specified disk category. | The error message returned when the specified disk category is unavailable in the specified zone or cluster.   |
| 403              | CategoryNotSupported              | The specified cluster does not offer the specified disk category.         | The error message returned when the specified disk category is unavailable in the specified cluster.           |
| 404              | InvalidVSwitchId.NotFound         | Specified virtual switch does not exist.                                  | The error message returned when the specified VSwitch does not exist.                                          |
| 400              | InvalidParameter.Mismatch         | Specified security group and virtual switch are not in the same VPC.      | The error message returned when the specified security group is not in the same VPC as the VSwitch.            |
| 400              | InvalidPrivateIpAddress           | Specified private IP address is not in the CIDR block of virtual switch.  | The error message returned when the specified private IP address is not in the same CIDR block as the VSwitch. |
| 400              | InvalidPrivateIpAddress.Malformed | Specified private IP address is malformed.                                | The error message returned when the specified private IP address is invalid.                                   |
| 400              | IncorrectVSwitchStatus            | The current status of virtual switch does not support this operation.     | The error message returned when the specified VSwitch is in the pending state and cannot be deleted.           |



| HTTP status code | Error code                         | Error message                                                                                  | Meaning                                                                                                                       |
|------------------|------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidParameter.Mismatch          | Specified virtual switch is not in the specified zone.                                         | The error message returned when the specified VSwitch does not exist in the specified zone.                                   |
| 400              | MissingParameter                   | The input parameter "VSwitchId" that is mandatory for processing this request is not supplied. | The error message returned when the VSwitchId parameter is empty.                                                             |
| 400              | InvalidDiskCategory.Mismatch       | The specified disk categories' combination is not supported.                                   | The error message returned when the specified disk types are used together.                                                   |
| 404              | InvalidImageId.NotFound            | The specified ImageId does not exist.                                                          | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct. |
| 404              | OperationDenied                    | Another Instance has been creating                                                             | The error message returned when no new instances can be created.                                                              |
| 403              | InvalidDiskSize.TooSmall           | Specified disk size is less than the size of snapshot                                          | The error message returned when the specified disk has insufficient space for the snapshot.                                   |
| 403              | OperationDenied                    | The type of the disk does not support the operation                                            | The error message returned when the current disk category does not support the specified operation.                           |
| 404              | InvalidInstanceChargeType.NotFound | The InstanceChargeType does not exist in our records                                           | The error message returned when the specified instance type does not exist.                                                   |

| HTTP status code | Error code                                  | Error message                                                                                                                                | Meaning                                                                                                                                         |
|------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidPeriod                               | The specified period is not valid.                                                                                                           | The error message returned when the specified parameter is invalid.                                                                             |
| 400              | InvalidDataDiskCategory.ValueNotSupported   | The specified parameter "DataDisk.N.Category" is not valid.                                                                                  | The error message returned when the specified disk type is invalid.                                                                             |
| 400              | InstanceDiskCategoryLimitExceed             | The specified DataDisk.N.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category. | The error message returned when the maximum size of the specified data disk is reached.                                                         |
| 403              | OperationDenied                             | The resource is out of usage.                                                                                                                | The error message returned when the instance is not in the running state. Enable the instance or check whether a proper operation is performed. |
| 404              | InvalidSystemDiskSize.LessThanImageSize     | The specified parameter SystemDisk.Size is less than the image size.                                                                         | The error message returned when the specified SystemDisk.Size is less than the image size.                                                      |
| 400              | InvalidSystemDiskCategory.ValueNotSupported | The specified parameter SystemDisk.Category is not valid.                                                                                    | The error message returned when the specified SystemDisk.Category is invalid.                                                                   |
| 403              | InvalidParameter.ResourceOwnerAccount       | ResourceOwnerAccount is Invalid.                                                                                                             | The error message returned when the specified ResourceOwnerAccount is invalid.                                                                  |
| 403              | InvalidUserData.Forbidden                   | User not authorized to input the parameter "UserData", please apply for permission "UserData"                                                | The error message returned when you are not authorized to configure UserData.                                                                   |

| HTTP status code | Error code                                   | Error message                                                                     | Meaning                                                                                                      |
|------------------|----------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 400              | InvalidUserData.<br>NotSupported             | The specified parameter "UserData" only support the vpc and IoOptimized Instance. | The error message returned when the specified UserData is only supported in VPC-type or optimized instances. |
| 403              | InvalidResourceType.<br>NotSupported         | This resource type is not supported; please try other resource types.             | The error message returned when the specified resource type is out of stock.                                 |
| 403              | InvalidInstanceType.<br>ZoneNotSupported     | The specified zone does not support this instancetype.                            | The error message returned when the specified instance type is not supported in the specified zone.          |
| 400              | InstanceDiskNumber.<br>LimitExceed           | The total number of specified disk in an instance exceeds.                        | The error message returned when the maximum number of the specified disks in the instance is reached.        |
| 400              | Account.<br>Arrearage                        | Your account has an outstanding payment.                                          | The error message returned when you have unpaid orders under your account.                                   |
| 400              | InvalidDiskCategory.<br>ValueNotSupported    | The specified parameter "DiskCategory" is not valid.                              | The error message returned when the specified DiskCategory is invalid.                                       |
| 400              | InvalidAutoRenewPeriod.<br>ValueNotSupported | The specified autoRenewPeriod is not valid.                                       | The error message returned when the specified AutoRenewPeriod is invalid.                                    |
| 400              | InvalidParameter.<br>Bandwidth               | %s                                                                                | The error message returned when the parameter is invalid.                                                    |

| HTTP status code | Error code                                  | Error message | Meaning                                                                              |
|------------------|---------------------------------------------|---------------|--------------------------------------------------------------------------------------|
| 400              | InvalidDataDiskCategory.ValueNotSupported   | %s            | The error message returned when the parameter is invalid.                            |
| 400              | InvalidSystemDiskCategory.ValueNotSupported | %s            | The error message returned when the parameter is invalid.                            |
| 400              | InvalidParameter.Conflict                   | %s            | The error message returned when the parameter is in conflict with another parameter. |
| 400              | InvalidInternetChargeType.ValueNotSupported | %s            | The error message returned when the parameter is invalid.                            |
| 400              | InvalidInstanceType.ValueNotSupported       | %s            | The error message returned when the specified instance type is invalid.              |
| 403              | InstanceType.Offline                        | %s            | The error message returned when the specified instance type is unavailable.          |
| 500              | InternalServerError                         | %s            | The error message returned when an unknown internal error occurs.                    |
| 400              | InvalidSystemDiskSize.ValueNotSupported     | %s            | The error message returned when the parameter is invalid.                            |
| 400              | InvalidDataDiskSize.ValueNotSupported       | %s            | The error message returned when the parameter is invalid.                            |

| HTTP status code | Error code                             | Error message                                                            | Meaning                                                                                             |
|------------------|----------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 404              | InvalidKeyPairName.NotFound            | The specified parameter "KeyPairName" does not exist in our records.     | The error message returned when the specified KeyPairName does not exist.                           |
| 403              | DependencyViolation.WindowsInstance    | The instance creating is window, cannot use ssh key pair to login.       | The error message returned when SSH key pairs are not supported in Windows.                         |
| 400              | InvalidInstanceType.ValueNotSupported  | The specified parameter "KeyPairName" only support IoOptimized Instance. | The error message returned when SSH key pairs are not supported in optimized instances.             |
| 403              | RealNameAuthenticationError            | Your account has not passed the real-name authentication yet.            | The error message returned when you failed the real-name authentication.                            |
| 400              | OperationDenied                        | The specified instance type or Zone is not available or not authorized.  | The error message returned when the specified instance type or zone is unavailable or unauthorized. |
| 403              | InvalidAccountStatus.NotEnoughBalance  | Your account does not have enough balance.                               | The error message returned when your account has insufficient balance.                              |
| 400              | InvalidParameter.EncryptedIllegal      | %s                                                                       | The error message returned when the parameter is invalid.                                           |
| 400              | InvalidParameter.EncryptedNotSupported | %s                                                                       | The error message returned when the parameter is invalid.                                           |
| 400              | EncryptedOption.Conflict               | %s                                                                       | The error message returned when the parameter is invalid.                                           |

| HTTP status code | Error code                                       | Error message                                                                      | Meaning                                                                                       |
|------------------|--------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 400              | InvalidParameter.<br>Encrypted.<br>KmsNotEnabled | The encrypted disk need enable KMS                                                 | The error message returned when KMS is not enabled for encrypted disks                        |
| 500              | InternalError                                    | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.                                      |
| 400              | InvalidSpotPriceLimit.<br>LowerThanPublicPrice   | The specified parameter "spotPriceLimit" can't be lower than current public price. | The error message returned when the specified SpotPriceLimit is lower than the current price. |
| 400              | InvalidHpcClusterId.<br>Unnecessary              | The specified HpcClusterId is unnecessary.                                         | The error message returned when the specified HpcClusterId is invalid.                        |
| 400              | InvalidVSwitchId.<br>Necessary                   | The VSwitchId is necessary.                                                        | The error message returned when VSwitchId is not specified.                                   |
| 400              | InvalidHpcClusterId.<br>Necessary                | The HpcClusterId is necessary.                                                     | The error message returned when HpcClusterId is not specified.                                |
| 400              | InvalidHpcClusterId.<br>NotFound                 | The specified HpcClusterId is not found.                                           | The error message returned when the specified HPC cluster ID does not exist.                  |
| 400              | InvalidHpcClusterId.<br>Creating                 | The specified HpcClusterId is creating.                                            | The error message returned when the specified HPC cluster is being created.                   |
| 400              | InvalidPeriodUnit.<br>ValueNotSupported          | The specified parameter PeriodUnit is not valid.                                   | The error message returned when the specified PeriodUnit is invalid.                          |

| HTTP status code | Error code                                               | Error message                                                                     | Meaning                                                                                 |
|------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 400              | IncorrectImageStatus                                     | Encrypted snapshots do not support this operation .                               | The error message returned when the operation is not supported on encrypted snapshots.  |
| 400              | InvalidTagValue.Malformed                                | The specified Tag.N.Value is not valid.                                           | The error message returned when the specified Tag.N.Value is invalid.                   |
| 400              | InvalidSecurityGroup.NotInDefaultVpc                     | %s                                                                                | The error message returned when the specified security group is not in the default VPC. |
| 403              | InvalidParameter.NotMatch                                | %s                                                                                | The error message returned when the parameter is in conflict with another parameter.    |
| 400              | InvalidSpotInterruptionBehavior                          | %s                                                                                | The error message returned when SpotInterruptionBehavior is not supported.              |
| 403              | InvalidSpotInterruptionBehavior.ClassicNetworkNotSupport | The specified SpotInterruptionBehavior does not support Classic network Instance. | The error message returned when the preemptible instance is a classic instance.         |
| 403              | InvalidSpotInterruptionBehavior.LocalDiskNotSupport      | The specified SpotInterruptionBehavior does not support local disk instance.      | The error message returned when you try to use preemptible instances with local disks.  |
| 400              | InvalidDeploymentOnHost                                  | %s                                                                                | The error message returned when DDHs are not supported in the specified deployment set. |

| HTTP status code | Error code                                    | Error message                                                       | Meaning                                                                                                    |
|------------------|-----------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 400              | InvalidInstanceChargeType.<br>NotSupport      | The Dedicated host not support the specified Instance charge type.  | The error message returned when the billing method is not supported in DDHs.                               |
| 400              | InvalidNetworkType.<br>NotSupported           | The classic networkType not support create ECS on dedicatedHost     | The error message returned when you try to use classic network with DDHs.                                  |
| 400              | InvalidDedicatedHostId.<br>NotFound           | The specified DedicatedHostId does not exist.                       | The error message returned when the specified DDH ID does not exist.                                       |
| 400              | InvalidDedicatedHostStatus.<br>NotSupport     | Operation denied due to dedicated host status.                      | The error message returned when the operation is not supported while the resource is in the current state. |
| 400              | IncorrectDedicatedHostStatus                  | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |
| 400              | ChargeTypeViolation.<br>PostPaidDedicatedHost | Prepaid instance onto postpaid dedicated host is not allowed        | The error message returned when the billing method is changed for DDHs.                                    |
| 400              | InvalidPeriod.<br>ExceededDedicatedHost       | Instance expired date can't exceed dedicated host expired date.     | The error message returned when the expiration date of the instance is later than that of the DDH.         |
| 400              | InvalidInstanceType.<br>ValueUnauthorized     | The specified InstanceType is not authorize.                        | The error message returned when you are not authorized to use this instance type.                          |



| HTTP status code | Error code                                | Error message                                                                            | Meaning                                                                                             |
|------------------|-------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 400              | DedicatedHostType.Unmatched               | The specified DedicatedHostType doesn't match the instance type.                         | The error message returned when preemptible instances do not support the instance type.             |
| 400              | LackResource                              | There's no enough resource on the specified dedicated host.                              | The error message returned when the DDH has insufficient resources.                                 |
| 400              | ChargeTypeViolation.PostPaidDedicatedHost | Prepaid instance onto postpaid dedicated host is not allowed.                            | The error message returned when the billing method is changed for DDHs.                             |
| 403              | InvalidVSwitch.DefaultVSwitchNotSupport   | The specified zone in vpc can't support create default vSwitch.                          | The error message returned when the default VSwitch is not supported in VPCs of the specified zone. |
| 400              | InvalidParameter.CreditSpecification      | The specified CreditSpecification is not supported in this region.                       | The error message returned when the specified CreditSpecification is not supported in this region.  |
| 400              | IncorrectImageStatus                      | The specified Image is not available.                                                    | The error message returned when the status of the specified source image is incorrect.              |
| 404              | InvalidMarketImage.NotFound               | The specified marketplace image does not exist, please change the imageId and try again. | The error message returned when the specified marketplace image does not exist.                     |
| 400              | InvalidInstanceType.NotSupported          | The specified instanceType is not supported by the deployment set.                       | The error message returned when the instance type is not supported in the specified deployment set. |

| HTTP status code | Error code                  | Error message                                                                           | Meaning                                                                                             |
|------------------|-----------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 400              | InvalidVpcZone.NotSupported | Zone of the specified VSwitch is not available for creating, please try in other zones. | The error message returned when the default VSwitch is not supported in VPCs of the specified zone. |
| 400              | IncorrectDefaultVpcStatus   | The status of the default VPC is invalid.                                               | The error message returned when the status of the default VPC is incorrect.                         |
| 404              | DeploymentSet.NotFound      | The specified deployment set does not exist.                                            | The error message returned when the specified deployment set does not exist.                        |

[View error codes](#)

## 6.3 DescribeInstances

Describes the details of one or more instances.

### Description

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

### Request parameters

| Name     | Type   | Required | Description                                                                                               |
|----------|--------|----------|-----------------------------------------------------------------------------------------------------------|
| Action   | String | Yes      | The name of this interface. Value: <code>DescribeInstances</code> .                                       |
| RegionId | String | No       | Regional ID. For more information, call <a href="#">DescribeRegions</a> to obtain the latest region list. |
| VpcId    | String | No       | VPC ID.                                                                                                   |

| Name                | Type   | Required | Description                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VSwitchId           | String | No       | VSwitch ID.                                                                                                                                                                                                                                                                                                                                                                                |
| ZoneId              | String | No       | The default value is blank, which indicates a query of disks in all zones.                                                                                                                                                                                                                                                                                                                 |
| InstanceIds         | String | No       | Instance ID. The value can contain an array of up to 100 instance IDs. The IDs are displayed in the format of ["i-xxxxxxxx", "i-yyyyyyyy", ... "i-zzzzzzzz"] and are separated by commas (,).                                                                                                                                                                                              |
| InstanceType        | String | No       | Instance type.                                                                                                                                                                                                                                                                                                                                                                             |
| CreditSpecification | String | No       | <p>The running mode of an unlimited credit enabled t5 instance. Optional values:</p> <ul style="list-style-type: none"> <li>Standard: The standard running mode. For more information, see <a href="#">t5 standard instances</a>.</li> <li>Unlimited: The unlimited running mode. For more information, see <a href="#">t5 unlimited instances</a>.</li> </ul> <p>Default value: null.</p> |
| InstanceTypeFamily  | String | No       | Instance type family.                                                                                                                                                                                                                                                                                                                                                                      |
| InstanceNetworkType | String | No       | <p>Network type of the instance. Optional values:</p> <ul style="list-style-type: none"> <li>classic: Classic network.</li> <li>vpc: Private network.</li> </ul>                                                                                                                                                                                                                           |
| PrivateIpAddresses  | String | No       | <p>List of private IP addresses of VPC-Connected instances. This parameter is effective when <code>InstanceNetworkType = vpc</code>. The value can contain an array of up to 100 IP addresses. The IP addresses are displayed in the format of ["172.16.1.1", "172.16.2.1", ... "172.16.10.1"] and are separated by commas (,).</p>                                                        |

| Name               | Type   | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InnerIpAddresses   | String | No       | List of private IP addresses of classic network-connected instances. This parameter is effective when <code>InstanceNetworkType = classic</code> . The value can contain an array of up to 100 IP addresses. The IP addresses are displayed in the format of ["10.16.1.1", "10.16.2.1", ... "10.16.10.1"] and are separated by commas (,).                                                                                                              |
| PublicIpAddresses  | String | No       | List of public IP addresses of classic network-connected instances. The <code>PublicIpAddresses</code> is valid when <code>InstanceNetworkType = classic</code> . The value can contain an array of up to 100 IP addresses. The IP addresses are displayed in the format of ["42.1.1.1", "42.1.2.1", ... "42.1.10.1"] and are separated by commas (,).                                                                                                  |
| SecurityGroupId    | String | No       | Security group to which the instances belong.                                                                                                                                                                                                                                                                                                                                                                                                           |
| InstanceChargeType | String | No       | Billing method of the instances. Optional values: <ul style="list-style-type: none"> <li>• PrePaid: Subscribed instances.</li> <li>• PostPaid: Pay-As-You-Go instances.</li> </ul>                                                                                                                                                                                                                                                                      |
| SpotStrategy       | String | No       | The spot price you are willing to accept for preemptible instances. This parameter is effective for <code>InstanceChargeType = PostPaid</code> . Optional values: <ul style="list-style-type: none"> <li>• NoSpot: A normal Pay-As-You-Go instance.</li> <li>• SpotWithPriceLimit: Sets the maximum price for a spot instance.</li> <li>• SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go instance.</li> </ul> Default value: NoSpot. |
| InternetChargeType | String | No       | Billing method of the instance bandwidth. Optional values: <ul style="list-style-type: none"> <li>• PayByTraffic: You are billed based on the traffic.</li> </ul>                                                                                                                                                                                                                                                                                       |

| Name            | Type    | Required | Description                                                                                                                                                                                                              |
|-----------------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceName    | String  | No       | The name of the instance. You can use wildcard (*) for fuzzy search.                                                                                                                                                     |
| ImageId         | String  | No       | Image ID.                                                                                                                                                                                                                |
| DeploymentSetId | String  | No       | Deployment Set ID.                                                                                                                                                                                                       |
| Status          | String  | No       | Status of the instances. Optional values: <ul style="list-style-type: none"> <li>· Running</li> <li>· Starting</li> <li>· Stopping</li> <li>· Stopped</li> </ul>                                                         |
| IoOptimized     | String  | No       | Whether an instance is I/O optimized. Optional values: <ul style="list-style-type: none"> <li>· true</li> <li>· false</li> </ul>                                                                                         |
| Tag.n.Key       | String  | No       | The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".          |
| Tag.n.Value     | String  | No       | The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://". |
| PageNumber      | Integer | No       | Displays the instances on several pages. Start value: 1.<br>Default: 1.                                                                                                                                                  |
| PageSize        | Integer | No       | The number of rows per page. Maximum value: 100<br>Default: 10.                                                                                                                                                          |

## Response parameters

| Name       | Type    | Description                |
|------------|---------|----------------------------|
| TotalCount | Integer | Total number of instances. |

| Name       | Type                   | Description                                                                        |
|------------|------------------------|------------------------------------------------------------------------------------|
| PageNumber | Integer                | Page number of the instance list.                                                  |
| PageSize   | Integer                | Number of lines per page set during input.                                         |
| Instances  | InstanceAttributesType | XML format composed of InstanceAttributesType, which returns instance information. |

## Examples

### Request example

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

### Response example

#### XML format

```
<DescribeInstancesResponse>
  <PageNumber>1</PageNumber>
  <TotalCount>6</TotalCount>
  <PageSize>10</PageSize>
  <RequestId>8EF01A45-FFFA-497B-B5C3-1DE1B74DB32D</
RequestId>
  <Instances>
    <Instance>
      <InnerIpAddress>
      <ImageId>ubuntu_16_0402_64_20_G_alibase_20170818.vhd
</ImageId>
      <InstanceTypeFamily>ecs.g5</InstanceTypeFamily>
      <VlanId>
      <NetworkInterfaces>
        <NetworkInterface>
          <MacAddress>00:16:3e:32:b4:dc</MacAddress>
          <PrimaryIpAddress>172.17.XX.XXX</PrimaryIpAd
ddress>
          <NetworkInterfaceId>eni-2zeh9atclduxvf1zcyal</
NetworkInterfaceId>
        </NetworkInterface>
      </NetworkInterfaces>
      <InstanceId>XXXXXXXXXX</InstanceId>
      <EipAddress>
        <IpAddress>
        <AllocationId>
        <InternetChargeType>
      </EipAddress>
      <InternetMaxBandwidthIn>1000</InternetMaxBandwidth
In>
      <ZoneId>cn-beijing-e</ZoneId>
      <InternetChargeType>PayByBandwidth</InternetCh
argeType>
      <SpotStrategy>NoSpot</SpotStrategy>
      <StoppedMode>Not-applicable</StoppedMode>
      <SerialNumber>d9bd1cdc-624d-4736-9da5-2ba2f741a3
04</SerialNumber>
      <IoOptimized>true</IoOptimized>
```

```

    < Memory > 8192 </ Memory >
    < Cpu > 2 </ Cpu >
    < VpcAttributes >
      < NatIpAddress > />
      < PrivateIpAddress >
        < IpAddress > 172 . 17 . XX . XXX </ IpAddress >
      </ PrivateIpAddress >
      < VSwitchId > vsw - 2zeh0r1pab wtg6wcssgc a </ VSwitchId >
      < VpcId > vpc - 2zeuphj08t t7q3brdb36 x </ VpcId >
    </ VpcAttributes >
    < InternetMaxBandwidthOut > 1 </ InternetMaxBandwidthOut >
  >
    < DeviceAvailable > true </ DeviceAvailable >
    < SecurityGroups >
      < SecurityGroupId > sg - 2ze21r9qb6 38hvttrvsus </
SecurityGroupId >
    </ SecurityGroups >
    < SpotPriceLimit > 0 . 0 </ SpotPriceLimit >
    < SaleCycle > Week </ SaleCycle >
    < AutoReleaseTime > />
    < InstanceName > ECS - BUY - 2017 - 57 - 10 </ InstanceName >
  >
    < Description > />
    < ResourceGroupId > />
    < OSType > linux </ OSType >
    < OSName > Ubuntu 16 . 04 64 </ OSName >
    < InstanceNetworkType > vpc </ InstanceNetworkType >
    < PublicIpAddress >
      < IpAddress > 47 . 94 . XX . XX </ IpAddress >
    </ PublicIpAddress >
    < HostName > iZ2zeh9atc lduxvf1zxu ylZ </ HostName >
    < InstanceType > ecs . g5 . large </ InstanceType >
    < CreationTime > 2017 - 12 - 10T04 : 04Z </ CreationTime >
    < Tags >
      < Tag >
        < TagValue > fqwfew </ TagValue >
        < TagKey > fefqe </ TagKey >
      </ Tag >
      < Tag >
        < TagValue > weqfwq </ TagValue >
        < TagKey > fqewfwqewf </ TagKey >
      </ Tag >
      < Tag >
        < TagValue > ewqffeqw </ TagValue >
        < TagKey > fqfwewfqw </ TagKey >
      </ Tag >
    </ Tags >
    < Status > Running </ Status >
    < ClusterId > />
    < Recyclable > false </ Recyclable >
    < RegionId > cn - beijing </ RegionId >
    < GPUSpec > />
    < OperationLocks > />
    < GPUAmount > 0 </ GPUAmount >
    < InstanceChargeType > PrePaid </ InstanceChargeType >
    < ExpiredTime > 2017 - 12 - 17T16 : 00Z </ ExpiredTime >
  </ Instance >
</ Instances >
</ DescribeInstancesResponse >

```

## JSON format

```
{
```

```

" Instances ": {
  " Instance ": [
    {
      " CreationTime ": " 2015 - 07 - 27T07 : 08Z ",
      " DeviceAvailable ": " true ",
      " EipAddress ": {},
      " ExpiredTime ": " 2011 - 09 - 08T16 : 00Z ",
      " HostName ": " iZ94t3s0jx kZ ",
      " ImageId ": " centos6u5_ 64_20G_ali aegis_2015 0130 . vhd ",
      " InnerIpAddress ": {
        " IpAddress ": [
          " 10 . 170 . XX . XXX "
        ]
      },
      " InstanceChargeType ": " PostPaid ",
      " InstanceId ": " XXXXXXXXXX ",
      " InstanceName ": " dd \ u6027 \ u80fd \ u6d4b \ u8bd5 ",
      " InstanceNetworkType ": " classic ",
      " InstanceType ": " ecs . s2 . large ",
      " InternetChargeType ": " PayByTraffic ",
      " InternetMaxBandwidthIn ": " 1 ",
      " InternetMaxBandwidthOut ": " 1 ",
      " IoOptimized ": " false ",
      " OperationLocks ": {
        " LockReason ": []
      },
      " PublicIpAddress ": {
        " IpAddress ": [
          " 120 . 25 . XX . XXX "
        ]
      },
      " RegionId ": " cn - shenzhen ",
      " SecurityGroupIds ": {
        " SecurityGroupId ": [
          " sg - 94kd0cyg0 "
        ]
      },
      " SerialNumber ": " 51d1353b - 22bf - 4567 - a176 - 8b3e12e431 35 ",
      " Status ": " Running ",
      " VpcAttributes ": {
        " PrivateIpAddress ": {
          " IpAddress ": []
        }
      },
      " ZoneId ": " cn - shenzhen - a "
    }
  ]
},
" PageNumber ": " 1 ",
" PageSize ": 10 ,
" RequestId ": " 14A07460 - EBE7 - 47CA - 9757 - 12CC4761D4 7A ",
" TotalCount ": " 1 "
}

```

## Error codes

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



| Error code                                  | Error messages                                         | HTTP status code | Description                                                                                          |
|---------------------------------------------|--------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------|
| InvalidTag.Mismatch                         | The specified Tag.n.Key and Tag.n.Value are not match. | 400              | The specified <code>Tag . n . Key</code> and <code>Tag . n . Value</code> must be key-value matched. |
| InvalidTag.Count                            | The specified tags are beyond the permitted range.     | 400              | You can add up to five tags to the specified ECS resource in this query request.                     |
| InvalidInstanceChargeType.NotFound          | The InstanceChargeType does not exist in our records.  | 404              | The specified <code>InstanceChargeType</code> does not exist.                                        |
| InvalidInternetChargeType.ValueNotSupported | The specified InternetChargeType is not valid          | 404              | The specified <code>InternetChargeType</code> is invalid.                                            |
| InvalidNetworkType.NotFound                 | The specified InstanceNetworkType is not found         | 404              | The specified <code>InstanceNetworkType</code> does not exist.                                       |
| InvalidStatus.NotFound                      | The specified Status is not found                      | 404              | The specified <code>Status</code> does not exist.                                                    |

## 6.4 StartInstance

You can call this operation to start an ECS instance.

### Description

- The instance must be in the stopped( `Stopped` ) state.
- After the instance is started, it is in the starting( `Starting` ) state.

- You cannot start an ECS instance on which [Security Control](#) is enabled and whose `OperationLocks` is tagged as `"LockReason": "security"`.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name          | Type    | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|---------|----------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId    | String  | Yes      | i-instanceid1           | The ID of the instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Action        | String  | No       | StartInstance           | The operation that you want to perform. Set the value to StartInstance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| InitLocalDisk | Boolean | No       | false                   | Indicates whether to restore the initial health status of the instance. It is applicable to those instances of the <a href="#">instance type families</a> that contain local disks such as D1, I1, and I2. If a local disk of the D1, I1, or I2 instance type fails, you can use this parameter to restore the initial health status of the instance when you start the instance. After that, all data in the local disk will be lost. Default value: false. Valid values: <ul style="list-style-type: none"><li>· true.</li><li>· false.</li></ul> |
| OwnerAccount  | String  | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Response parameters

| Name      | Type   | Example                              | Description                                                                                                                        |
|-----------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=StartInstance
&InstanceId=i-instanceid-1
&InitLocalDisk=false
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<StartInstanceResponse>
  <RequestId>C0003E8B-B930-4F59-ADC0-0E20xxxxxx</
  RequestId>
</StartInstanceResponse>
```

#### JSON format

```
{
  "RequestId": "C0003E8B-B930-4F59-ADC0-0E20xxxxxx"
}
```

## Error codes

| HTTP status code | Error code              | Error message                                                       | Description                                                                                                |
|------------------|-------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectInstanceStatus | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |

| HTTP status code | Error code                                | Error message                                                                           | Description                                                                                                                                         |
|------------------|-------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | DiskError                                 | IncorrectDiskStatus.                                                                    | The error message returned when the specified DiskCategory is invalid.                                                                              |
| 403              | InstanceExpired                           | The postPaid instance has been expired. Please ensure your account have enough balance. | The error message returned when the Pay-As-You-Go instance is stopped due to overdue payment.                                                       |
| 403              | InstanceExpired                           | The prePaid instance has been expired.                                                  | The error message returned when the Pay-As-You-Go instance is stopped due to overdue payment.                                                       |
| 403              | InstanceNotReady                          | The specified instance is not ready for use                                             | The error message returned when the operation is not supported while the resource is in the current state. Retry the operation after a few minutes. |
| 403              | IncorrectInstanceState                    | %s                                                                                      | The error message returned when the operation is not supported while the instance is in the current state.                                          |
| 403              | InvalidParameter.KMSKeyId.KMSUnauthorized | ECS service have no right to access your KMS.                                           | The error message returned when ECS is not authorized to access your KMS.                                                                           |
| 500              | InternalServerError                       | The request processing has failed due to some unknown error, exception or failure.      | The error message returned when an unknown error occurs.                                                                                            |

[View error codes](#)

## 6.5 RebootInstance

You can call this operation to restart an ECS instance.

### Description

- You can only restart an ECS instance which is in the running ( `Running` ) state.
- After you restart an ECS instance, it is in the starting( `Starting` ) state.
- Force restart ( `ForceStop` ) is supported. Force restart can cause data loss if data in the instance is not yet written to the disk.
- You cannot restart an ECS instance on which [Security Control](#) is enabled and whose `OperationLocks` is tagged as " `LockReason` " : " `security` ".

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name         | Type    | Required | Example                 | Description                                                                                                                                                                            |
|--------------|---------|----------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId   | String  | Yes      | i-instance1             | The ID of the instance.                                                                                                                                                                |
| Action       | String  | No       | RebootInstance          | The operation that you want to perform. Set the value to <code>RebootInstance</code> .                                                                                                 |
| ForceStop    | Boolean | No       | false                   | Indicates whether to stop the instance forcibly before you restart it. Default value: false.<br>Valid values: <ul style="list-style-type: none"><li>• true.</li><li>• false.</li></ul> |
| OwnerAccount | String  | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                                                                                                                        |

## Response parameters

| Name      | Type   | Example                              | Description                                                                                                                        |
|-----------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=RebootInstance
&InstanceId=i-instance1
&ForceStop=false
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code              | Error message                                                       | Description                                                                                                |
|------------------|-------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectInstanceStatus | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |

| HTTP status code | Error code                 | Error message                                                                                                     | Description                                                                                                |
|------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | DiskError                  | IncorrectDiskStatus.                                                                                              | The error message returned when the specified DiskCategory is invalid.                                     |
| 403              | InstanceExpiredOrInArrears | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned when the subscription instance has expired. Renew the instance first.           |
| 403              | IncorrectInstanceState     | %s                                                                                                                | The error message returned when the operation is not supported while the instance is in the current state. |

[View error codes](#)

## 6.6 StopInstance

You can call this operation to stop an ECS instance.

### Description

- You can only stop an instance which is in the running ( `Running` ) state.
- After you call this operation, the instance enters the stopping ( `Stopping` ) state. After the instance is stopped, it is in the stopped ( `Stopped` ) state.
- You can force stop an instance. However, this operation can cause data loss if data in the instance is not yet written to the disk.
- You cannot stop an ECS instance on which [Security Control](#) is enabled and whose `OperationLocks` is tagged as " `LockReason` " : " `security` ".
- For an instance on which [Local Disk Storage](#)(`Local _ storage`) is configured and which is of the [I1 instance type family](#), you must specify `ConfirmStop` and set its value to `True` . Otherwise, an error is returned.

- For the I1 instance type family, data in the local disk is cleared after the instance is stopped. We recommend that you implement data redundancy at the application layer to guarantee data availability.
- For instances of other instance type families, the `ConfirmStop` parameter is ignored.
- If [StopCharging](#) is selected, you can configure `StoppedMode = KeepCharging` to `KeepCharging`. Then the instance is charged after it is stopped. The instance type in stock and public IP address are reserved for this instance.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name        | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|--------|----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId  | String | Yes      | i-instanceid1 | The ID of the instance.                                                                                                                                                                                                                                                                                                                                                                          |
| Action      | String | No       | StopInstance  | The operation that you want to perform. Set the value to <code>StopInstance</code> .                                                                                                                                                                                                                                                                                                             |
| StoppedMode | String | No       | KeepCharging  | Indicates whether the ECS instance is still charged after it is stopped. Valid values: <code>KeepCharging</code><br><br>If <a href="#">StopCharging</a> is selected, you can configure <code>StoppedMode = KeepCharging</code> to <code>KeepCharging</code> . Then the instance is charged after it is stopped. The instance type in stock and public IP address are reserved for this instance. |



| Name        | Type    | Required | Example | Description                                                                                                                                                     |
|-------------|---------|----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ForceStop   | Boolean | No       | false   | Indicates whether to stop the instance forcibly. Valid values: <ul style="list-style-type: none"><li>· true.</li><li>· false.</li></ul>                         |
| ConfirmStop | Boolean | No       | true    | Indicates whether to confirm the stop operation. This parameter is required and applies only to instances of the I1 instance type family. Default value: false. |

### Response parameters

| Name      | Type   | Example                              | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

### Examples

#### Sample request

```
https://ecs.aliyuncs.com/?Action=StopInstance
&InstanceId=i-instanceid-1
&ConfirmStop=true
&ForceStop=false
&StoppedMode=keepcharging
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

}

## Error codes

| HTTP status code | Error code                     | Error message                                                                                                      | Description                                                                                                                       |
|------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectInstanceStatus        | The current status of the resource does not support this operation.                                                | The error message returned when the operation is not supported while the resource is in the current state.                        |
| 403              | InstanceType.ParameterMismatch | The input parameter ConfirmStop must be true when an instance have localstorage.                                   | The error message returned when Local Disk Storage is configured for the instance. The ConfirmStop parameter must be set to true. |
| 403              | InstanceExpiredOrInArrears     | The specified operation is denied as your prepay instance is expired ( prepay mode) or in arrears (afterpay mode). | The error message returned when the subscription instance has expired. Renew the instance first.                                  |
| 403              | InvalidInstanceId.NotSupport   | Classic network Instance does not support this operation.                                                          | The error message returned when the operation is not supported in classic instances.                                              |
| 403              | InvalidInstanceId.NotSupport   | Pre pay instance does not support this operation.                                                                  | The error message returned when the operation is not supported in subscription instances.                                         |
| 403              | InvalidInstanceId.NotSupport   | Local disk instance does not support this operation .                                                              | The error message returned when the operation is not supported in local disk instances.                                           |
| 403              | InvalidInstanceId.NotSupport   | Spot instance does not support this operation.                                                                     | The error message returned when the operation is not supported in preemptible instances.                                          |

| HTTP status code | Error code             | Error message | Description                                                                                                |
|------------------|------------------------|---------------|------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectInstanceState | %s            | The error message returned when the operation is not supported while the instance is in the current state. |

[View error codes](#)

## 6.7 DeleteInstance

You can call this operation to release a Pay-As-You-Go instance or a subscription instance that expires.

### Description

- After an instance is released, all the physical resources used by the instance are reclaimed. The data is erased and cannot be restored. The attached data disks with the `DeleteWithInstance = True` value will be released, but their automatic snapshots are retained. This depends on the value of `DeleteAutoSnapshot`. If the value is `DeleteAutoSnapshot = false`, their automatic snapshots are retained. If the value is `DeleteAutoSnapshot = true`, their automatic snapshots are released.
- For an ECS instance on which [Security Control](#) is enabled and whose `OperationLocks` is tagged as "LockReason": "security", even if `DeleteWithInstance` of attached data disks is set to `False`, this value will be ignored and attached data disks will be released.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name                  | Type    | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|---------|----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId            | String  | Yes      | i-instance1             | The ID of the instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Action                | String  | No       | DeleteInstance          | The operation that you want to perform. Set the value to DeleteInstance.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Force                 | Boolean | No       | false                   | Indicates whether to forcibly release an instance which is in the running ( Running ) state. Default value: false. Valid values: <ul style="list-style-type: none"><li>· true: forcibly releases an instance which is in the running ( Running ) state. When this value is selected, temporary data in the memory and storage for the instance is erased and cannot be restored.</li><li>· false: You can select this value only for an instance which is in the stopped ( Stopped ) state.</li></ul> |
| OwnerAccount          | String  | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Terminatesubscription | Boolean | No       | false                   | Indicates whether to release an expired subscription instance. Default value: false.                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Response parameters

| Name      | Type   | Example                              | Description                                                                                                                        |
|-----------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteInstance
&InstanceId=i-instance1
&Force=false
&TerminateSubscription=false
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code              | Error message                                                       | Description                                                                                                |
|------------------|-------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectInstanceStatus | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |

| HTTP status code | Error code                               | Error message                                                      | Description                                                                                                              |
|------------------|------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 403              | ChargeType Violation                     | The operation is not permitted due to charge type of the instance. | The error message returned when this operation is not supported while this billing method is selected.                   |
| 400              | Dependency Violation.<br>RouteEntry      | Specified instance is used by route entry.                         | The error message returned when custom routing rules still exist in the VPC.                                             |
| 400              | InvalidParameter                         | The input parameter InstanceId is invalid.                         | The error message returned when the specified InstanceId is invalid. Check whether the InstanceId exists and is correct. |
| 403              | IncorrectInstanceStatus.<br>Initializing | The specified instance status does not support this operation.     | The error message returned when the instance is being initialized and cannot be released. Try again later.               |
| 403              | IncorrectInstanceStatus                  | The specified instance is still attached by volumes.               | The error message returned when the specified instance still has data volumes.                                           |
| 403              | InvalidOperation.<br>DeletionProtection  | %s                                                                 | The error message returned when release protection is enabled for the instance.                                          |
| 403              | InvalidOperation.<br>NotInWhiteList      | %s                                                                 | The error message returned when the parameter is not in the whitelist.                                                   |

[View error codes](#)

## 6.8 AttachInstanceRamRole

You can call this operation to attach a RAM role to one or more ECS instances. You can only attach one RAM role to an instance at any time. If the instance already has a RAM role, an error code is returned when you attach another RAM role to the same instance.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name            | Type   | Required | Example                                              | Description                                                                                                                           |
|-----------------|--------|----------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId<br>s | String | Yes      | [ “instanceId1” , “instanceId2” , “instanceId3” ...] | The instance ID set. A maximum of 100 instances can be entered at a time.                                                             |
| RamRoleName     | String | Yes      | RamRoleTest                                          | The RAM role name of the instance. You can call the <a href="#">ListRoles</a> operation to view RAM roles for the specified instance. |
| RegionId        | String | Yes      | cn-hangzhou                                          | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.             |
| Action          | String | No       | AttachInstanceRamRole                                | The operation that you want to perform. Set the value to AttachInstanceRamRole.                                                       |

## Response parameters

| Name                                | Type    | Example                              | Description                                                                                                                                                                                                 |
|-------------------------------------|---------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AttachInstanceRamRoleResults</b> |         |                                      | The returned RAM role information. It is an array that consists of <b>AttachInstanceRamRoleResult</b> data.                                                                                                 |
| ↳ <b>Code</b>                       | String  | 200                                  | Indicates whether the RAM role is attached. If 200 is returned, the operation is successful. If other values are returned, the operation fails. For more information, see <a href="#">Error codes</a> .     |
| ↳ <b>InstanceId</b>                 | String  | i-instanceid1                        | The ID of the instance.                                                                                                                                                                                     |
| ↳ <b>Message</b>                    | String  | Success                              | Indicates whether the RAM role is attached. If Success is returned, the operation is successful. If other values are returned, the operation fails. For more information, see <a href="#">Error codes</a> . |
| ↳ <b>Success</b>                    | Boolean | true                                 | Indicates whether the RAM role is attached.                                                                                                                                                                 |
| <b>FailCount</b>                    | Integer | 0                                    | The number of RAM roles that fail to be attached.                                                                                                                                                           |
| <b>RamRoleName</b>                  | String  | RamRoleTest                          | The name of the RAM role.                                                                                                                                                                                   |
| <b>RequestId</b>                    | String  | D9553E4C-6C3A-4D66-AE79-9835AF705639 | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful.                                                                          |
| <b>TotalCount</b>                   | Integer | 1                                    | The number of RAM roles attached.                                                                                                                                                                           |



## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=AttachInstanceRamRole
&InstanceId=i-instance1
&RamRoleName=RamRoleTest
&RegionId=cn-hangzhou
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code                    | Error message                                                                     | Description                                                                             |
|------------------|-------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 404              | InvalidRamRole.<br>NotEcsRole | The specified ram role is not authorized for ecs , please check your role policy. | The error message returned when the specified RAM role is not authorized to access ECS. |

[View error codes](#)

## 6.9 DetachInstanceRamRole

You can call this operation to detach a RAM role from one or more ECS instances.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name        | Type   | Required | Example                                             | Description                                                                                                               |
|-------------|--------|----------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| InstanceIds | String | Yes      | ["instanceId1", "instanceId2", "instanceId3", "...] | The instance ID set. A maximum of 100 instances can be entered at a time.                                                 |
| RegionId    | String | Yes      | cn-hangzhou                                         | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list. |
| Action      | String | No       | DetachInstanceRamRole                               | The operation that you want to perform. Set the value to DetachInstanceRamRole.                                           |

| Name        | Type   | Required | Example     | Description                                                                                                                                   |
|-------------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| RamRoleName | String | No       | RamRoleTest | The name of the RAM role for the instance. You can call the <a href="#">ListRoles</a> operation to view RAM roles for the specified instance. |

### Response parameters

| Name                         | Type   | Example     | Description                                                                                                                                                                            |
|------------------------------|--------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DetachInstanceRamRoleResults |        |             | The returned RAM role information. It is an array that consists of DetachInstanceRamRoleResult data.                                                                                   |
| ↳ Code                       | String | 200         | Indicates whether the RAM role is detached. If 200 is returned, the operation is successful. If other values are returned, the operation fails. For more information, see Error codes. |
| ↳ InstanceId                 | String | i-instance1 | The ID of the ECS instance.                                                                                                                                                            |
| ↳ InstanceRamRoleSets        |        |             | The RAM role set.                                                                                                                                                                      |
| ↳ InstanceId                 | String | i-instance1 | The ID of the instance.                                                                                                                                                                |
| ↳ RamRoleName                | String | RamRoleTest | The name of the RAM role for the instance.                                                                                                                                             |

| Name                     | Type    | Example                              | Description                                                                                                                                                                                |
|--------------------------|---------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>Message</code>     | String  | Success                              | Indicates whether the RAM role is detached. If Success is returned, the operation is successful. If other values are returned, the operation fails. For more information, see Error codes. |
| <code>Success</code>     | Boolean | true                                 | Indicates whether the RAM role is detached.                                                                                                                                                |
| <code>FailCount</code>   | Integer | 0                                    | The number of RAM roles that fail to be detached.                                                                                                                                          |
| <code>RamRoleName</code> | String  | RamRoleTest                          | The name of the RAM role.                                                                                                                                                                  |
| <code>RequestId</code>   | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID.                                                                                                                                                                            |
| <code>TotalCount</code>  | Integer | 1                                    | The number of RAM roles detached.                                                                                                                                                          |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DetachInstanceRamRole
&InstanceId=i-instance1
&RegionId=cn-hangzhou
&RamRoleName=RamRoleTest
&<Common request parameters>
```

### Successful response examples

#### XML format

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

```

    </DetachInstanceRamRoleResult>
  </DetachInstanceRamRoleResults>
  <TotalCount>1</TotalCount>
  <FailCount>0</FailCount>
  <RamRoleName>RamRoleTest</RamRoleName>
</DetachInstanceRamRoleResponse>

```

#### JSON format

```

{
  "TotalCount": 1,
  "DetachInstanceRamRoleResults": {
    "DetachInstanceRamRoleResult": [
      {
        "Message": "success",
        "InstanceId": "i-instance1",
        "Code": "200"
      }
    ]
  },
  "RequestId": "E6352369-5C2B-41CD-AB50-471550C8F674",
  "RamRoleName": "RamRoleTest",
  "FailCount": 0
}

```

#### Error codes

[View error codes](#)

## 6.10 DescribeInstanceStatus

You can call this operation to obtain the states of multiple instances.

#### Description

- The states of all instances are returned. For more information, see [Instance states](#).
- You can also call this operation to obtain the instance list.

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name         | Type    | Required | Example                | Description                                                                                                                                                                                                                                                                              |
|--------------|---------|----------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId     | String  | Yes      | cn-hangzhou            | The region ID of the instance.<br>You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.                                                                                                                                                             |
| Action       | String  | No       | DescribeInstanceStatus | The operation that you want to perform. Set the value to DescribeInstanceStatus.                                                                                                                                                                                                         |
| ClusterId    | String  | No       | cls-clusterid1         | The ID of the cluster to which the instance belongs.<br><div> <b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.</div> |
| OwnerAccount | String  | No       | ECSforCloud            | The logon name of the RAM user.                                                                                                                                                                                                                                                          |
| PageNumber   | Integer | No       | 1                      | The page number. This value starts from 1.<br>Default value: 1.                                                                                                                                                                                                                          |
| PageSize     | Integer | No       | 10                     | The number of rows per page.<br>Valid values: 1 to 50.<br>Default value: 10                                                                                                                                                                                                              |
| ZoneId       | String  | No       | cn-hangzhou-d          | The zone ID of the instance.                                                                                                                                                                                                                                                             |

## Response parameters

| Name             | Type    | Example                              | Description                                                                                          |
|------------------|---------|--------------------------------------|------------------------------------------------------------------------------------------------------|
| InstanceStatuses |         |                                      | The returned instance state information. It is an array that consists of InstanceStatusSetType data. |
| └ InstanceId     | String  | i-instance1                          | The ID of the instance.                                                                              |
| └ Status         | String  | Running                              | The state of the instance.                                                                           |
| PageNumber       | Integer | 1                                    | The page number.                                                                                     |
| PageSize         | Integer | 10                                   | The number of rows per page.                                                                         |
| RequestId        | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID.                                                                                      |
| TotalCount       | Integer | 2                                    | The total number of instances.                                                                       |

## Examples

## Sample request

```
https://ecs.aliyuncs.com/?Action=DescribeInstances
&RegionId=cn-hangzhou
&ZoneId=cn-hangzhou-d
<Common request parameters>
```

## Successful response examples

## XML format

```
<DescribeInstancesResponse>
  <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 >
  </ InstanceStatuses >
</ DescribeInstancesResponse >

```

#### JSON format

```

{
  "PageNumber": 1,
  "InstanceStatuses": {
    "InstanceStatus": [
      {
        "Status": "Running",
        "InstanceId": "i-instance1"
      },
      {
        "Status": "Stopped",
        "InstanceId": "i-ae4r89pp"
      }
    ]
  },
  "TotalCount": 2,
  "PageSize": 10,
  "RequestId": "6EF60BEC - 0242 - 43AF - BB20 - 270359FB54 A7"
}

```

#### Error codes

[View error codes](#)

## 6.11 RenewInstance

You can call this operation to renew a subscription ECS instance.

#### Description

Before you call this operation, make sure that you have fully understood the billing methods and pricing schedule of [ECS](#).

When you call this operation, note that:

- Only subscription ECS instances are supported.
- The renew operation will use available coupons under your account by default. This does not apply to discount accounts.
- You must confirm that your payment account has sufficient balance or credit.



## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name         | Type    | Required | Example       | Description                                                                                                                                                                                                                                                                                           |
|--------------|---------|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId   | String  | Yes      | i-instance1   | The ID of the instance.                                                                                                                                                                                                                                                                               |
| Period       | Integer | Yes      | 1             | The renewal period of the subscription instance. If DedicatedHostId is specified, the value range of the Period parameter must be within the subscription period of the DDH. Valid values: <ul style="list-style-type: none"><li>1 to 12, 24, 36, 48, and 60 if PeriodUnit is set to Month.</li></ul> |
| Action       | String  | No       | RenewInstance | The operation that you want to perform. Set the value to RenewInstance.                                                                                                                                                                                                                               |
| OwnerAccount | String  | No       | happyCustomer | The logon name of the RAM user.                                                                                                                                                                                                                                                                       |
| PeriodUnit   | String  | No       | Month         | The unit of the renewal period (Period). Default value: Month. Valid values: <ul style="list-style-type: none"><li>Month.</li></ul>                                                                                                                                                                   |

| Name        | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                            |
|-------------|--------|----------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken | String | No       | 0c593ea1-3bea-11e9-b96b-88e9fe637760 | The token used to ensure idempotence. You can generate the token in your client, but you must ensure that it is globally unique. ClientToken can contain only ASCII characters. It must be no more than 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a> . |

### Response parameters

| Name      | Type   | Example                              | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=RenewInstance
&InstanceId=i-instance1
&Period=1
&PeriodUnit=Month
&ClientToken=0c593ea1-3bea-11e9-b96b-88e9fe637760
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

}

## Error codes

| HTTP status code | Error code                                     | Error message                                                                           | Description                                                                                                           |
|------------------|------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidInternetChargeType.ValueNotSupported    | The specified InternetChargeType is not valid.                                          | The error message returned when the specified instance type does not exist.                                           |
| 400              | IdempotenceParamNotMatch                       | Request uses a client token in a previous request but is not identical to that request. | The error message returned when ClientToken in this request is not identical to the one used in the previous request. |
| 403              | ChargeTypeViolation                            | The operation is not permitted due to charge type of the instance.                      | The error message returned when this operation is not supported while this billing method is selected.                |
| 400              | InvalidInstanceType.ValueNotSupported          | The specified InstanceType does not exist or beyond the permitted range.                | The error message returned when the specified instance type is not supported.                                         |
| 403              | IncorrectInstanceState                         | The current status of the resource does not support this operation.                     | The error message returned when the operation is not supported while the resource is in the current state.            |
| 400              | InvalidInternetChargeType.InstanceNotSupported | The specified instance which is in vpc is not support the parameter InternetChargeType. | The error message returned when the specified billing method is not supported in the specified VPC-type instance.     |
| 400              | Invalidperiod                                  | The specified period is not valid.                                                      | The error message returned when the specified period is invalid.                                                      |

| HTTP status code | Error code                            | Error message                                                       | Description                                                                                                |
|------------------|---------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | Instance.UnPaidOrder                  | The specified instance has unpaid order.                            | The error message returned when you have unpaid orders under the specified instance.                       |
| 400              | OperationDenied                       | Specified instance is in VPC.                                       | The error message returned when the specified instance is in a VPC.                                        |
| 400              | InvalidParameter                      | The specified parameter "InternetMaxBandwidthOut" is not valid.     | The error message returned when the specified InternetMaxBandwidthOut is invalid.                          |
| 400              | DependencyViolation.InstanceType      | Current instancetype cannot be changed to the specified one.        | The error message returned when the current instance type is modified to the specified one.                |
| 400              | InvalidPeriodUnit.ValueNotSupported   | The specified parameter PeriodUnit is not valid.                    | The error message returned when the specified PeriodUnit is invalid.                                       |
| 400              | InvalidDedicatedHostId.NotFound       | The specified DedicatedHostId does not exist.                       | The error message returned when the specified DDH ID does not exist.                                       |
| 400              | InvalidDedicatedHostStatus.NotSupport | Operation denied due to dedicated host status                       | The error message returned when the operation is not supported while the resource is in the current state. |
| 400              | IncorrectDedicatedHostStatus          | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |

| HTTP status code | Error code                                  | Error message                                                                                                                                | Description                                                                                             |
|------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 400              | InvalidPeriod.ExceededDedicatedHost         | Instance expired date can't exceed dedicated host expired date.                                                                              | The error message returned when the expiration date of the instance is later than that of the DDH.      |
| 400              | InvalidStatus.Upgrading                     | The instance is upgrading ; please try again later.                                                                                          | The error message returned when the specified instance is being upgraded. Try again later.              |
| 400              | InvalidPeriod.ExceededMaximumExpirationDate | The specified renewal period cannot exceed the maximum expiration date . We recommend you try shortening the renewal period at next attempt. | The error message returned when the specified renewal period is later than the maximum expiration date. |
| 400              | LastOrderProcessing                         | The previous order is still processing, please try again later.                                                                              | The error message returned when the order is being processed. Try again later.                          |

[View error codes](#)

## 6.12 ReactivateInstances

Reactivates a Pay-As-You-Go ECS instance that is suspended because of overdue payments and in the Stopped status.

### Description

When you call this interface, consider the following:

- The instance must be in the Expired ( `Stopped` ) or Overdue and Being Recycled ( `Stopped` ) status.
- You must pay the bills and reactivate the instance within 15 days after the instance is suspended because of overdue payments. Otherwise, the instance is released and the data cannot be restored. If you cannot reactivate a VPC-connected instance, try again later or [open a ticket](#) to contact Alibaba Cloud.

- For more information about the service restrictions, see [Reactivate instances](#) in the User Guide manual.
- If the operation is successful, the status of the instance becomes Starting ( `Starting` ).
- The `OperationLocks` of the [locked](#) instance cannot be `" LockReason " : " security "`.

#### Request parameters

| Name       | Type   | Required | Description                                              |
|------------|--------|----------|----------------------------------------------------------|
| Action     | String | Yes      | The name of this interface. Value: Reactivate Instances. |
| InstanceId | String | Yes      | The ID of the instance that you want to reactivate.      |

#### Response parameters

All are common response parameters. See [#unique\\_170/unique\\_170\\_Connect\\_42\\_commonResponseParameters](#).

#### Examples

##### Request example

```
https://ecs.aliyuncs.com/?Action=ReactivateInstances
&InstanceId=i-instance1
&<CommonRequestParameters>
```

##### Response examples

##### XML format

```
<ReactivateInstancesResponse>
  <RequestId>51AB7717-6E1A-4D1D-A44D-54CBxxxxxx</RequestId>
</ReactivateInstancesResponse>
```

##### JSON format

```
{
  "RequestId": "51AB7717-6E1A-4D1D-A44D-54CBxxxxxx"
}
```

#### Error codes

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

| Error code                                     | Error message                                                                      | HTTP status code | Description                                                                            |
|------------------------------------------------|------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------|
| IncorrectInstanceStatus                        | The current status of the resource does not support this operation.                | 403              | The operation is not supported when the instance is in its current status.             |
| InstanceLockedForSecurity                      | The specified operation is denied as your instance is locked for security reasons. | 403              | The request is denied because this resource is locked for safety concerns.             |
| InsufficientBalance                            | Your account does not have enough balance.                                         | 403              | Your account has unpaid bills. Pay all the bills and try again.                        |
| ReactivateInstances.<br>InstanceStatusNotValid | Instance status is not Expired, ImageExpired or EcsAndImageExpired.                | 403              | The Pay-As-You-Go instance is not in the Expired or Overdue and Being Recycled status. |
| InvalidInstanceId.<br>NotFound                 | The specified InstanceId does not exist.                                           | 404              | The specified InstanceId does not exist.                                               |
| InvalidPayType.<br>.NotSupport                 | The specified pre pay instance not support.                                        | 404              | This operation is supported only for Pay-As-You-Go instances.                          |
| InternalError                                  | The request processing has failed due to some unknown error.                       | 500              | The error message returned when an internal error occurs. Please try again later.      |

## 6.13 RedeployInstance

You can call RedeployInstance to redeploy an ECS instance when the instance receives an event notification.

### Description

RedeployInstance is an asynchronous operation. It migrates data before restarting the instance. After a successful redeployment, the instance enters the running state.

After a failed redeployment, the instance returns to the original physical server and is restored to its original state before redeployment. When you call this operation, note that:

- You can call `RedeployInstance` when any of the following system events occurs. For more information about system events, see [System events](#).
  - The `SystemMaintenance.Reboot` and `SystemMaintenance.Redeploy` events in the scheduled state.
  - The `SystemFailure.Reboot` event in the executing state (only applicable to instances with local disks).

**Warning:**

When you redeploy an instance with local disks, local disks will be reinitialized and cleared. Use caution when performing this operation.

- The target instance must be in the running or stopped state. After redeployment, the instance status changes as follows:
  - Instances in the running state enter the stopping state.
  - Instances in the stopped state enter the starting state.
- An instance cannot be redeployed when the value of its `OperationLocks` parameter is `LockReason: security`.
- An instance on a dedicated host cannot be redeployed.

## Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter  | Type   | Required | Example                    | Description                                                     |
|------------|--------|----------|----------------------------|-----------------------------------------------------------------|
| InstanceId | String | Yes      | i-bp1azkttqp<br>ldxgtd**** | The ID of the instance that is in the running or stopped state. |



| Parameter | Type    | Required | Example          | Description                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|---------|----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action    | String  | No       | RedeployInstance | The operation that you want to perform. Set this parameter to RedeployInstance. If the request HTTP or HTTPS URL contains different parameters, <code>Action</code> is required.                                                                                                                                                                                                                                          |
| ForceStop | Boolean | No       | false            | <p>Specifies whether to force stop the running instance. Default value: false</p> <div> <b>Note:</b><br/>A force stop is equivalent to physical shutdown of the server. This operation can cause data loss if data in the instance is not yet written to the disk. We recommend that you redeploy instances in the stopped state.</div> |

#### Response parameters

| Parameter | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

| Parameter | Type   | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|--------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TaskId    | String | t-bp10e8orkp<br>*****8x | <p>The ID of the redeployment task. You can call <a href="#">DescribeTasks</a> to view the migration results. The following example shows the required parameters when you call <code>DescribeTasks</code>:</p> <ul style="list-style-type: none"> <li>• Request example: TaskIds<br/> <pre>=[" t - bp10e8or *****c74o8x ", " t - bp10e8orkp qm0lc74o8y "], TaskAction = RedeployIn stance</pre> </li> <li>• Sample response: <ul style="list-style-type: none"> <li>- TaskStatus=Processing. This state indicates that the instance is being redeployed.</li> <li>- TaskStatus=Finished. This state indicates that the instance has been redeployed , and the instance enters the running state.</li> <li>- TaskStatus=Failed. This state indicates that the redeployment has failed, and the instance is returned to its original physical server and is restored to its original state before redeployment. If the operation fails, <a href="#">submit a ticket</a> to Alibaba Cloud to obtain technical support.</li> </ul> </li> </ul> |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=RedeployIn stance
&InstanceId=i-bplazkttqp ldxgtd ****
&<Common request parameters>
```

### Sample success responses

**XML format**

```
< RedeployIn stanceResp onse >
  < RequestId > 1C488B66 - B819 - 4D14 - 8711 - C4EAAA13AC 01 </
  RequestId >
  < TaskId > t - bp10e8orkp ***** 8x </ TaskId >
</ RedeployIn stanceResp onse >
```

**JSON format**

```
{
  " RequestId ":" 1C488B66 - B819 - 4D14 - 8711 - C4EAAA13AC 01 ",
  " TaskId ":" t - bp10e8orkp ***** 8x "
}
```

**Error codes**

| HTTP status code | Error code                 | Error message                                                                      | Description                                                                                                          |
|------------------|----------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidInstanceId.NotFound | The InstanceId provided does not exist in our records.                             | The error message returned because the specified instance does not exist.                                            |
| 403              | IncorrectInstanceState     | The current status of the resource does not support this operation.                | The error message returned because the operation is not supported while the resource is in the current state.        |
| 403              | InstanceLockedForSecurity  | The specified operation is denied as your instance is locked for security reasons. | The error message returned because the operation is not supported while the instance is locked for security reasons. |
| 403              | DiskError                  | IncorrectDiskStatus.                                                               | The error message returned because the specified disk status is invalid.                                             |

| HTTP status code | Error code                 | Error message                                                                                                      | Description                                                                                                                    |
|------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 500              | InternalServerError        | The request processing has failed due to some unknown error.                                                       | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket. |
| 403              | InstanceExpiredOrInArrears | The specified operation is denied as your prepay instance is expired ( prepay mode) or in arrears (afterpay mode). | The error message returned because the subscription instance has expired. Renew the instance and try again.                    |
| 403              | IncorrectInstanceState     | %s                                                                                                                 | The error message returned because the operation is not supported while the instance is in the current state.                  |

[View error codes](#)

## 6.14 DescribeInstanceVncUrl

You can call this operation to query the Web management terminal URL of an ECS instance.

### Description

When you call this operation, note that:

- A management terminal URL is only valid for 15 seconds. If a connection is not established within 15 seconds after a successful query, the URL expires and you must query it again.
- The KeepAlive time of a management terminal connection is 60 seconds. If you do not interact with the management terminal within 60 seconds, the management terminal will be automatically disconnected.
- When the management terminal is disconnected, you can only reconnect to the management terminal up to 30 times a minute.

- At the end of <https://g.alicdn.com/aliyun/ecs-console-vnc2/0.0.5/index.html?>, add `vncUrl = xxxx , instanceId = xxx , isWindows = True , isWindows = False , and password = XXXXXX` . Connect these parameters with `&` . Where:
  - `vncUrl` : The value of `VncUrl` is returned after a successful query.
  - `instanceId` : the ID of instance to be queried.
  - `isWindows` : specifies whether the operating system of the instance is Windows. The value of `true` indicates the Windows system. The value of `false` indicates that the Windows system is not used.
  - `password` : Optional. The password to establish a remote connection from the instance. It must be six characters in length and can contain digits and uppercase and lowercase letters. This parameter eliminates the need to enter a password on the management terminal when a connection is being established.

Example:

```
https://g.alicdn.com/aliyun/ecs-console-vnc2/0.0.5/index.html?vncUrl=ws%3A%2F%xxx&instanceId=i-wz9hhwq5a6tmxxxxxxx&isWindows=true
```

or

```
https://g.alicdn.com/aliyun/ecs-console-vnc2/0.0.5/index.html?vncUrl=ws%3A%2F%xxx&instanceId=i-wz9hhwq5a6tmxxxxxxx&isWindows=true&password=111111
```

## Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter  | Type   | Required | Example                   | Description                           |
|------------|--------|----------|---------------------------|---------------------------------------|
| InstanceId | String | Yes      | i-AY121018033933eaxxxxxxx | The ID of the instance to be queried. |

| Parameter | Type   | Required | Example                | Description                                                                                                                   |
|-----------|--------|----------|------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes      | cn-hangzhou            | The region ID of the instance.<br>You can call the <a href="#">DescribeRegions</a> operation to query the latest region list. |
| Action    | String | No       | DescribeInstanceVncUrl | The operation that you want to perform. Set the value to DescribeInstanceVncUrl.                                              |

## Response parameters

| Parameter | Type   | Example                                                                                                                                  | Description                  |
|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E                                                                                                     | The ID of the request.       |
| VncUrl    | String | ws%3A%2F%2Fhz01-vncproxy.aliyun.com%2Fwebsocketify%2F%3Fs%3DDvh%252FIA%252BYc73gWO48cBx2gBxUDVzaAnSKr74pq30mzqUYgeUMcB%252FbkNixDxdEA996 | The management terminal URL. |

## Examples

## Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstancesVncUrl
&InstanceId=i-AY12101803-3933eaxxxx-xxx
&RegionId=cn-hangzhou
<Common request parameters>
```

## Sample success responses

**XML format**

```
< DescribeInstancesVncUrlResponse >
  < RequestId > 1450F2D7 - 5435 - 4420 - BBC9 - 49C5xxxxxx xx </
  RequestId >
  < VncUrl > ws % 3A % 2F % 2Fhz01 - vncproxy . aliyun . com %
  2Fwebsocki fy % 2F % 3Fs % 3DDvh % 252FIA % 252BYc73gW 048cBx2gBx
  UDVzaAnSKr 74pq30mzqU YgeUMcB % 252FbkNixD xdEA996 </ VncUrl >
</ DescribeInstancesVncUrlResponse >
```

**JSON format**

```
{
  " VncUrl ":" ws % 3A % 2F % 2Fhz01 - vncproxy . aliyun . com %
  2Fwebsocki fy % 2F % 3Fs % 3DDvh % 252FIA % 252BYc73gW 048cBx2gBx
  UDVzaAnSKr 74pq30mzqU YgeUMcB % 252FbkNixD xdEA996 ",
  " RequestId ":" 1450F2D7 - 5435 - 4420 - BBC9 - 49C5xxxxxx xx "
}
```

**Error codes**

| HTTP status code | Error code                 | Error message                                                       | Description                                                                                                                    |
|------------------|----------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidRegionId.NotFound   | The specified RegionId does not exist.                              | The error message returned because the specified RegionId parameter does not exist.                                            |
| 404              | InvalidInstanceId.NotFound | The specified InstanceId does not exist.                            | The error message returned because the specified InstanceId parameter does not exist.                                          |
| 403              | IncorrectInstanceState     | The current status of the resource does not support this operation. | The error message returned because the operation is not supported while the resource is in the current state.                  |
| 500              | InternalServerError        | The request processing has failed due to some unknown error.        | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket. |

| HTTP status code | Error code       | Error message                               | Description                                                                                                                                            |
|------------------|------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | InstanceNotReady | The specified instance is not ready for use | The error message returned because the operation is not supported while the resource is in the current state. Retry the operation after a few minutes. |

[View error codes](#)

## 6.15 DescribeUserData

You can call this operation to query the user data of an ECS instance.

### Description

- The returned user data is encoded in Base64.
- If user data does not exist, a null value is returned.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example          | Description                                                                                                               |
|------------|--------|----------|------------------|---------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-instanceid1    | The ID of the instance.                                                                                                   |
| RegionId   | String | Yes      | cn-hangzhou      | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list. |
| Action     | String | No       | DescribeUserData | The operation that you want to perform. Set the value to DescribeUserdata.                                                |



## Response parameters

| Name       | Type   | Example                              | Description                                                                                                                        |
|------------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | i-instanceid1                        | The ID of the instance.                                                                                                            |
| RegionId   | String | cn-hangzhou                          | The region ID of the instance.                                                                                                     |
| RequestId  | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |
| UserData   | String | ZWNobyBoZWxsbyBly3Mh                 | The user data of the instance. It is encoded in Base64.                                                                            |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeUserData
&RegionId=cn-shenzhen
&InstanceId=i-instance1
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeUserDataResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
  <UserData>userdata1</UserData>
  <InstanceId>i-instance1</InstanceId>
  <RegionId>cn-shenzhen</RegionId>
</DescribeUserDataResponse>
```

#### JSON format

```
{
  "UserData": "userdata1",
  "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E",
  "InstanceId": "i-instance1",
  "RegionId": "cn-shenzhen"
}
```

## Error codes

[View error codes](#)

## 6.16 DescribeInstanceAutoRenewAttribute

You can call this operation to query the automatic renewal status of one or more subscription instances.

### Description

Before setting automatic or manual renewal, you can query the automatic renewal status of instances.

This operation is only supported on [subscription](#) instances. An error is returned if you call this operation on [Pay-As-You-Go](#) instances.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example                            | Description                                                                                                                                  |
|------------|--------|----------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId   | String | Yes      | cn-hangzhou                        | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.                    |
| Action     | String | No       | DescribeInstanceAutoRenewAttribute | The operation that you want to perform. Set the value to DescribeInstanceAutoRenewAttribute.                                                 |
| InstanceId | String | No       | i-instance1,i-instance2            | The ID of the instance. A maximum of 100 subscription instance IDs can be entered at a time. Separate multiple instance IDs with commas (,). |

| Name          | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|--------|----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OwnerAccount  | String | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| PageNumber    | String | No       | 1                       | The page number.<br>This value starts from 1.<br>Default value: 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| PageSize      | String | No       | 10                      | The number of rows per page.<br>Maximum value: 100.<br>Default value: 10.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| RenewalStatus | String | No       | AutoRenewal             | The automatic renewal status of the instance. Valid values: <ul style="list-style-type: none"> <li>• AutoRenewal: enables automatic renewal.</li> <li>• Normal: disables automatic renewal.</li> <li>• NotRenewal: No renewal is used. The system no longer sends an expiration reminder, but sends only a non-renewal reminder three days before the expiration date. For an instance for which no renewal is used, you can call the <a href="#">ModifyInstanceAutoRenewAttribute</a> operation to change its automatic renewal status to <code>Normal</code>. Then you can manually renew it or set it to automatic renewal.</li> </ul> |

## Response parameters

| Name                           | Type    | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------|---------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>InstanceRenewAttributes</b> |         |               | The renewal attribute set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>└ AutoRenewEnabled</b>      | Boolean | false         | Indicates whether automatic renewal is enabled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>└ Duration</b>              | Integer | 1             | The automatic renewal period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>└ InstanceId</b>            | String  | i-instanceid1 | The ID of the instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>└ PeriodUnit</b>            | String  | week          | The unit of the automatic renewal period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>└ RenewalStatus</b>         | String  | Normal        | <p>The automatic renewal status of the instance. Valid values:</p> <ul style="list-style-type: none"> <li>AutoRenewal: enables automatic renewal.</li> <li>Normal: disables automatic renewal.</li> <li>NotRenewal: No renewal is used. The system no longer sends an expiration reminder, but sends only a non-renewal reminder three days before the expiration date. For an instance for which no renewal is used, you can call the <a href="#">ModifyInstanceAutoRenewAttribute</a> operation to change its automatic renewal status to <code>Normal</code>. Then you can manually renew it or set it to automatic renewal.</li> </ul> |
| <b>PageNumber</b>              | Integer | 1             | <p>The page number.</p> <p>This value starts from 1.</p> <p>Default value: 1.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Name       | Type    | Example                              | Description                                                                                                                        |
|------------|---------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| PageSize   | Integer | 10                                   | The number of rows per page.<br><br>Maximum value: 100.<br><br>Default value: 10.                                                  |
| RequestId  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |
| TotalCount | Integer | 6                                    | The total number of instances.                                                                                                     |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstancesAutoRenewAttribute
&RegionId=cn-hangzhou
&InstanceId=i-instance1,i-instance2
&PageNumber=1
&PageSize=10
&RenewalStatus=AutoRenewal
&<Common request parameters>
```

### Successful response examples

#### XML format

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

```
</ DescribeInstanceAutoRenewAttributeResponse >
```

### JSON format

```
{
  "InstanceRenewAttributes":{
    "InstanceRenewAttribute":[
      {
        "RenewalStatus":"Normal",
        "InstanceId":"i-instance1",
        "Duration":0,
        "AutoRenewEnabled":false
      },
      {
        "RenewalStatus":"AutoRenewal",
        "InstanceId":"i-instance2",
        "Duration":1,
        "AutoRenewEnabled":true
      }
    ]
  },
  "RequestId":"04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 "
}
```

### Error codes

| HTTP status code | Error code                             | Error message                                                       | Description                                                                                                |
|------------------|----------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | MissingParameter.<br>InstanceId        | InstanceId should not be null.                                      | The error message returned when InstanceId is not specified.                                               |
| 403              | InvalidParameter.<br>InvalidInstanceId | %s                                                                  | The error message returned when InstanceId is invalid.                                                     |
| 403              | IncorrectInstanceState                 | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |
| 403              | InvalidParameter.<br>RenewalStatus     | The specified parameter RenewalStatus is not valid.                 | The error message returned when the specified RenewalStatus is invalid.                                    |

| HTTP status code | Error code                                   | Error message                                                    | Description                                                                          |
|------------------|----------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 403              | InvalidParameter.<br>RenewalStatusInstanceId | The parameter RenewalStatus and InstanceId cannot be both empty. | The error message returned when both RenewalStatus and InstanceId are not specified. |

[View error codes](#)

## 6.17 DescribeInstanceRamRole

You can call this operation to query RAM roles attached to one or more ECS instances.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name      | Type   | Required | Example                                             | Description                                                                                                               |
|-----------|--------|----------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes      | cn-hangzhou                                         | The region ID of the RAM role. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list. |
| Action    | String | No       | DescribeInstanceRamRole                             | The operation that you want to perform. Set the value to DescribeInstanceRamRole.                                         |
| Instances | String | No       | ["instanceId1", "instanceId2", "instanceId3", "...] | The instance ID set. A maximum of 100 instances can be entered at a time.                                                 |

| Name        | Type    | Required | Example         | Description                                                                                                                                                          |
|-------------|---------|----------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PageNumber  | Integer | No       | 1               | The page number.<br>This value starts from 1.<br>Default value: 1.                                                                                                   |
| PageSize    | Integer | No       | 10              | The number of rows per page.<br>Maximum value: 50.<br>Default value: 10.                                                                                             |
| RamRoleName | String  | No       | FinanceDeptOnly | All ECS instances to which the specified RAM role is attached.<br>You can call the <a href="#">ListRoles</a> operation to view RAM roles for the specified instance. |

## Response parameters

| Name                | Type   | Example                              | Description                                                                                                                  |
|---------------------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| InstanceRamRoleSets |        |                                      | The returned RAM role information. It is an array that consists of InstanceRamRoleSetType data.                              |
| └ InstanceId        | String | i-instance1                          | The ID of the instance.                                                                                                      |
| └ RamRoleName       | String | FinanceDeptOnly                      | The list of RAM role names.                                                                                                  |
| RegionId            | String | cn-hangzhou                          | The region ID of the RAM role.<br>You can call the <a href="#">DescribeRegions</a> operation to view the latest region list. |
| RequestId           | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID.                                                                                                              |



| Name       | Type    | Example | Description                    |
|------------|---------|---------|--------------------------------|
| TotalCount | Integer | 1       | The total number of RAM roles. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceRamRoles
&RegionId=cn-hangzhou
&InstanceId=i-instance1
&PageNumber=1
&PageSize=10
&RamRoleName=FinanceDepartmentOnly
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code                | Error message | Description                                                             |
|------------------|---------------------------|---------------|-------------------------------------------------------------------------|
| 403              | InvalidParameter.AllEmpty | %s            | The error message returned when a required parameter is not specified . |

[View error codes](#)

## 6.18 DescribeSpotPriceHistory

You can call this operation to query the price history of the last 30 days for a preemptible instance.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name         | Type   | Required | Example       | Description                                                                                                                           |
|--------------|--------|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| InstanceType | String | Yes      | ecs.t1.xsmall | The type of the instance.                                                                                                             |
| NetworkType  | String | Yes      | VPC           | The network type of the preemptible instance. Valid values: <ul style="list-style-type: none"><li>· classic.</li><li>· vpc.</li></ul> |
| RegionId     | String | Yes      | cn-hangzhou   | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.             |

| Name         | Type    | Required | Example                  | Description                                                                                                                                                                                                                                                      |
|--------------|---------|----------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action       | String  | No       | DescribeSpotPriceHistory | The operation that you want to perform. Set the value to DescribeSpotPriceHistory.                                                                                                                                                                               |
| EndTime      | String  | No       | 2017-08-22T08:45:08Z     | The end time of the query.<br>The time follows the <a href="#">ISO 8601</a> standard and is in UTC time. Format: yyyy-MM-ddTHH:mm:ssZ.<br><br>Default value: null. If this parameter is empty, the current time is used.                                         |
| IoOptimized  | String  | No       | none                     | Specifies whether the instance is an I/O optimized instance.<br>Valid values:<br><ul style="list-style-type: none"> <li>· optimized.</li> <li>· none.</li> </ul> Default value: none for generation I instances, optimized for generations II and III instances. |
| OSType       | String  | No       | Linux                    | The type of the operating system platform.                                                                                                                                                                                                                       |
| Offset       | Integer | No       | 0                        | The start row of the query.<br><br>Default value: 0                                                                                                                                                                                                              |
| OwnerAccount | String  | No       | ECSforCloud@Alibaba.com  | The logon name of the RAM user.                                                                                                                                                                                                                                  |

| Name      | Type   | Required | Example              | Description                                                                                                                                                                                                                                                                                                                                                  |
|-----------|--------|----------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| StartTime | String | No       | 2017-08-22T08:45:08Z | <p>The start time of the query. The time follows the <a href="#">ISO 8601</a> standard and is in UTC time. Format: yyyy-MM-ddTHH:mm:ssZ.</p> <p>Default value: null. If this parameter is empty, the start time is defined as three days before the specified EndTime . You can specify a StartTime value of up to 30 days before the specified EndTime.</p> |
| ZoneId    | String | No       | cn-hangzhou-g        | The zone ID of the instance.                                                                                                                                                                                                                                                                                                                                 |

### Response parameters

| Name                      | Type    | Example                              | Description                                                                                                                        |
|---------------------------|---------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Currency                  | String  | CNY                                  | The currency unit of the price.                                                                                                    |
| NextOffset                | Integer | 1000                                 | The start row of the next page. It is the value of Offset.                                                                         |
| RequestId                 | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |
| SpotPrices                |         |                                      | The details of the price.                                                                                                          |
| <sup>⌞</sup> InstanceType | String  | ecs.t1.xsmall                        | The instance type.                                                                                                                 |
| <sup>⌞</sup> IoOptimized  | String  | none                                 | Indicates whether it is an optimized instance.                                                                                     |

| Name                     | Type   | Example              | Description                                          |
|--------------------------|--------|----------------------|------------------------------------------------------|
| <code>NetworkType</code> | String | PayByTraffic         | The network type of the preemptible instance.        |
| <code>OriginPrice</code> | Float  | 0.028                | The original price of the Pay-As-You-Go instance.    |
| <code>SpotPrice</code>   | Float  | 0.006                | The spot price of the preemptible instance.          |
| <code>Timestamp</code>   | String | 2017-09-18T11:00:00Z | The time for the price. Format: yyyy-MM-ddTHH:MM:SS. |
| <code>ZoneId</code>      | String | cn-hangzhou-c        | The zone ID of the preemptible instance.             |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeSpotPriceHistory
&NetworkType=ecs.vpc
&RegionId=cn-hangzhou
&InstanceType=ecs.t1.xsmall
&IoOptimized=none
&Offset=0
&StartTime=2017-08-22T08:45:08Z
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeSpotPriceHistoryResponse>
  <RequestId>xxxxxxxxxx</RequestId>
  <NextOffset>1000</NextOffset>
  <SpotPrices>
    <SpotPriceType>
      <IoOptimized>none</IoOptimized>
      <OriginPrice>0.028</OriginPrice>
      <NetworkType>classic</NetworkType>
      <Timestamp>2017-09-18T11:00:00Z</Timestamp>
      <ZoneId>cn-hangzhou-c</ZoneId>
      <SpotPrice>0.006</SpotPrice>
      <InstanceType>ecs.t1.xsmall</InstanceType>
    </SpotPriceType>
    <SpotPriceType>
      <IoOptimized>none</IoOptimized>
```

```

    < OriginPrice > 0 . 028 </ OriginPrice >
    < NetworkType > classic < NetworkType >
    < Timestamp > 2017 - 09 - 18T12 : 00 : 00Z </ Timestamp >
    < ZoneId > cn - hangzhou - c </ ZoneId >
    < SpotPrice > 0 . 006 </ SpotPrice >
    < InstanceType > ecs . t1 . xsmall </ InstanceType >
  </ SpotPriceType >
</ SpotPrices >
</ DescribeSpotPriceHistoryResponse >

```

### JSON format

```

{
  "RequestId ":" xxxxxxxxxxxx xxxx ",
  "SpotPrices ":{
    "SpotPriceType ":[
      {
        "IoOptimized ":" none ",
        "NetworkType ":" classic ",
        "OriginPrice ": 0 . 028 ,
        "ZoneId ":" cn - hangzhou - c ",
        "Timestamp ":" 2017 - 09 - 18T11 : 00 : 00Z ",
        "InstanceType ":" ecs . t1 . xsmall ",
        "SpotPrice ": 0 . 006
      }
    ]
  },
  "NextOffset ": 1000
}

```

### Error codes

| HTTP status code | Error code                   | Error message | Description                                                                                             |
|------------------|------------------------------|---------------|---------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.NotSupported | %s            | The error message returned when your account type is not supported.                                     |
| 403              | Abs.InvalidAccount.NotFound  | %s            | The error message returned when your Alibaba Cloud account does not exist or your AccessKey is expired. |
| 400              | MissingParameter             | %s            | The error message returned when a required parameter is not specified.                                  |

| HTTP status code | Error code                         | Error message | Description                                                                             |
|------------------|------------------------------------|---------------|-----------------------------------------------------------------------------------------|
| 403              | Forbidden.<br>NotSupportRAM        | %s            | The error message returned when RAM users are not allowed to perform this operation.    |
| 403              | Forbidden.<br>SubUser              | %s            | The error message returned when RAM users are not allowed to perform this operation.    |
| 400              | InvalidParameter                   | %s            | The error message returned when the parameter format is incorrect.                      |
| 400              | InvalidInstanceId.<br>MalFormed    | %s            | The error message returned when the instance ID format is incorrect.                    |
| 400              | InvalidParams.<br>StartTime        | %s            | The error message returned when the StartTime format is incorrect.                      |
| 400              | InvalidParams.<br>EndTime          | %s            | The error message returned when the EndTime format is incorrect.                        |
| 400              | Abs.Abs.<br>InvalidSpotInstanceUID | %s            | The error message returned when the preemptible instance ID format is incorrect.        |
| 400              | InvalidParams.<br>NetworkType      | %s            | The error message returned when the network type of the instance is incorrect.          |
| 400              | InvalidParams.<br>IoOptimized      | %s            | The error message returned when the IoOptimized parameter of the instance is incorrect. |

| HTTP status code | Error code                            | Error message | Description                                                                             |
|------------------|---------------------------------------|---------------|-----------------------------------------------------------------------------------------|
| 400              | InvalidParams. OSType                 | %s            | The error message returned when the OSType parameter of the instance is incorrect.      |
| 400              | Abs.IoOptimized.ValueNotSupported     | %s            | The error message returned when the IoOptimized parameter of the instance is incorrect. |
| 400              | InvalidParams. ZoneId                 | %s            | The error message returned when the ZoneId parameter of the instance is incorrect.      |
| 400              | InvalidParams. RegionId               | %s            | The error message returned when the RegionId parameter of the instance is incorrect.    |
| 400              | InvalidParams. InstanceType           | %s            | The error message returned when the InstanceType parameter is incorrect.                |
| 400              | InvalidParams. PageSize               | %s            | The error message returned when the PageSize parameter of the instance is incorrect.    |
| 400              | InvalidParams. Offset                 | %s            | The error message returned when the Offset parameter of the instance is incorrect.      |
| 400              | InvalidInstanceType.ValueNotSupported | %s            | The error message returned when the InstanceType parameter is incorrect.                |

[View error codes](#)



## 6.19 DescribeInstanceTypeFamilies

You can call this operation to query the instance type family list provided by ECS.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example                      | Description                                                                                                                  |
|----------|--------|----------|------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou                  | The region ID of the instance.<br>You can call the <a href="#">DescribeRegions</a> operation to view the latest region list. |
| Action   | String | No       | DescribeInstanceTypeFamilies | The operation that you want to perform. Set the value to <code>DescribeInstanceTypeFamilies</code> .                         |

| Name         | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|--------|----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Generation   | String | No       | ecs-3                   | <p>The generation of the instance type family. For more information, see <a href="#">Instance type families</a>. Valid values:</p> <ul style="list-style-type: none"> <li>ecs-1: Generation I, which consists of the earliest and cost-effective instance types.</li> <li>ecs-2: Generation II, which is available later than the first generation of instance type families.</li> <li>ecs-3: Generation III, which consists of the quick-response and high-performance instance types.</li> <li>ecs-4: Generation IV, which consists of the latest, low-latency, and wide-application instance types.</li> </ul> |
| OwnerAccount | String | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Response parameters

| Name                  | Type   | Example | Description                                                                                                 |
|-----------------------|--------|---------|-------------------------------------------------------------------------------------------------------------|
| InstanceTypeFamilies  |        |         | The returned instance type family information. It is an array that consists of InstanceTypeFamilyItem data. |
| └Generation           | String | ecs-1   | The generation of the instance type family.                                                                 |
| └InstanceTypeFamilyId | String | ecs.g5  | The ID of the instance type family.                                                                         |

| Name      | Type   | Example                              | Description                                                                                                                        |
|-----------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceTypeFamilies
&RegionId=cn-hangzhou
&Generation=ecs-3
<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeInstanceTypeFamiliesResponse>
  <InstanceTypePeFamilies>
    <InstanceTypePeFamily>
      <InstanceTypePeFamilyId>ecs.t1</InstanceTypePeFamilyId>
      <Generation>ecs-1</Generation>
    </InstanceTypePeFamily>
    <InstanceTypePeFamily>
      <InstanceTypePeFamilyId>ecs.s2</InstanceTypePeFamilyId>
      <Generation>ecs-1</Generation>
    </InstanceTypePeFamily>
    <InstanceTypePeFamily>
      <InstanceTypePeFamilyId>ecs.s3</InstanceTypePeFamilyId>
      <Generation>ecs-1</Generation>
    </InstanceTypePeFamily>
  </InstanceTypePeFamilies>
  <RequestId>6B187E0A-C075-4D08-8B6F-6213950E8733</RequestId>
</DescribeInstanceTypeFamiliesResponse>
```

#### JSON format

```
{
  "InstanceTypePeFamilies": {
    "InstanceTypePeFamily": [
      {
        "InstanceTypePeFamilyId": "ecs.t1",
        "Generation": "ecs-1"
      },
      {
        "InstanceTypePeFamilyId": "ecs.s2",
        "Generation": "ecs-1"
      }
    ]
  }
}
```

```
    " InstanceTy  peFamilyId ":" ecs . s3 ",
    " Generation ":" ecs - 1 "
  }
],
},
" RequestId ":" 6B187E0A - C075 - 4D08 - 8B6F - 6213950E87 33 "
}
```

## Error codes

[View error codes](#)

## 6.20 DescribeInstanceTypes

You can call this operation to query the instance type list provided by ECS.

### Description

DescribeInstanceTypes returns the same instance type list as the list of Pay-As-You-Go instances after an instance is created. For more information, see [Pay-As-You-Go](#) and [Limits](#).

For more information, see [Instance type families](#).

For more instance types, you can [submit a ticket](#) and contact us.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name               | Type   | Required | Example                 | Description                                                                                  |
|--------------------|--------|----------|-------------------------|----------------------------------------------------------------------------------------------|
| Action             | String | No       | DescribeInstanceTypes   | The operation that you want to perform. Set the value to DescribeInstanceTypes.              |
| InstanceTypeFamily | String | No       | ecs.t1                  | The instance type family. For more information, see <a href="#">Instance type families</a> . |
| OwnerAccount       | String | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                              |

## Response parameters

| Name                                     | Type    | Example     | Description                                                                                     |
|------------------------------------------|---------|-------------|-------------------------------------------------------------------------------------------------|
| InstanceTypes                            |         |             | The returned instance type information. It is an array that consists of InstanceTypeInfo data.  |
| <sup>⌞</sup> BaselineCredit              | Integer | 4           | The (combined) benchmark vCPU computing performance of the burstable performance instance (t5). |
| <sup>⌞</sup> CpuCoreCount                | Integer | 8           | The number of vCPUs.                                                                            |
| <sup>⌞</sup> EniPrivateIpAddressQuantity | Integer | 2           | The number of private IP addresses allocated to the ENIs bound to the instance.                 |
| <sup>⌞</sup> EniQuantity                 | Integer | 2           | The maximum number of ENIs attached to the instance type.                                       |
| <sup>⌞</sup> GPUMount                    | Integer | 2           | The number of GPUs for the instance type.                                                       |
| <sup>⌞</sup> GPUSpec                     | String  | NVIDIA V100 | The category of GPUs for the instance type.                                                     |
| <sup>⌞</sup> InitialCredit               | Integer | 120         | The initial credit value of the burstable performance instance (t5).                            |
| <sup>⌞</sup> InstanceBandwidthRx         | Integer | 2,000       | The inbound bandwidth limit for the instance. Unit: Kbit/s.                                     |
| <sup>⌞</sup> InstanceBandwidthTx         | Integer | 2,000       | The outbound bandwidth limit for the instance. Unit: Kbit/s.                                    |

| Name                              | Type    | Example                              | Description                                                                                                                                                                                                                                         |
|-----------------------------------|---------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>InstanceFamilyLevel</code>  | String  | EnterpriseLevel                      | The level of the instance type. Valid values: <ul style="list-style-type: none"> <li>EntryLevel.</li> <li>EnterpriseLevel.</li> <li>CreditEntryLevel: This value is only valid for <a href="#">burstable performance instances (t5)</a>.</li> </ul> |
| <code>InstancePpsRx</code>        | Long    | 300                                  | The inbound PPS limit for the instance.                                                                                                                                                                                                             |
| <code>InstancePpsTx</code>        | Long    | 300                                  | The outbound PPS limit for the instance.                                                                                                                                                                                                            |
| <code>InstanceTypeFamily</code>   | String  | ecs.g5                               | The instance type family.                                                                                                                                                                                                                           |
| <code>InstanceTypeId</code>       | String  | ecs.g5.large                         | The ID of the instance type.                                                                                                                                                                                                                        |
| <code>LocalStorageAmount</code>   | Integer | 1                                    | The number of local disks attached to the instance.                                                                                                                                                                                                 |
| <code>LocalStorageCapacity</code> | Long    | 5000                                 | The capacity of a local disk.                                                                                                                                                                                                                       |
| <code>LocalStorageCategory</code> | String  | ephemeral_ssd                        | The category of the local disk attached to the instance.                                                                                                                                                                                            |
| <code>MemorySize</code>           | Float   | 1024                                 | The capacity of the memory. Unit: GiB.                                                                                                                                                                                                              |
| RequestId                         | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID.                                                                                                                                                                                                                                     |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceTypes&InstanceTypeFamily=ecs.t1
```

&< Common request parameters >

## Successful response examples

### XML format

```
< DescribeInstancesResponse >
  < InstanceTypeList >
    < InstanceType >
      < CpuCoreCount > 1 </ CpuCoreCount >
      < InstanceTypeFamily > ecs . t1 </ InstanceTypeFamily >
      < EniQuantity > 1 </ EniQuantity >
      < InstanceTypepeId > ecs . t1 . xsmall </ InstanceTypepeId >
      < InstanceFamilyLevel > EntryLevel </ InstanceFamilyLevel >
      < GPUSpec />
      < MemorySize > 0 . 5 </ MemorySize >
      < GPUAmount > 0 </ GPUAmount >
      < LocalStorageCategory />
    </ InstanceType >
    < InstanceType >
      < CpuCoreCount > 1 </ CpuCoreCount >
      < InstanceTypeFamily > ecs . t1 </ InstanceTypeFamily >
      < EniQuantity > 1 </ EniQuantity >
      < InstanceTypepeId > ecs . t1 . small </ InstanceTypepeId >
      < InstanceFamilyLevel > EntryLevel </ InstanceFamilyLevel >
      < GPUSpec />
      < MemorySize > 1 </ MemorySize >
      < GPUAmount > 0 </ GPUAmount >
      < LocalStorageCategory />
    </ InstanceType >
  </ InstanceTypeList >
  < RequestId > 01D5A075 - FB83 - 4DDC - 9F00 - 24A17AB386 F6 </
  RequestId >
</ DescribeInstancesResponse >
```

### JSON format

```
{
  "InstanceTypeList": {
    "InstanceType": [
      {
        "CpuCoreCount": 1,
        "InstanceTypeFamily": "ecs . t1",
        "EniQuantity": 1,
        "InstanceTypepeId": "ecs . t1 . xsmall",
        "GPUSpec": "",
        "InstanceFamilyLevel": "EntryLevel",
        "MemorySize": 0 . 5,
        "GPUAmount": 0,
        "LocalStorageCategory": ""
      },
      {
        "CpuCoreCount": 1,
        "InstanceTypeFamily": "ecs . t1",
        "EniQuantity": 1,
        "InstanceTypepeId": "ecs . t1 . small",
        "GPUSpec": "",
        "InstanceFamilyLevel": "EntryLevel",
        "MemorySize": 1,
        "GPUAmount": 0,
        "LocalStorageCategory": ""
      }
    ]
  }
}
```

```
}  
]  
},  
"RequestId ":" 01D5A075 - FB83 - 4DDC - 9F00 - 24A17AB386 F6 "  
}
```

## Error codes

[View error codes](#)

## 6.21 ModifyInstanceVpcAttribute

You can call this operation to modify the VPC attributes of an ECS instance.

### Description

When you call this operation, note that:

- You can only modify the VPC attributes of an ECS instance which is in the stopped( Stopped ) state.
- A new ECS instance must have been started and stopped before you call this operation.
- An ECS instance that has the VPC attributes modified must have been started and stopped before you call this operation.
- If VSwitchId is specified when you call this operation, VSwitchId must belong to the current VPC.
- If VSwitchId is specified when you call this operation but PrivateIpAddress is not specified, the system automatically allocates a private IP address to the ECS instance.
- The current VSwitch and the new VSwitch ( VSwitchId ) must belong to a zone in the same region.
- The current VSwitch and the new VSwitch ( VSwitchId ) must belong to the same VPC.
- If both VSwitchId and PrivateIpAddress are specified, the private IP address must belong to the [CIDR block](#) of the specified VSwitch. PrivateIpAddress depends on VSwitchId , so you cannot specify only PrivateIpAddress .



## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name             | Type   | Required | Example                    | Description                                                                                                                     |
|------------------|--------|----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| InstanceId       | String | Yes      | i-bp1iudwa5b1tqaxxxxxx     | The ID of the instance.                                                                                                         |
| VSwitchId        | String | Yes      | [vswitchid]                | The ID of the new VSwitch. The current switch and the new switch (VSwitchId) must belong to a zone in the same region.          |
| Action           | String | No       | ModifyInstanceVpcAttribute | The operation that you want to perform. Set the value to ModifyInstanceVpcAttribute.                                            |
| OwnerAccount     | String | No       | ECSforCloud@Alibaba.com    | The logon name of the RAM user.                                                                                                 |
| PrivateIpAddress | String | No       | 172.17. XX.XXX             | The new private IP address of the instance. PrivateIpAddress depends on VSwitchId, so you cannot specify only PrivateIpAddress. |

## Response parameters

| Name      | Type   | Example                              | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceVpcAttribute
&InstanceId=i-bp1iudwa5b1tqaxxxxxx
&VSwitchId=[vswitchid]
<Common request parameters>
```

### Successful response examples

#### XML format

```
<ModifyInstanceAttributeResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C8-3E</
  RequestId>
</ModifyInstanceAttributeResponse>
```

#### JSON format

```
{
  "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C8-3E"
}
```

### Error codes

| HTTP status code | Error code                        | Error message                                                         | Description                                                                                          |
|------------------|-----------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 400              | InvalidPrivateIpAddress.Malformed | Specified private IP address is malformed.                            | The error message returned when the specified private IP address is invalid.                         |
| 400              | IncorrectVSwitchStatus            | The current status of virtual switch does not support this operation. | The error message returned when the specified VSwitch is in the pending state and cannot be deleted. |
| 404              | InvalidVSwitchId.NotFound         | Specified virtual switch does not exist.                              | The error message returned when the specified VSwitch does not exist.                                |

| HTTP status code | Error code                      | Error message                                                            | Description                                                                                                         |
|------------------|---------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 400              | IncorrectInstanceState          | The current status of instance does not support this operation.          | The error message returned when the operation is not supported while the instance is in the current state.          |
| 400              | OperationDenied                 | Specified operation is denied as your instance is not in VPC.            | The error message returned when the specified operation is denied because the instance is not in the VPC.           |
| 400              | InvalidPrivateIpAddressMismatch | Specified private IP address is not in the CIDR block of virtual switch. | The error message returned when the specified private IP address is not in the CIDR block of the specified VSwitch. |
| 404              | NoSuchResource                  | The specified resource is not found.                                     | The error message returned when the specified resource does not exist.                                              |

[View error codes](#)

## 6.22 ModifyInstanceAttribute

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

### Description

When you call this interface, consider the following:

- You cannot reset the password for an instance when it is in the `Starting` status.
- If the specified instance is `locked`, and the `OperationLocks` of the instance indicates "`LockReason`": "`security`", you cannot reset its password.
- The new password takes effect only after the instance is `restarted` in the console or by calling the interface `RebootInstance`.

- When an instance is in the Stopped status and is not limited to pass a [user data](#) script, you can modify its user data.

## Request parameters

| Name         | Type   | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|--------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action       | String | Yes      | The name of this interface. Value: ModifyInstanceAttribute.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| InstanceId   | String | Yes      | The specified instance ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| InstanceName | String | No       | The name of the instance. The name is a string of 2 to 128 characters. It must begin with an English or a Chinese character. It can contain A-Z, a-z, Chinese characters, numbers, periods (.), colons (:), underscores (_), and hyphens (-).                                                                                                                                                                                                                                                                                                                                        |
| Description  | String | No       | The description of the instance is null by default. It cannot begin with http:// or https://.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Password     | String | No       | Resets the administrative password of the instance. The password can be [8, 30] characters in length. It must contain uppercase letters, lowercase letters, and numbers. The following special characters are allowed: ()`~!@#\$%^&*~+= {}[]; ' < > , . ? / . A slash (/) cannot be the first character of Windows instances administrative password.                                                                                                                                                                                                                                |
| HostName     | String | No       | Host name of the instance. <ul style="list-style-type: none"> <li>· It cannot start or end with a period (.) or a hyphen (-) and it cannot have two or more consecutive periods (.) or hyphens (-).</li> <li>· For Windows: The host name can be [2, 15] characters in length. It can contain A-Z, a-z, numbers, periods (.), and hyphens (-). It cannot only contain numbers.</li> <li>· For other operating systems: The host name can be [2, 64] characters in length. It can be segments separated by periods (.). It can contain A-Z, a-z, numbers, and hyphens (-).</li> </ul> |

| Name                | Type    | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UserData            | String  | No       | The user-defined data of your ECS instance . The size of your UserData must be less than 16 KB before the Base64 encodement. Refrain from entering confidential information, such as SSH key pair and AccessKey, in your request. If you do so, make sure the confidential information is encrypted before Base64 encoding. Also, do not forget to decrypt the information after it passes into your ECS instance.                                                                                                             |
| CreditSpecification | String  | No       | Modifies the running mode of an unlimited credit enabled t5 instance. Optional values: <ul style="list-style-type: none"> <li>Standard: The standard running mode. For more information, see <a href="#">t5 standard instances</a>.</li> <li>Unlimited: The unlimited running mode. For more information, see <a href="#">t5 unlimited instances</a>.</li> </ul> Default value: null.                                                                                                                                          |
| DeletionProtection  | Boolean | No       | Whether an instance can be released manually through the console or API ( <a href="#">DeleteInstance</a> ). <ul style="list-style-type: none"> <li>true: Enable deletion protection.</li> <li>false: Disable deletion protection.</li> </ul> <div>  <b>Note:</b><br/> This attribute applies to the Pay-As-You-Go instances. However, it can only restrict the manual release operation, not the release operation by Alibaba Cloud. </div> |

### Response parameters

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

## Examples

### Request example

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

### Response example

#### XML format

```
<ModifyInstanceAttributeResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C8-3E</
  RequestId>
</ModifyInstanceAttributeResponse>
```

#### JSON format

```
{
  "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C8-3E"
}
```

## Error codes

All are common error codes. For more information, see [API Error Center](#).

| Error code                    | Error message                                                  | HTTP status code | Meaning                                             |
|-------------------------------|----------------------------------------------------------------|------------------|-----------------------------------------------------|
| InvalidDescription.Malformed  | The specified parameter “Description” is not valid.            | 400              | The specified <code>Description</code> is invalid.  |
| InvalidDescription.Malformed  | The specified destination image description is wrongly formed. | 400              | The specified <code>Description</code> is invalid.  |
| InvalidHostPassword.Malformed | The specified parameter “Password” is not valid.               | 400              | The specified <code>Password</code> is invalid.     |
| InvalidInstanceName.Malformed | The specified parameter “InstanceName” is not valid.           | 400              | The specified <code>InstanceName</code> is invalid. |
| InvalidHostName.Malformed     | The specified parameter “HostName” is not valid.               | 400              | The specified <code>HostName</code> is invalid.     |

| Error code                          | Error message                                                                      | HTTP status code | Meaning                                                                                 |
|-------------------------------------|------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------|
| InvalidPassword.<br>Malformed       | The specified parameter “Password” is not valid.                                   | 400              | The specified Password is invalid.                                                      |
| InvalidUserData.<br>SizeExceeded    | The specified parameter “UserData” exceeds the size.                               | 400              | The size of your UserData must be less than 16 KB.                                      |
| InvalidUserData.<br>NotSupported    | The specified parameter “UserData” only support the vpc and IoOptimized Instance.  | 400              | You can only specify UserData for a VPC instance or an I/O optimized instance.          |
| IncorrectInstanceState              | The current status of the resource does not support this operation.                | 403              | You cannot reset the password for an instance when it is in Deleted or Starting status. |
| InstanceLockedForSecurity           | The specified operation is denied as your instance is locked for security reasons. | 403              | Your instance has been locked.                                                          |
| OperationDenied                     | The Specified operation is denied as your instance is locked for security reasons. | 403              | Your instance has been locked.                                                          |
| OperationDenied                     | The current status of the resource does not support this operation.                | 403              | You cannot reset the password for an instance when it is in Deleted or Starting status. |
| HOSTNAME_ILLEGAL                    | hostname is not valid.                                                             | 404              | The specified HostName is invalid.                                                      |
| InvalidInstanceId.<br>NotFound      | The specified InstanceId does not exist.                                           | 404              | The specified InstanceId does not exist.                                                |
| InvalidSecurityGroupId.<br>NotFound | The specified SecurityGroupId does not exist.                                      | 404              | The specified SecurityGroupId does not exist.                                           |

## 6.23 ModifyInstanceVncPasswd

You can call this operation to modify the Web management terminal password of an ECS instance.

### Description

- The password must be 6 characters in length and can contain only uppercase and lowercase letters and digits.
- After you modify the password:
  - For an optimized instance, the new password takes effect immediately.
  - For a non-optimized instance, you must [Restart the instance](#) from the console or call the [RebootInstance](#) operation to validate the modifications.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name         | Type   | Required | Example                 | Description                                                                                                                  |
|--------------|--------|----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------|
| InstanceId   | String | Yes      | i-AY121018033933eae8689 | The ID of the instance.                                                                                                      |
| RegionId     | String | Yes      | cn-hangzhou             | The region ID of the instance.<br>You can call the <a href="#">DescribeRegions</a> operation to view the latest region list. |
| VncPassword  | String | Yes      | 123456                  | The new password of the management terminal.                                                                                 |
| Action       | String | No       | ModifyInstanceVncPasswd | The operation that you want to perform. Set the value to <code>ModifyInstanceVncPasswd</code> .                              |
| OwnerAccount | String | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                                                              |



## Response parameters

| Name      | Type   | Example                              | Description                                                                                                                        |
|-----------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceVncPassword
&RegionId=cn-hangzhou
&InstanceId=i-AY12101803-3933eae868-9
&VncPassword=123456
<Common request parameters>
```

### Successful response examples

#### XML format

```
<ModifyInstanceVncPasswordResponse>
  <RequestId>FDB6C963-9CE8-4B7F-BCA3-845F6BD29A-FC</
  RequestId>
</ModifyInstanceVncPasswordResponse>
```

#### JSON format

```
{
  "RequestId": "FDB6C963-9CE8-4B7F-BCA3-845F6BD29A-FC"
}
```

## Error codes

| HTTP status code | Error code              | Error message                                                       | Description                                                                                                |
|------------------|-------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectInstanceStatus | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |

| HTTP status code | Error code                     | Error message                                     | Description                                                            |
|------------------|--------------------------------|---------------------------------------------------|------------------------------------------------------------------------|
| 400              | IncorrectVncPassword.Malformed | The specified parameter VncPassword is not valid. | The error message returned when the specified VNC password is invalid. |
| 404              | NoSuchResource                 | The specified resource is not found.              | The error message returned when the specified resource does not exist. |

[View error codes](#)

## 6.24 ModifyInstanceAutoReleaseTime

You can call this operation to set or cancel the automatic release time for a Pay-As-You-Go instance. Use caution when you set the automatic release time, because the instance is automatically released upon expiration.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example                       | Description                                                                             |
|------------|--------|----------|-------------------------------|-----------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-instanceid1                 | The ID of the instance.                                                                 |
| Action     | String | No       | ModifyInstanceAutoReleaseTime | The operation that you want to perform. Set the value to ModifyInstanceAutoReleaseTime. |

| Name            | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|--------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AutoReleaseTime | String | No       | 2018-01-01T01:02:03Z    | <p>The automatic release time of the instance. The time follows the <a href="#">ISO 8601</a> standard and is in UTC time. Format: yyyy-MM-ddTHH:mm:ssZ.</p> <ul style="list-style-type: none"> <li>· If <code>ss</code> is set to a value other than <code>00</code>, only the value of <code>mm</code> is used, with <code>ss</code> changed to <code>00</code>.</li> <li>· The automatic release time must be at least half an hour later than the current time.</li> <li>· The automatic release time must be less than 3 years since the current time.</li> </ul> <p>If <code>AutoReleaseTime</code> is not specified, it indicates that the automatic release attribute is canceled and the ECS instance is not automatically released.</p> |
| OwnerAccount    | String | No       | ECSforCloud@Alibaba.com | The logon name of the RAM user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RegionId        | String | No       | cn-hangzhou             | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Response parameters

| Name      | Type   | Example                              | Description                                                                                                                        |
|-----------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceAutoRenewTime
&InstanceId=i-instance1
<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code          | Error message                                                                      | Description                                                |
|------------------|---------------------|------------------------------------------------------------------------------------|------------------------------------------------------------|
| 400              | MissingParameter    | InstanceId should not be null.                                                     | The error message returned when RegionId is not specified. |
| 500              | InternalServerError | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.   |

| HTTP status code | Error code          | Error message                                                      | Description                                                                                            |
|------------------|---------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 403              | ChargeTypeViolation | The operation is not permitted due to charge type of the instance. | The error message returned when this operation is not supported while this billing method is selected. |
| 404              | NoSuchResource      | The specified resource is not found.                               | The error message returned when the specified resource does not exist.                                 |

[View error codes](#)

## 6.25 ModifyInstanceAutoRenewAttribute

You can call this operation to set one or more subscription instances to the automatic renewal status. To reduce the maintenance workload when an instance expires, you can set automatic renewal for subscription ECS instances.

### Description

Before you call this operation, make sure that you have fully understood the billing methods and pricing schedule of [ECS](#).

- The payment for automatic renewal is first made at 08:00:00 (UTC+8) nine days before the instance expires.
- If payment fails for the first time, this process repeats itself each day until the payment is made or the instance is locked after the nine-day period ends. You must confirm that your payment account has sufficient balance or credit.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name         | Type    | Required | Example                          | Description                                                                                                                                                                                                                                |
|--------------|---------|----------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId   | String  | Yes      | i-instance1,i-instance2          | The ID of the instance. A maximum of 100 instance IDs can be entered at a time. Separate multiple instance IDs with commas (,).                                                                                                            |
| RegionId     | String  | Yes      | cn-hangzhou                      | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.                                                                                                                  |
| Action       | String  | No       | ModifyInstanceAutoRenewAttribute | The operation that you want to perform. Set the value to ModifyInstanceAutoRenewAttribute.                                                                                                                                                 |
| AutoRenew    | Boolean | No       | true                             | Indicates whether to enable automatic renewal. Default value: false.                                                                                                                                                                       |
| Duration     | Integer | No       | 2                                | The automatic renewal period. <ul style="list-style-type: none"> <li>PeriodUnit If it is set to Year , Duration can be {"1", "2", "3"}.</li> <li>PeriodUnit If it is set to Month , Duration can be {"1", "2", "3", "6", "12"}.</li> </ul> |
| OwnerAccount | String  | No       | ECSforCloud@Alibaba.com          | The logon name of the RAM user.                                                                                                                                                                                                            |
| PeriodUnit   | String  | No       | Week                             | The unit of Period . Default value: month. Valid values: <ul style="list-style-type: none"> <li>Month.</li> <li>Year.</li> </ul>                                                                                                           |

| Name          | Type   | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RenewalStatus | String | No       | AutoRenewal | <p>Indicates whether to renew the instance. <code>RenewalStatus</code> has a higher priority than <code>AutoRenew</code>. If <code>RenewalStatus</code> is not specified, the value of <code>AutoRenew</code> is used by default. Valid values:</p> <ul style="list-style-type: none"><li>• <code>AutoRenewal</code>: enables automatic renewal.</li><li>• <code>Normal</code>: disables automatic renewal.</li><li>• <code>NotRenewal</code>: No renewal is used. The system no longer sends an expiration reminder, but sends only a non-renewal reminder three days before the expiration date. For an instance for which no renewal is used, you can change its automatic renewal status to <code>Normal</code>. Then you can manually renew it or set it to automatic renewal.</li></ul> |

### Response parameters

| Name      | Type   | Example                              | Description                                                                                                                        |
|-----------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. The system returns a unique RequestId for each API request, regardless of whether the API operation is successful. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceAutoRenewAttribute
&RegionId=cn-hangzhou
&InstanceId=i-instance1,i-instance2
&Duration=2
&AutoRenew=True
<CommonRequestParameters>
```

## Successful response examples

### XML format

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

### JSON format

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

## Error codes

| HTTP status code | Error code                         | Error message                                                       | Description                                                                                                |
|------------------|------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 403              | MissingParameter.InstanceId        | InstanceId should not be null.                                      | The error message returned when InstanceId is not specified.                                               |
| 403              | InvalidParameter.InvalidInstanceId | %s                                                                  | The error message returned when the specified InstanceId is invalid.                                       |
| 403              | IncorrectInstanceState             | The current status of the resource does not support this operation. | The error message returned when the operation is not supported while the resource is in the current state. |
| 403              | InvalidParameter.Duration          | %s                                                                  | The error message returned when the Duration parameter is invalid.                                         |



| HTTP status code | Error code                          | Error message                                  | Description                                                             |
|------------------|-------------------------------------|------------------------------------------------|-------------------------------------------------------------------------|
| 403              | InvalidParameter.RenewalStatus      | %s                                             | The error message returned when the RenewalStatus parameter is invalid. |
| 403              | InvalidPeriodUnit.ValueNotSupported | The specified parameter "Period" is not valid. | The error message returned when the specified PeriodUnit is invalid.    |

[View error codes](#)

## 6.26 ModifyInstanceChargeType

You can call this operation to change the billing method for one or more instances. You can change the billing method between Pay-As-You-Go and subscription, or change all Pay-As-You-Go data disks attached to an instance to subscription ones.

### Description

Before you call this operation, make sure that you have fully understood the billing methods and pricing schedule of [ECS](#).

When you call this operation, note that:

- The instance must be in the running( `Running` ) or stopped( `Stopped` ) state and has no overdue payment.
- After you change the billing method, `AutoPay` is set to true. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order. If your account balance is insufficient, you can set `AutoPay` to `false` . Then, an order is generated. You can log on to the [ECS console](#) to pay for it.
- From subscription to Pay-As-You-Go:
  - Users that achieve a certain level of trust can change the billing method from subscription to Pay-As-You-Go.
  - After you change the billing method from subscription to Pay-As-You-Go, the new billing method will take effect for the entire lifecycle of the instance. The

price difference is refunded to the payment account you used. Price difference of coupon purchases are not refunded.

- Refund rule: You can only freely use a certain amount of refund within a month, and the refund that is not used within the current month will not be accumulated to the next month. After you have used up the refund amount for this month, you can only change the billing method when the next month arrives. The refund amount incurred when you change billing methods is calculated with the following formula:  $\text{Number of vCPUs} \times (\text{Number of remaining days} \times 24 \pm \text{Number of remaining or elapsed hours})$ .
- From Pay-As-You-Go to subscription:
  - You can change all Pay-As-You-Go data disks attached to an instance to subscription ones.
  - This operation cannot be called if the automatic release time has been set for the Pay-As-You-Go instance.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name        | Type   | Required | Example                 | Description                                                                                                                                                                                 |
|-------------|--------|----------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceIds | String | Yes      | ["i-xxxxx1","i-xxxxx2"] | The ID of the instance. The value can be a JSON array that consists of multiple instance IDs. Separate multiple instance IDs with commas (,). A maximum of 20 IDs can be entered at a time. |
| RegionId    | String | Yes      | cn-hangzhou             | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.                                                                   |

| Name    | Type    | Required | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------|---------|----------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action  | String  | No       | ModifyInstanceChargeType | The operation that you want to perform. Set the value to ModifyInstanceChargeType.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| AutoPay | Boolean | No       | false                    | <p>Indicates whether to enable automatic payment. When OperatorType is set to downgrade, AutoPay is ignored . Default value: true. Valid values:</p> <ul style="list-style-type: none"><li>· true: enables automatic payment. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order .</li><li>· false: No payment is made and only an order is generated. After you change the billing method, AutoPay is set to true. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order. If your account balance is insufficient, you can set AutoPay to false. Then, an order is generated. You can log on to the ECS console to pay for it.</li></ul> |

| Name               | Type    | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|---------|----------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DryRun             | Boolean | No       | false                   | <p>Indicates whether to send a check request only. Default value: false.</p> <ul style="list-style-type: none"> <li>· true: Only a check request is sent and no query is performed. The system checks whether your AccessKey is valid, whether RAM users are authorized, and whether the required parameters are set. If the check fails, the corresponding error code is returned. If the check succeeds, the <code>DryRunOperation</code> error code is returned.</li> <li>· false: A request is sent and then the query is performed if the 2XX HTTP status code is returned.</li> </ul> |
| IncludeDataDisks   | Boolean | No       | true                    | <p>Indicates whether to change all Pay-As-You-Go data disks attached to the instance to subscription ones. Default value: true.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| InstanceChargeType | String  | No       | PrePaid                 | <p>The new billing method. Default value: PrePaid. Valid values:</p> <ul style="list-style-type: none"> <li>· PrePaid: subscription.</li> <li>· PostPaid: Pay-As-You-Go.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                         |
| OwnerAccount       | String  | No       | EcsforCloud@Alibaba.com | <p>The logon name of the RAM user.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Name        | Type    | Required | Example                                                                     | Description                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|---------|----------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Period      | Integer | No       | 2                                                                           | <p>The renewal period of the subscription instance. If DedicatedHostId is specified, the value range of the Period parameter must be within the subscription period of the DDH.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>If PeriodUnit is set to Month, Period can be { "1", "2", "3", "4", "5", "6", "7", "8", "9", "12", "24", "36", "48", "60" }</li> </ul> |
| PeriodUnit  | String  | No       | Month                                                                       | <p>The unit of Period. Default value: Month. Valid values:</p> <ul style="list-style-type: none"> <li>Month.</li> </ul>                                                                                                                                                                                                                                                               |
| ClientToken | String  | No       | 155780923770084104105115073115084104101070105114115116082101113117101115116 | <p>The token used to ensure idempotence. You can generate the token in your client, but you must ensure that it is globally unique. ClientToken can contain only ASCII characters. It must be no more than 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a>.</p>                                                                          |

## Response parameters

| Name    | Type   | Example           | Description          |
|---------|--------|-------------------|----------------------|
| OrderId | String | 101111111111xxxxx | The ID of the order. |

| Name      | Type   | Example                              | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceChargeType
&RegionId=cn-hangzhou
&InstanceId=instance-xxxxx1,"instance-xxxxx2"]
&Period=1
&PeriodUnit=Month
&AutoPay=false
&IncludeAllDisks=true
&ClientToken=xxxxxxxxxxxxxxx
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<ModifyInstanceChargeTypeResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx-xx</RequestId>
  <OrderId>1011111111-1xxxxx</OrderId>
</ModifyInstanceChargeTypeResponse>
```

#### JSON format

```
{
  "OrderId": "1011111111-1xxxxx",
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxx-xx"
}
```

## Error codes

| HTTP status code | Error code                   | Error message                          | Description                                                        |
|------------------|------------------------------|----------------------------------------|--------------------------------------------------------------------|
| 400              | InvalidParameter.InstanceIds | The specified InstanceIds are invalid. | The error message returned when the specified instance is invalid. |

| HTTP status code | Error code                                  | Error message                                                                      | Description                                                                                                        |
|------------------|---------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidParameter                            | %s                                                                                 | The error message returned when the parameter format is incorrect.                                                 |
| 400              | InvalidStatus.ValueNotSupported             | %s                                                                                 | The error message returned when the operation is not supported while the resource is in the current state.         |
| 400              | InvalidInstanceChargeType.ValueNotSupported | %s                                                                                 | The error message returned when the specified billing method is not supported.                                     |
| 403              | InvalidInstance.TempBandwidthUpgrade        | Cannot switch to Pay-As-You-Go during the period of temporary bandwidth upgrade.   | The error message returned when you change the billing method to Pay-As-You-Go during temporary bandwidth upgrade. |
| 400              | InvalidInternetChargeType.ValueNotSupported | %s                                                                                 | The error message returned when the parameter is invalid.                                                          |
| 403              | InvalidInstanceType.ValueNotSupported       | The specified InstanceType does not exist or beyond the permitted range.           | The error message returned when the specified instance type is not supported.                                      |
| 403              | InstanceType.Offline                        | %s                                                                                 | The error message returned when the specified instance type is unavailable.                                        |
| 500              | InternalServerError                         | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.                                                           |

| HTTP status code | Error code                                | Error message                                                | Description                                                                                         |
|------------------|-------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 400              | ReleaseTimeHaveBeenSet                    | The specified instance has been set released time.           | The error message returned when the automatic release time has been set for the specified instance. |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance | Your account does not have enough balance.                   | The error message returned when your account has insufficient balance.                              |
| 403              | Account.<br>Arrearage                     | Your account has an outstanding payment.                     | The error message returned when you have unpaid orders under your account.                          |
| 403              | InvalidParameter.<br>NotMatch             | %s                                                           | The error message returned when the parameter is in conflict with another parameter.                |
| 403              | InvalidAction                             | %s                                                           | The error message returned when the operation is invalid.                                           |
| 400              | Throttling                                | %s                                                           | The error message returned when the request is denied due to request throttling.                    |
| 400              | InvalidParameter.<br>Bandwidth            | %s                                                           | The error message returned when the parameter is invalid.                                           |
| 400              | InvalidPeriod.<br>UnitMismatch            | The specified Period must be correlated with the PeriodUnit. | The error message returned when the specified renewal period and its unit do not match.             |
| 400              | InvalidImageType.<br>NotSupported         | %s                                                           | The error message returned when the specified image type is invalid.                                |



| HTTP status code | Error code                                  | Error message                                                                   | Description                                                                                        |
|------------------|---------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 400              | InvalidPeriod.ExceededDedicatedHost         | Instance expired date can't exceed dedicated host expired date.                 | The error message returned when the expiration date of the instance is later than that of the DDH. |
| 400              | InvalidMarketImageChargeType.NotSupport     | The specified chargeType of marketImage is unsupported.                         | The error message returned when the billing method for marketplace images is invalid.              |
| 403              | ImageNotSupportInstanceType                 | The specified instanceType is not supported by instance with marketplace image. | The error message returned when the marketplace image does not support the instance type.          |
| 403              | InvalidInstanceType.PhasedOut               | This instanceType is no longer offered.                                         | The error message returned when the instance type is unavailable on the Alibaba Cloud market.      |
| 400              | InvalidSystemDiskCategory.ValueNotSupported | %s                                                                              | The error message returned when the parameter is invalid.                                          |

[View error codes](#)

## 6.27 ModifyInstanceSpec

You can call this operation to change the instance type or public bandwidth of a Pay-As-You-Go instance.

### Description

When you call this operation, note that:

- The instance must have no overdue payment.
- You can change the public bandwidth only when the instance is in the running ( `Running` ) or stopped ( `Stopped` ) state.

- Before changing the Pay-As-You-Go instance type, you can call the [DescribeResourcesModification](#) operation to query the instance types you can change to.
- You can change the instance type only when the instance is in the stopped ( `Stopped` ) state.
- You can only change either the instance type or the public bandwidth each time.
- After a successful downgrade, you must wait five minutes before you can initiate another instance type downgrade.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example            | Description                                                                                |
|------------|--------|----------|--------------------|--------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-instanceid1      | The ID of the instance.                                                                    |
| Action     | String | No       | ModifyInstanceSpec | The operation that you want to perform. Set the value to <code>ModifyInstanceSpec</code> . |

| Name                   | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|---------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AllowMigrateAcrossZone | Boolean | No       | false   | <p>Indicates whether to enable cross-cluster instance type upgrade. Default value: false</p> <p>When AllowMigrateAcrossZone is set to true and you upgrade the instance type based on the returned information, make sure that:</p> <p>Classic instances:</p> <ul style="list-style-type: none"> <li>For <a href="#">phased-out instance types</a>, when a non-optimized instance is upgraded to an optimized instance, the following items are modified: private IP address, driver name, and software authorization code. For Linux instances, basic disks (cloud) are identified as xvda or xvdb. Ultra disks (cloud_efficiency) and SSDs (cloud_ssd) are identified as vda or vdb.</li> <li>For <a href="#">instance type families available on the Alibaba Cloud market</a>, the private IP is modified after instance type upgrade.</li> </ul> <p>VPC-type instances: For <a href="#">phased-out instance types</a>, when a non-optimized instance is upgraded to an optimized instance, the following items are modified: driver name and software authorization code. For Linux instances, basic disks (cloud) are identified</p> |
| Issue: 20190911        |         |          |         | <p>as xvda or xvdb. Ultra disks ( 223 cloud_efficiency) and SSDs (** cloud_ssd **) are identified</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Name                    | Type    | Required | Example      | Description                                                                                                                                                                                    |
|-------------------------|---------|----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Async                   | Boolean | No       | false        | Indicates whether to submit an asynchronous request.<br><br>Default value: false.                                                                                                              |
| InstanceType            | String  | No       | ecs.g5.large | The new instance type. For more information, see <a href="#">Instance type families</a> , or call the <a href="#">DescribeInstanceTypes</a> operation to obtain the latest instance type list. |
| InternetMaxBandwidthIn  | Integer | No       | 200          | The maximum inbound bandwidth for the public network. Unit: Mbit/s. Valid values: 1 to 200.                                                                                                    |
| InternetMaxBandwidthOut | Integer | No       | 10           | The maximum outbound bandwidth for the public network. Unit: Mbit/s. Valid values: 0 to 100.                                                                                                   |
| OwnerAccount            | String  | No       | ECSforCloud  | The logon name of the RAM user.                                                                                                                                                                |

| Name                     | Type   | Required | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|--------|----------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk<br>· Category | String | No       | cloud_ssd            | <p>System disk change option. This parameter is only valid when you upgrade one of the <a href="#">phased-out instance types</a> to one of the <a href="#">instance type families available on the Alibaba Cloud market</a> and upgrade a non-optimized instance to an optimized instance. Valid values:</p> <ul style="list-style-type: none"><li>· cloud_efficiency: ultra disk.</li><li>· cloud_ssd: SSD.</li></ul> |
| Temporary<br>EndTime     | String | No       | 2017-12-05T22:40:00Z | <p>The end time of the temporary bandwidth upgrade. The time follows the <a href="#">ISO 8601</a> standard and is in UTC time. Format: yyyy-MM-ddTHH:mm:ssZ.</p> <div> <b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.</div>                    |

| Name                                           | Type    | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------|---------|----------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temporary .<br>InternetMa<br>xBandwidth<br>Out | Integer | No       | 50                                   | <p>The maximum outbound bandwidth for the public network after temporary bandwidth upgrade. Valid values: 1 to 100.</p> <div>  <b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. </div>                                              |
| Temporary .<br>StartTime                       | String  | No       | 2017-12-05T22:40:00Z                 | <p>The start time of the temporary bandwidth upgrade. The time follows the <a href="#">ISO 8601</a> standard and is in UTC time. Format: yyyy-MM-ddTHH:mm:ssZ.</p> <div>  <b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. </div> |
| ClientToke<br>n                                | String  | No       | 0c593ea1-3bea-11e9-b96b-88e9fe637760 | <p>The token used to ensure idempotence. You can generate the token in your client, but you must ensure that it is globally unique. ClientToken can contain only ASCII characters. It must be no more than 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a>.</p>                                                                                            |

## Response parameters

| Name      | Type   | Example                              | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

## Examples

## Sample requests

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

## Successful response examples

## XML format

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

## JSON format

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

## Error codes

| HTTP status code | Error code                                  | Error message                                                            | Description                                                                   |
|------------------|---------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 400              | InvalidInternetChargeType.ValueNotSupported | The specified InternetChargeType is not valid.                           | The error message returned when the specified instance type does not exist.   |
| 400              | InvalidInstanceType.ValueUnauthorized       | The specified InstanceType does not exist or beyond the permitted range. | The error message returned when the specified instance type is not supported. |

| HTTP status code | Error code                                  | Error message                                                                        | Description                                                                                                                |
|------------------|---------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidInstanceType.<br>ValueNotSupported   | The specified InstanceType does not exist or beyond the permitted range.             | The error message returned when the specified instance type is not supported.                                              |
| 400              | InvalidParameter.<br>Mismatch               | Too many parameters in one request.                                                  | The error message returned when the request contains too many parameters.                                                  |
| 403              | CategoryViolation                           | The specified instance does not support this operation because of its disk category. | The error message returned when configurations are changed for instances with local disks attached.                        |
| 403              | InvalidStatus.<br>ValueNotSupported         | The current status of the resource does not support this operation.                  | The error message returned when the operation is not supported while the resource is in the current state.                 |
| 500              | InternalServerError                         | The request processing has failed due to some unknown error, exception or failure.   | The error message returned when an unknown error occurs.                                                                   |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance   | Your account does not have enough balance.                                           | The error message returned when your account has insufficient balance.                                                     |
| 403              | ChargeTypeViolation                         | The operation is not permitted due to charge type of the instance.                   | The error message returned when this operation is not supported while this billing method is selected.                     |
| 400              | BandwidthUpgradeDenied.<br>EipBoundInstance | The specified VPC instance has bound EIP, temporary bandwidth upgrade is denied.     | The error message returned when temporary bandwidth upgrade is not supported while an EIP has been bound to this instance. |



| HTTP status code | Error code                            | Error message                                                             | Description                                                                                         |
|------------------|---------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 404              | MissingTemporary.StartTime            | Temporary.StartTime is not specified.                                     | The error message returned when the start time of the temporary bandwidth upgrade is not specified. |
| 404              | MissingTemporary.EndTime              | Temporary.EndTime is not specified.                                       | The error message returned when the end time of the temporary bandwidth upgrade is not specified.   |
| 400              | InvalidTemporary.StartTime            | The specified Temporary.StartTime is not valid.                           | The error message returned when the start time of the temporary bandwidth upgrade is invalid.       |
| 400              | InvalidTemporary.EndTime              | The specified Temporary.EndTime is not valid.                             | The error message returned when the end time of the temporary bandwidth upgrade is invalid.         |
| 400              | Downgrade.NotSupported                | Downgrade operation is not supported.                                     | The error message returned when configuration downgrade is not supported.                           |
| 400              | DependencyViolation.InstanceType      | The current InstanceType cannot be changed to the specified InstanceType. | The error message returned when the instance cannot be changed to the specified instance type.      |
| 403              | InvalidInstanceType.ValueNotSupported | The specified zone does not offer the specified instancetype.             | The error message returned when the specified instance type is not supported.                       |
| 400              | Account.Arrearage                     | Your account has an outstanding payment.                                  | The error message returned when you have unpaid orders under your account.                          |

| HTTP status code | Error code                                  | Error message                                                                    | Description                                                                                                                        |
|------------------|---------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidParameter.<br>AllowMigrateAcrossZone | The specified parameter CanMigrateAcrossZone is not valid.                       | The error message returned when the specified CanMigrateAcrossZone is invalid.                                                     |
| 400              | InvalidParameter.SystemDisk<br>Category     | The specified parameter SystemDisk.Category is not valid.                        | The error message returned when the specified SystemDisk.Category is invalid.                                                      |
| 403              | InstanceType.<br>Offline                    | The specified InstanceType has been offline                                      | The error message returned when the instance type is unavailable on the Alibaba Cloud market.                                      |
| 400              | IdempotenceParamNotMatch                    | There is a idempotence signature mismatch between this and last request.         | The error message returned when the idempotent signatures are inconsistent.                                                        |
| 403              | InvalidParameter.<br>NotMatch               | %s                                                                               | The error message returned when the parameter is in conflict with another parameter.                                               |
| 403              | InvalidInstance.<br>EipNotSupport           | The specified instance with eip is not supported , please unassociate eip first. | The error message returned when the operation is not supported while an EIP has been bound to this instance. Unbind the EIP first. |
| 400              | InvalidAction.<br>NotSupport                | The ecs on dedicatedHost not support modify instanceType.                        | The error message returned when the instance on the DDH does not support instance type change.                                     |
| 403              | InvalidOperation.<br>Ipv4CountExceeded      | %s                                                                               | The error message returned when the maximum number of IPv4 addresses is reached.                                                   |

| HTTP status code | Error code                             | Error message | Description                                                                            |
|------------------|----------------------------------------|---------------|----------------------------------------------------------------------------------------|
| 403              | InvalidOperation.<br>Ipv6CountExceeded | %s            | The error message returned when the maximum number of IPv6 addresses is reached.       |
| 403              | InvalidOperation.<br>Ipv6NotSupport    | %s            | The error message returned when IPv6 addresses are not supported by the instance type. |

[View error codes](#)

## 6.28 ModifyPrepayInstanceSpec

You can call this operation to change the type of your subscription instance. The new instance type will take effect for the entire lifecycle of the instance.

### Description

Before you call this operation, make sure that you have fully understood the billing methods and pricing schedule of [ECS](#).

When you call this operation, note that:

- The instance must be in the stopped ( `Stopped` ) state.
- The specified instance cannot have overdue payment.
- Before changing the [subscription](#) instance type, you can call the [DescribeResourcesModification](#) operation to query the instance types you can change to.
- For instance type downgrade:
  - You can downgrade the type of an instance up to three times. The refund for the price difference cannot exceed three times.
  - The price difference is refunded to the payment account you used. Price difference of coupon purchases are not refunded.
  - You have to wait for five minutes to initiate another instance type downgrade after a successful downgrade for an instance.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name         | Type   | Required | Example                  | Description                                                                                                                                                                                    |
|--------------|--------|----------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId   | String | Yes      | i-xxxxx1                 | The ID of the instance.                                                                                                                                                                        |
| InstanceType | String | Yes      | ecs.s1.large             | The new instance type. For more information, see <a href="#">Instance type families</a> , or call the <a href="#">DescribeInstanceTypes</a> operation to obtain the latest instance type list. |
| RegionId     | String | Yes      | cn-hangzhou              | The region ID of the instance. You can call the <a href="#">DescribeRegions</a> operation to view the latest region list.                                                                      |
| Action       | String | No       | ModifyPrepayInstanceSpec | The operation that you want to perform. Set the value to <code>ModifyPrepayInstanceSpec</code> .                                                                                               |

| Name    | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------|---------|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AutoPay | Boolean | No       | true    | <p>Indicates whether to enable automatic payment. When <code>OperatorType</code> is set to <code>downgrade</code>, <code>AutoPay</code> is ignored . Default value: <code>true</code>. Valid values:</p> <ul style="list-style-type: none"><li>· <code>true</code>: enables automatic payment. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order .</li><li>· <code>false</code>: No payment is made and only an order is generated. After you change the billing method, <code>AutoPay</code> is set to <code>true</code>. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order. If your account balance is insufficient, you can set <code>AutoPay</code> to <code>false</code>. Then an order is generated. You can log on to the ECS console to pay for it.</li></ul> |

| Name              | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|---------|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MigrateAcrossZone | Boolean | No       | false   | <p>Indicates whether to enable cross-cluster instance type upgrade. Default value: false.</p> <p>When MigrateAcrossZone is set to true and you upgrade the instance type based on the returned information, make sure that:</p> <p>Classic instances:</p> <ul style="list-style-type: none"> <li>For <a href="#">phased-out instance types</a>, when a non-optimized instance is upgraded to an optimized instance, the following items are modified: private IP address, driver name, and software authorization code. For Linux instances, basic disks (cloud) are identified as xvda or xvdb. Ultra disks (cloud_efficiency) and SSDs (cloud_ssd) are identified as vda or vdb.</li> <li>For <a href="#">instance type families available on the Alibaba Cloud market</a>, the private IP is modified after instance type upgrade.</li> </ul> <p>VPC-type instances: For phased-out instance types, when a non-optimized instance is upgraded to an optimized instance, the following items are modified: driver name and software authorization code. For Linux instances, basic disks (cloud) are identified as xvda or xvdb. Ultra disks (cloud_efficiency) and SSDs (cloud_ssd) are identified as vda or vdb.</p> |

| Name                  | Type   | Required | Example          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|--------|----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OperatorType          | String | No       | downgrade        | <p>The configuration change type . Default value: downgrade.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>upgrade. When <code>OperatorType</code> is set to <code>upgrade</code> , make sure that your payment account has sufficient balance or credit.</li> <li>downgrade.</li> </ul> <p>[DO NOT TRANSLATE]<br/> <a href="#">~~55263~~~25378~~</a>[DO NOT TRANSLATE] [DO NOT TRANSLATE]<br/>         [DO NOT TRANSLATE]</p> <ul style="list-style-type: none"> <li>[DO NOT TRANSLATE]</li> <li>[DO NOT TRANSLATE]</li> </ul> |
| SystemDisk . Category | String | No       | cloud_efficiency | <p>System disk change option. This parameter is valid only when you upgrade one of the <a href="#">phased-out instance types</a> to one of the <a href="#">instance type families available on the Alibaba Cloud market</a> and upgrade a non-optimized instance to an optimized instance. Valid values:</p> <ul style="list-style-type: none"> <li>cloud_efficiency: ultra disk.</li> <li>cloud_ssd: SSD.</li> </ul>                                                                                                                             |

| Name        | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                            |
|-------------|--------|----------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken | String | No       | 123e4567-e89b-12d3-a456-426655440000 | The token used to ensure idempotence. You can generate the token in your client, but you must ensure that it is globally unique. ClientToken can contain only ASCII characters. It must be no more than 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a> . |

### Response parameters

| Name      | Type   | Example                              | Description          |
|-----------|--------|--------------------------------------|----------------------|
| OrderId   | String | 1111111111<br>1111111111111110       | The ID of the order. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID.      |

### Examples

#### Sample requests

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

#### Successful response examples

##### XML format

```
<ModifyPrepayInstanceSpecResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
  <OrderId>1011111111 111111</OrderId>
```



```
</ ModifyPrep ayInstance SpecRespon se >
```

### JSON format

```
{
  " OrderId ": 1011111111 111111 ,
  " RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 "
}
```

### Error codes

| HTTP status code | Error code                             | Error message                                                                      | Description                                                                                                        |
|------------------|----------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidInstanceType.ValueNotSupported  | The specified InstanceType does not exist or beyond the permitted range.           | The error message returned when the specified instance type is not supported.                                      |
| 500              | InternalServerError                    | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.                                                           |
| 400              | InvalidBillingMethod.ValueNotSupported | The operation is not permitted due to an invalid billing method of the instance.   | The error message returned when the operation is not supported due to the invalid billing method for the instance. |
| 400              | InvalidInstanceId.Released             | The specified instance has been released.                                          | The error message returned when the instance has been released.                                                    |
| 400              | InvalidInstance.PurchaseNotFound       | The specified instance has no purchase history.                                    | The error message returned when the order record for this instance does not exist.                                 |
| 400              | Account.Arrearage                      | Your account has an outstanding payment.                                           | The error message returned when you have unpaid orders under your account.                                         |

| HTTP status code | Error code                                  | Error message                                                                           | Description                                                                                                           |
|------------------|---------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidUser.PassRoleForbidden               | The RAM user does not have privilege to pass a role.                                    | The error message returned when RAM users attempt to assign RAM roles.                                                |
| 400              | InvalidRebootTime.Malformed                 | The specified rebootTime is not valid.                                                  | The error message returned when the specified RebootTime is invalid.                                                  |
| 403              | ImageNotSupportInstanceType                 | The specified image does not support the specified InstanceType.                        | The error message returned when the specified instance type is not supported in the specified image.                  |
| 403              | InstanceType.Offline                        | %s                                                                                      | The error message returned when the specified instance type is unavailable.                                           |
| 400              | IdempotenceParamNotMatch                    | Request uses a client token in a previous request but is not identical to that request. | The error message returned when ClientToken in this request is not identical to the one used in the previous request. |
| 403              | IncorrectInstanceState                      | The current status of the resource does not support this operation.                     | The error message returned when the operation is not supported while the resource is in the current state.            |
| 400              | IdempotenceParamNotMatch                    | %s                                                                                      | The error message returned when the idempotent signatures are inconsistent.                                           |
| 400              | InvalidInstanceChargeType.ValueNotSupported | %s                                                                                      | The error message returned when the specified billing method is not supported.                                        |

| HTTP status code | Error code                                | Error message                                                                   | Description                                                                                                  |
|------------------|-------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 400              | InvalidStatus.<br>NotStopped              | Instance status must be stopped.                                                | The error message returned when the instance is not in the stopped state.                                    |
| 400              | InvalidAction                             | %s                                                                              | The error message returned when the operation is invalid.                                                    |
| 400              | InstanceDowngrade.<br>QuotaExceed         | Quota of instance downgrade is exceed.                                          | The error message returned when the maximum number of instance type downgrades for the instance is reached . |
| 400              | InvalidInstanceType.<br>ValueNotSupported | %s                                                                              | The error message returned when the instance type attribute is incorrect.                                    |
| 403              | InvalidParameter.<br>InstanceId           | %s                                                                              | The error message returned when the specified InstanceId is invalid.                                         |
| 400              | InvalidParameter                          | %s                                                                              | The error message returned when the parameter format is incorrect.                                           |
| 403              | ImageNotSupportInstanceType               | The specified instanceType is not supported by instance with marketplace image. | The error message returned when the marketplace image does not support the instance type.                    |
| 403              | InvalidInstanceStatus                     | The current status of the instance does not support this operation.             | The error message returned when the operation is not supported while the instance is in the current state.   |

| HTTP status code | Error code                         | Error message                                                                     | Description                                                                                                                        |
|------------------|------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidInstance.PreInstanceExpired | Instance business status is not Expired                                           | The error message returned when the instance status is incorrect.                                                                  |
| 403              | InvalidInstance.EipNotSupport      | The special instance with eip not support operate , please unassociate eip first. | The error message returned when the operation is not supported while an EIP has been bound to this instance. Unbind the EIP first. |
| 403              | InvalidOperation.Ipv4CountExceeded | %s                                                                                | The error message returned when the maximum number of IPv4 addresses is reached.                                                   |
| 403              | InvalidOperation.Ipv6CountExceeded | %s                                                                                | The error message returned when the maximum number of IPv6 addresses is reached.                                                   |
| 403              | InvalidOperation.Ipv6NotSupport    | %s                                                                                | The error message returned when IPv6 addresses are not supported by the instance type.                                             |

[View error codes](#)

## 7 Launch templates

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### 7.1 CreateLaunchTemplate

Creates an instance launch template, or template for short. An instance launch template removes the need to configure a large number of parameters every time you create an instance.

#### Description

Instance launch templates contain preset configurations used to create instances, such as the instance region, image ID, instance type, security group ID, and public bandwidth settings. If the configuration of a certain parameter is not included in the template, that parameter must be specified manually during instance creation. After you create a template ( `CreateLaunchTemplate` ), its version number is set to 1 by default. You can create multiple versions ( `CreateLaunchTemplateVersion` ) based on this template. Version numbers start from 1 and increase sequentially. If you do not specify a template version number when creating an instance ([RunInstances](#)), the default version will be used.

When you call this operation, note that:

- You can create up to 30 instance launch templates in each region. Each template can have up to 30 versions.
- Most instance launch template parameters are optional. When you create a template, ECS does not verify the existence or validity of its parameter values. The validity of specified parameter values cannot be verified until you create instances with the template.
- If you configure a certain parameter in an instance launch template, you cannot filter out this parameter when creating an instance ([RunInstances](#)). For example, if `HostName = LocalHost` is configured in the template, and the value of the `HostName` parameter is not specified in the `RunInstances` operation, the host name of the instance is still `LocalHost` . If you want to overwrite the `HostName = LocalHost` configuration, you can configure `RunInstances` or other parameters in the `HostName = MyHost` operation.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name               | Type   | Required | Example              | Description                                                                                                                                                                                                                                    |
|--------------------|--------|----------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LaunchTemplateName | String | Yes      | JoshuaWinPrePaid     | The name of the instance launch template. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). |
| RegionId           | String | Yes      | cn-hangzhou          | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                |
| Action             | String | No       | CreateLaunchTemplate | The operation that you want to perform. Set the value to CreateLaunchTemplate.                                                                                                                                                                 |

| Name                              | Type    | Required | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------|---------|----------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AutoReleaseTime                   | String  | No       | 2018-01-01T12:05:00Z | <p>The time when the instance is automatically released.</p> <p>The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.</p> <ul style="list-style-type: none"> <li>• If the value of the seconds place ( ss ) is not 00 , the time will automatically be set to the start of the specified minute ( mm ).</li> <li>• The specified release time must be at least half an hour later than the current time.</li> <li>• The specified release time cannot be more than three years later than the current time.</li> </ul> |
| DataDisk . N . Category           | String  | No       | cloud_ssd            | <p>The category of data disk N.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>• cloud: basic disk</li> <li>• cloud_efficiency: ultra disk</li> <li>• cloud_ssd: SSD</li> <li>• ephemeral_ssd: local SSD</li> <li>• cloud_essd: ESSD disk</li> </ul>                                                                                                                                                                                                                                                                                                          |
| DataDisk . N . DeleteWithInstance | Boolean | No       | true                 | Indicates whether data disk N is released together with the instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DataDisk . N . Description        | String  | No       | FinanceDept          | The description of data disk N. The description must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Name                     | Type    | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|---------|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDisk . N . DiskName  | String  | No       | cloud_ssdData | <p>The name of a data disk.</p> <p>The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).</p>                                                                                                                                                                                                             |
| DataDisk . N . Encrypted | String  | No       | false         | Indicates whether data disk N is encrypted.                                                                                                                                                                                                                                                                                                                                                                                                             |
| DataDisk . N . Size      | Integer | No       | 2000          | <p>The size of data disk N. Valid values of N: 1 to 16. Unit: GiB. Valid values:</p> <ul style="list-style-type: none"> <li>• cloud: 5 to 2000</li> <li>• cloud_efficiency: 20 to 32768</li> <li>• cloud_ssd: 20 to 32768</li> <li>• cloud_essd: 20 to 32768</li> <li>• ephemeral_ssd: 5 to 800</li> </ul> <p>The value of this parameter must be greater than or equal to that of the snapshot specified by the <code>SnapshotId</code> parameter.</p> |



| Name                          | Type    | Required | Example                    | Description                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|---------|----------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDisk.<br>N.<br>SnapshotId | String  | No       | s-bp17441ohw<br>ka0yuhx3h0 | The ID of the snapshot used to create the data disk. Valid values of n: 1 to 16. If the <code>DataDisk.N.SnapshotId</code> parameter is specified, the <code>DataDisk.N.Size</code> parameter will be ignored, and the size of the created disk will be the size of the specified snapshot. The specified snapshot cannot be created on or before July 15, 2013. Otherwise, an error will be returned. |
| Description                   | String  | No       | FinaceDept                 | The description for the instance. The description must be 2 to 256 characters in length and cannot start with <code>http://</code> or <code>https://</code> .                                                                                                                                                                                                                                          |
| EnableVmOs<br>Config          | Boolean | No       | false                      | Indicates whether to enable the operating system configuration of the instance.<br><br> <b>Note:</b><br>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.                                                                                          |

| Name     | Type   | Required | Example                                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|--------|----------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HostName | String | No       | JoshuaHost                                          | <p>The name of the host that will contain the created ECS instances.</p> <ul style="list-style-type: none"> <li>• It cannot start or end with a period (.) or a hyphen (-). It cannot contain consecutive periods (.) or hyphens (-).</li> <li>• On Windows, the hostname must be 2 to 15 characters in length. The hostname cannot contain periods (.) or contain only digits. It can contain letters, digits, and hyphens (-).</li> <li>• On other OSs such as Linux, the hostname must be 2 to 64 characters in length. It can be segments separated with periods (.). Each segment can contain letters, digits, and hyphens (-).</li> </ul> |
| ImageId  | String | No       | win2008r2_64_ent_sp1_en-us_40G_alibase_20170915.vhd | <p>The ID of the image file to be used to create the instances.</p> <p>You can call <a href="#">DescribeImages</a> to query available images.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Name                | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|--------|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ImageOwner<br>Alias | String | No       | system  | <p>The source of the image. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>system:</b> public images provided by Alibaba Cloud.</li> <li>· <b>self:</b> your custom images.</li> <li>· <b>others:</b> shared images from other Alibaba Cloud users.</li> <li>· <b>marketplace:</b> available images from <a href="#">Alibaba Cloud Marketplace</a>. If images from Marketplace are returned in the result, you can directly use these images without prior subscription. You must pay attention to the billing details of images from Marketplace.</li> </ul> <p>Default value: null, indicating that the results matching system, self, and others are returned.</p> |
| InstanceChargeType  | String | No       | PrePaid | <p>The billing method of the instance. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>PrePaid:</b> Subscription<br/>If you select this billing method, ensure that you have activated credit card payment for your account. Otherwise, the error message <code>InvalidPaymentMethod</code> will be returned.</li> <li>· <b>Postpaid:</b> Pay-As-You-Go.</li> </ul>                                                                                                                                                                                                                                                                                                    |

| Name                    | Type    | Required | Example      | Description                                                                                                                                                                                                                       |
|-------------------------|---------|----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceName            | String  | No       | JoshuaHost   | The name of the instance.<br>The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). |
| InstanceType            | String  | No       | ecs.g5.large | The instance type. For more information, see <a href="#">Instance type families</a> or call <a href="#">DescribeInstanceTypes</a> to query latest instance types.                                                                 |
| InternetChargeType      | String  | No       | PayByTraffic | The billing method of network bandwidth. Valid values:<br><ul style="list-style-type: none"><li>PayByTraffic: You are billed based on the actual amount of bandwidth used by traffic.</li></ul>                                   |
| InternetMaxBandwidthIn  | Integer | No       | 200          | The maximum inbound bandwidth from the Internet. Unit: Mbit/s. Valid values: 1 to 200.                                                                                                                                            |
| InternetMaxBandwidthOut | Integer | No       | 5            | The maximum outbound bandwidth to the Internet. Unit: Mbit/s. Valid values: 0 to 100.                                                                                                                                             |
| IoOptimized             | String  | No       | optimized    | Indicates whether the instance is I/O optimized. Valid values:<br><ul style="list-style-type: none"><li>none: The instance is not I/O optimized.</li><li>optimized: The instance is I/O optimized.</li></ul>                      |

| Name                                    | Type   | Required | Example        | Description                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------|--------|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairName                             | String | No       | Instancetest   | <p>The name of the key pair.</p> <ul style="list-style-type: none"> <li>For a Windows ECS instance, this parameter is ignored. The <code>Password</code> parameter is still effective even when the <code>KeyPairName</code> parameter is specified.</li> <li>For a Linux ECS instance, the username and password authentication method is disabled by default.</li> </ul>    |
| NetworkInterface.N.Description          | String | No       | FinnanceDept   | <p>The description of an ENI. The description must be 2 to 256 characters in length and cannot start with <code>http://</code> or <code>https://</code>.</p> <div>  <p><b>Note:</b><br/>The value of N in the <code>NetworkInterface.N</code> parameter must be either 0 or 1.</p> </div> |
| NetworkInterface.N.NetworkInterfaceName | String | No       | FinnanceJoshua | <p>The name of the ENI.</p> <div>  <p><b>Note:</b><br/>The value of N in the <code>NetworkInterface.N</code> parameter must be either 0 or 1.</p> </div>                                                                                                                                  |

| Name                                | Type   | Required | Example                   | Description                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------|--------|----------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkInterface.N.PrimaryIpAddress | String | No       | 192.168.2.XXX             | <p>The primary private IP address of the ENI.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter must be either 0 or 1.         </div>                                                                                                                              |
| NetworkInterface.N.SecurityGroupId  | String | No       | sg-bp15ed6xe1yxeycg7ov3   | <p>The ID of the security group to which the ENI belongs. The security group of the ENI must belong to the same VPC as that of the instance.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter must be either 0 or 1.         </div>                              |
| NetworkInterface.N.VSwitchId        | String | No       | vsw-bp1s5fnvk4gn2tw503ziX | <p>The ID of the VSwitch to which the ENI belongs. The instance must be in the same zone of the same VPC network as the ENI, but they can belong to different VSwitches.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter must be either 0 or 1.         </div> |

| Name        | Type    | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|---------|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkType | String  | No       | vpc         | The network type of the instance. Valid values: <ul style="list-style-type: none"> <li>· classic</li> <li>· vpc</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Period      | Integer | No       | 1           | The duration of the subscription. Unit: month. This parameter is required when the value of the <code>InstanceChargeType</code> parameter is set to <code>PrePaid</code> and only takes effect when this condition is met. If the <code>DedicatedHostId</code> parameter is specified, the value range of the <code>Period</code> parameter must be within the subscription period of the dedicated host. Valid values: <ul style="list-style-type: none"> <li>· When the <code>PeriodUnit</code> parameter is set to <code>Week</code>, the valid values of the <code>Period</code> parameter are {"1", "2", "3", "4"}.</li> <li>· When the <code>PeriodUnit</code> parameter is set to <code>Month</code>, the valid values of the <code>Period</code> parameter are {"1", "2", "3", "4", "5", "6", "7", "8", "9", "12", "24", "36", "48", "60"}.</li> </ul> |
| RamRoleName | String  | No       | FinanceDept | The RAM role name of the instance. You can call the RAM operation <a href="#">ListRoles</a> to query the RAM roles that you have created.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Name                         | Type    | Required | Example                 | Description                                                                                                                                                                                                                                                                 |
|------------------------------|---------|----------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ResourceGroupId              | String  | No       | rg-resourcegroupid1     | The ID of the resource group to which the instance, disk, and ENI belong.                                                                                                                                                                                                   |
| SecurityEnhancementsStrategy | String  | No       | Deactive                | Indicates whether to enable security hardening for the operating system. Valid values: <ul style="list-style-type: none"> <li>Active: enables security hardening for public images.</li> <li>Deactive: disables security hardening for all images.</li> </ul>               |
| SecurityGroupId              | String  | No       | sg-bp15ed6xe1yxeycg7ov3 | The ID of the security group that the created instance will belong to. Instances within the same security group can access one another. A security group can contain up to 1,000 instances.                                                                                 |
| SpotDuration                 | Integer | No       | 1                       | The protection period of the instance. <div>  <b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. </div> |



| Name                | Type   | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------|--------|----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotPriceLimit      | Float  | No       | 0.97      | The maximum hourly price of the instance. This parameter supports up to three decimal places and takes effect when the value of the <code>SpotStrategy</code> parameter is <code>SpotWithPriceLimit</code> .                                                                                                                                                                                                                                               |
| SpotStrategy        | String | No       | NoSpot    | The preemption policy of a Pay-As-You-Go instance. This parameter takes effect only when the value of the <code>InstanceChargeType</code> parameter is <code>PostPaid</code> . Valid values: <ul style="list-style-type: none"> <li>NoSpot: a normal Pay-As-You-Go instance</li> <li>SpotWithPriceLimit: a preemptible instance with a maximum hourly price</li> <li>SpotAsPriceGo: an instance that is billed based on the actual market price</li> </ul> |
| SystemDisk.Category | String | No       | cloud_ssd | The category of the system disk. Valid values: <ul style="list-style-type: none"> <li>cloud: basic disk</li> <li>cloud_efficiency: ultra disk</li> <li>cloud_ssd: SSD</li> <li>ephemeral_ssd: local SSD</li> <li>cloud_essd: ESSD</li> </ul>                                                                                                                                                                                                               |

| Name                        | Type    | Required | Example         | Description                                                                                                                                                                                                                       |
|-----------------------------|---------|----------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk<br>. Description | String  | No       | FinanceDept     | The description of the system disk. The description must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                              |
| SystemDisk<br>. DiskName    | String  | No       | cloud_ssdSystem | The name of the system disk. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). |
| SystemDisk<br>. Size        | Integer | No       | 40              | The size of the system disk. Unit: GiB. Valid values: 20 to 500.<br><br>The value of this parameter must be at least 20 GiB, or greater than or equal to the value of ImageSize.                                                  |
| Tag . N . Key               | String  | No       | FinanceDept     | The tag key of an instance, disk, or NIC. Valid values of N: 1 to 5. It cannot be a null string. It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.      |

| Name                    | Type   | Required | Example                | Description                                                                                                                                                                                                                     |
|-------------------------|--------|----------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . Value         | String | No       | FinanceDept.<br>Joshua | The tag value of an instance, disk, or NIC. Valid values of N : 1 to 5. It can be a null string . It can be a maximum of 128 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https ://. |
| TemplateResourceGroupId | String | No       | rg-resourcegroupid2    | The ID of the resource group to which the launch template belongs.                                                                                                                                                              |
| TemplateTag . N . Key   | String | No       | LTFinance              | The tag key of the launch template. Valid values of N: 1 to 20. It cannot be a null string . It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https ://.       |
| TemplateTag . N . Value | String | No       | LTFinanceJoshua        | The tag value of the launch template. Valid values of N: 1 to 20. It can be a null string. It can be a maximum of 128 characters in length. It cannot start with aliyun, acs:, http://, or https://.                            |
| UserData                | String | No       | ZWNobyBoZWsbyBIY3Mh    | The custom data of the instance. It is encoded by using Base64. The maximum size of the raw data is 16 KB.                                                                                                                      |

| Name               | Type   | Required | Example                   | Description                                                                                                                                             |
|--------------------|--------|----------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| VSwitchId          | String | No       | vsw-bp1s5fnvk4gn2tw03ziX  | The ID of the VSwitch. If you are creating VPC-type instances, you must specify this parameter.                                                         |
| VersionDescription | String | No       | LTFinanceJoshua           | The description of instance launch template version 1. The description must be 2 to 256 characters in length and cannot start with http:// or https://. |
| VpcId              | String | No       | vpc-bp12433upq1y5sceni07X | The ID of the VPC.                                                                                                                                      |
| ZoneId             | String | No       | cn-hangzhou-g             | The ID of the zone to which the instance belongs.                                                                                                       |

### Response parameters

| Name             | Type   | Example                              | Description                             |
|------------------|--------|--------------------------------------|-----------------------------------------|
| LaunchTemplateId | String | lt-m5eiaupmvm2op9dxxxxx              | The ID of the instance launch template. |
| RequestId        | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                  |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=CreateLaunchTemplate
&LaunchTemplateName=JoshuaWinPrePaid
&RegionId=cn-hangzhou
&TemplateTag.1.Key=LTFinance
&TemplateTag.1.Value=LTFinanceJoshua
&VersionDescription=LTFinanceJoshua
&ImageId=win2008r2_64_ent_sp1_en-us_40G_alibase_20170915.vhd
&InstanceType=ecs.g5.large
```

```

& SecurityGroupIds = sg - bp15ed6xe1_yxeycg7ov3
& VpcId = vpc - bp12433upq_1y5sceni07_X
& VSwitchId = vsw - bp1s5fnvk4_gn2tw03zi_X
& InstanceName = JoshuaHost
& Description = FinaceDept
& InternetMaxBandwidthIn = 200
& InternetMaxBandwidthOut = 5
& HostName = JoshuaHost
& ZoneId = cn - hangzhou - g
& SystemDisk.Category = cloud_ssd
& SystemDisk.Size = 40
& SystemDisk.DiskName = cloud_ssd_System
& SystemDisk.Description = FinanceDept
& DataDisk.1.Size = 2000
& DataDisk.1.SnapshotId = s - bp17441ohw_ka0yuhx3h0
& DataDisk.1.Category = cloud_ssd
& DataDisk.1.Encrypted = false
& DataDisk.1.DiskName = cloud_ssd_Data
& DataDisk.1.Description = FinanceDept
& DataDisk.1.DeleteWithInstance = true
& IoOptimized = optimized
& NetworkInterface.1.PrimaryIpAddress = 192 . 168 . 2 .
XXX
& NetworkInterface.1.VSwitchId = vsw - bp1s5fnvk4_gn2tw03zi_X
& NetworkInterface.1.SecurityGroupId = sg - bp15ed6xe1_yxeycg7ov3
& NetworkInterface.1.NetworkInterfaceName = FinnanceJoshua
& NetworkInterface.1.Description = FinnanceDept
& InstanceChargeType = PrePaid
& Period = 1
& InternetChargeType = PayByTraffic
& NetworkType = vpc
& UserData = ZWNobyBoZWxsbyBLY3Mh
& KeyPairName = InstanceTest
& RamRoleName = FinanceDept
& AutoReleaseTime = 2018 - 01 - 01T12 : 05 : 00Z
& SpotStrategy = NoSpot
& SpotPriceLimit = 0 . 97
& SecurityEnhancementsStrategy = Deactive
& Tag.1.Key = FinanceDept
& Tag.1.Value = FinanceDept . Joshua
&< Common request parameters >

```

## Successful response examples

### XML format

```

< CreateLaunchTemplate Response >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx_xx </
    RequestId >
    < LaunchTemplateId > lt - m5eiaupmvm_2op9dxxxxx </ LaunchTemp
      lateId >
  </ CreateLaunchTemplate Response >

```

### JSON format

```

{
  "LaunchTemplateId": "lt - m5eiaupmvm_2op9dxxxxx",
  "RequestId": "04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx_xx"
}

```

}

## Error codes

| HTTP status code | Error code                              | Error message                                            | Description                                                                                          |
|------------------|-----------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 400              | InvalidRegion.<br>NotExist              | %s                                                       | The error message returned when the specified region does not exist.                                 |
| 403              | LaunchTemplateLimitExceed               | %s                                                       | The error message returned when the number of launch templates has reached the upper limit.          |
| 403              | LaunchTemplateName.<br>Duplicated       | %s                                                       | The error message returned when the specified template name is already in use.                       |
| 400              | MissingParameter                        | %s                                                       | The error message returned when a required parameter is not specified.                               |
| 400              | InvalidParameter                        | %s                                                       | The error message returned when the parameter format is invalid.                                     |
| 400              | InvalidLaunchTemplateName.<br>Malformed | The specified parameter LaunchTemplateName is not valid. | The error message returned when the specified value of the LaunchTemplateName parameter is invalid.  |
| 400              | InvalidDescription.<br>Malformed        | The specified parameter VersionDescription is not valid. | The error message returned when the format of the specified template version description is invalid. |
| 403              | InnerServiceFailed                      | %s                                                       | The error message returned when an internal service failed to be called.                             |

| HTTP status code | Error code                          | Error message | Description                                                                                          |
|------------------|-------------------------------------|---------------|------------------------------------------------------------------------------------------------------|
| 400              | InvalidUserData.SizeExceeded        | %s            | The error message returned when the size of the specified custom data exceeds the limit.             |
| 400              | InvalidUserData.Base64FormatInvalid | %s            | The error message returned when the format of the specified template version description is invalid. |

[View error codes](#)

## 7.2 CreateLaunchTemplateVersion

Creates a new version for a specified instance launch template.

### Description

You can create up to 30 versions of each instance launch template. The `CreateLaunchTemplateVersion` operation allows you to create new versions of templates instead of modifying existing template versions. To modify the parameters of a specific version, you can create a new template version. For more information, see [CreateLaunchTemplate](#).

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                     |
|----------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name                              | Type    | Required | Example                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------|---------|----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action                            | String  | No       | CreateLaunchTemplateVersion | The operation that you want to perform. Set the value to CreateLaunchTemplateVersion.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| AutoReleaseTime                   | String  | No       | 2018-01-01T12:05:00Z        | <p>The time when the instance is automatically released. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.</p> <ul style="list-style-type: none"> <li>• If the value of the seconds place ( ss ) is not 00 , the time will automatically be set to the start of the specified minute ( mm ).</li> <li>• It must be at least half an hour past the current time.</li> <li>• It must be less than three years from the current time.</li> </ul> |
| DataDisk . N . Category           | String  | No       | cloud_ssd                   | <p>The category of data disk N. Valid values:</p> <ul style="list-style-type: none"> <li>• cloud: basic disk</li> <li>• cloud_efficiency: ultra disk</li> <li>• cloud_ssd: SSD</li> <li>• ephemeral_ssd: local SSD</li> <li>• cloud_essd: ESSD</li> </ul>                                                                                                                                                                                                                                                 |
| DataDisk . N . DeleteWithInstance | Boolean | No       | true                        | Indicates whether the data disk is released together with the instance.                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Name                       | Type    | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|---------|----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDisk . N . Description | String  | No       | FinanceDept   | The description of the instance . The description must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                                                                                                                                                                                                                                 |
| DataDisk . N . DiskName    | String  | No       | cloud_ssdData | The name of a data disk.<br>The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://.<br>It can contain letters, digits, colons (:), underscores (_), and hyphens (-).                                                                                                                                                                                                |
| DataDisk . N . Encrypted   | String  | No       | false         | Indicates whether data disk N is encrypted.                                                                                                                                                                                                                                                                                                                                                                                        |
| DataDisk . N . Size        | Integer | No       | 2000          | The size of data disk N. Valid values of N: 1 to 16. Unit: GiB.<br>Valid values: <ul style="list-style-type: none"> <li>cloud: 5 to 2000</li> <li>cloud_efficiency: 20 to 32768</li> <li>cloud_ssd: 20 to 32768</li> <li>cloud_essd: 20 to 32768</li> <li>ephemeral_ssd: 5 to 800</li> </ul> The value of this parameter must be greater than or equal to that of the snapshot specified by the <code>SnapshotId</code> parameter. |

| Name                                   | Type    | Required | Example                             | Description                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------|---------|----------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>DataDisk . N . SnapshotId</code> | String  | No       | <code>s-bp17441ohwka0yuhx3h0</code> | The ID of the snapshot used to create data disk n. Valid values of n: 1 to 16. If the <code>DataDisk . n . SnapshotId</code> parameter is specified, the <code>DataDisk . n . Size</code> parameter will be ignored, and the size of the created disk will be the size of the specified snapshot. The specified snapshot cannot be created on or before July 15, 2013. Otherwise, an error will be returned. |
| <code>Description</code>               | String  | No       | <code>FinaceDept</code>             | The description of the instance . The description must be 2 to 256 characters in length and cannot start with <code>http://</code> or <code>https://</code> .                                                                                                                                                                                                                                                |
| <code>EnableVmOs Config</code>         | Boolean | No       | <code>false</code>                  | Indicates whether to enable the operating system configuration of the instance.                                                                                                                                                                                                                                                                                                                              |

| Name            | Type   | Required | Example                                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|--------|----------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HostName        | String | No       | JoshuaHost                                          | <p>The name of the host where the created ECS instances reside.</p> <ul style="list-style-type: none"> <li>It cannot start or end with a period (.) or a hyphen (-). It cannot contain consecutive periods (.) or hyphens (-).</li> <li>On Windows, the hostname must be 2 to 15 characters in length. The hostname cannot contain periods (.) or contain only digits. It can contain letters, digits, and hyphens (-).</li> <li>On other OSs such as Linux, the hostname must be 2 to 64 characters in length. It can be segments separated with periods (.). Each segment can contain letters, digits, and hyphens (-).</li> </ul> |
| ImageId         | String | No       | win2008r2_64_ent_sp1_en-us_40G_alibase_20170915.vhd | The ID of the image to be used to create instances. You can call <a href="#">DescribeImages</a> to query available images.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ImageOwnerAlias | String | No       | system                                              | <p>The source of the image.</p> <div>  <b>Note:</b><br/> This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. </div>                                                                                                                                                                                                                                                                                                                                                                |

| Name               | Type   | Required | Example      | Description                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|--------|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceChargeType | String | No       | PrePaid      | <p>The billing method of the instance. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>PrePaid:</b> Subscription<br/>If you select this billing method, ensure that you have activated credit card payment for your account. Otherwise, the error message <code>InvalidPaymentMethod</code> will be returned.</li> <li>• <b>PostPaid:</b> Pay-As-You-Go</li> </ul> |
| InstanceName       | String | No       | JoshuaHost   | <p>The name of the instance. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with <code>http://</code> or <code>https://</code>. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).</p>                                                                                                                  |
| InstanceType       | String | No       | ecs.g5.large | <p>The instance type. For more information, see <a href="#">Instance type families</a> or call <a href="#">DescribeInstanceTypes</a> to query latest instance types.</p>                                                                                                                                                                                                         |
| InternetChargeType | String | No       | PayByTraffic | <p>The billing method of the network bandwidth. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>PayByTraffic:</b> You are billed based on the actual traffic usage.</li> </ul>                                                                                                                                                                                     |

| Name                    | Type    | Required | Example      | Description                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|---------|----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InternetMaxBandwidthIn  | Integer | No       | 200          | The maximum inbound bandwidth for Internet traffic. Unit: Mbit/s. Valid values: 1 to 200.                                                                                                                                                                                                                                                   |
| InternetMaxBandwidthOut | Integer | No       | 5            | The maximum outbound bandwidth for Internet traffic. Unit: Mbit/s. Valid values: 0 to 100.                                                                                                                                                                                                                                                  |
| IoOptimized             | String  | No       | optimized    | Indicates whether the instance is I/O optimized. Valid values: <ul style="list-style-type: none"> <li>· none: The instance is not I/O optimized.</li> <li>· optimized: The instance is I/O optimized.</li> </ul>                                                                                                                            |
| KeyPairName             | String  | No       | Instancetest | The name of the key pair. <ul style="list-style-type: none"> <li>· For Windows ECS instances, this parameter is ignored. The Password parameter is still effective even when the KeyPairName parameter is specified.</li> <li>· By default, the username and password authentication method is disabled for Linux ECS instances.</li> </ul> |

| Name                           | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------|--------|----------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LaunchTemplateId               | String | No       | lt-m5eiaupmvm2op9dxxxxx | The ID of the instance launch template. For more information, call <a href="#">DescribeLaunchTemplates</a> . You must specify either the <code>LaunchTemplateId</code> parameter or the <code>LaunchTemplate</code> parameter to determine a launch template.                                                                                                                                 |
| LaunchTemplateName             | String | No       | JoshuaWinPrePaid        | The name of the instance launch template. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with <code>http://</code> or <code>https://</code> . It can contain letters, digits, colons (:), underscores (_), and hyphens (-).                                                                                                                     |
| NetworkInterface.N.Description | String | No       | FinnanceDept            | <p>The description of the ENI. The description must be 2 to 256 characters in length and cannot start with <code>http://</code> or <code>https://</code>.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter cannot be greater than 1.         </div> |

| Name                                    | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------|--------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkInterface.N.NetworkInterfaceName | String | No       | FinnanceJoshua          | <p>The name of the ENI.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter cannot be greater than 1.         </div>                                                                                                                |
| NetworkInterface.N.PrimaryIpAddress     | String | No       | 192.168.2.XXX           | <p>The primary private IP address of the ENI.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter cannot be greater than 1.         </div>                                                                                          |
| NetworkInterface.N.SecurityGroupId      | String | No       | sg-bp15ed6xe1yxeycg7ov3 | <p>The ID of the security group to which the ENI belongs. The security group of the ENI must belong to the same VPC as the instance.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter cannot be greater than 1.         </div> |

| Name                         | Type   | Required | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------|--------|----------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkInterface.N.VSwitchId | String | No       | vsw-bp1s5fnvk4gn2tw03ziX | <p>The ID of the VSwitch to which the ENI belongs. The instance must be in the same zone of the same VPC network as the ENI, but they can belong to different VSwitches.</p> <div>  <b>Note:</b><br/>           The value of N in the <code>NetworkInterface.N</code> parameter cannot be greater than 1.         </div> |
| NetworkType                  | String | No       | vpc                      | <p>The network type of the instance. Valid values:</p> <ul style="list-style-type: none"> <li>• classic</li> <li>• vpc</li> </ul>                                                                                                                                                                                                                                                                          |



| Name        | Type    | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|---------|----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Period      | Integer | No       | 1           | <p>The subscription duration.<br/>Unit: month. This parameter takes effect and is required only when the value of the <code>InstanceChargeType</code> parameter is set to <code>PrePaid</code>. If the <code>DedicatedHostId</code> parameter is specified, the value range of the <code>Period</code> parameter must be within the subscription period of the dedicated host. Valid values:</p> <ul style="list-style-type: none"> <li>When the <code>PeriodUnit</code> parameter is set to <code>Week</code>, the valid values of the <code>Period</code> parameter are {"1", "2", "3", "4"}.</li> <li>When the <code>PeriodUnit</code> parameter is set to <code>Month</code>, the valid values of the <code>Period</code> parameter are {"1", "2", "3", "4", "5", "6", "7", "8", "9", "12", "24", "36", "48", "60"}.</li> </ul> |
| RamRoleName | String  | No       | FinanceDept | <p>The RAM role name of the instance. You can call the RAM operation <a href="#">ListRoles</a> to query the RAM roles that you have created.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Name                         | Type    | Required | Example                 | Description                                                                                                                                                                                                                                                                                           |
|------------------------------|---------|----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ResourceGroupId              | String  | No       | rg-resourcegroupid      | <p>The ID of the resource group.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div>            |
| SecurityEnhancementsStrategy | String  | No       | Active                  | <p>Indicates whether to enable security hardening for the operating system. Valid values:</p> <ul style="list-style-type: none"> <li>Active: enables security hardening for public images.</li> <li>Deactive: disables security hardening for all images.</li> </ul>                                  |
| SecurityGroupId              | String  | No       | sg-bp15ed6xe1yxeycg7ov3 | <p>The ID of the security group to which the created instances belong. Instances within the same security group can access one another.</p>                                                                                                                                                           |
| SpotDuration                 | Integer | No       | 1                       | <p>The protection period of the instance.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |
| SpotPriceLimit               | Float   | No       | 0.97                    | <p>The maximum hourly price of the instance. This parameter supports up to three decimal places.</p>                                                                                                                                                                                                  |

| Name                  | Type   | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|--------|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotStrategy          | String | No       | NoSpot      | <p>The preemption policy of a Pay-As-You-Go instance. This parameter takes effect when the value of the <code>InstanceChargeType</code> parameter is <code>PostPaid</code>. Valid values:</p> <ul style="list-style-type: none"> <li><code>NoSpot</code>: a normal Pay-As-You-Go instance</li> <li><code>SpotWithPriceLimit</code>: a preemptible instance with a maximum hourly price</li> <li><code>SpotAsPriceGo</code>: an instance that is billed based on the actual market price</li> </ul> |
| SystemDiskCategory    | String | No       | cloud_ssd   | <p>The category of the system disk. Valid values:</p> <ul style="list-style-type: none"> <li><code>cloud</code>: basic disk</li> <li><code>cloud_efficiency</code>: ultra disk</li> <li><code>cloud_ssd</code>: SSD</li> <li><code>ephemeral_ssd</code>: local SSD</li> <li><code>cloud_essd</code>: ESSD</li> </ul>                                                                                                                                                                               |
| SystemDiskDescription | String | No       | FinanceDept | <p>The description of the system disk. The description must be 2 to 256 characters in length and cannot start with <code>http://</code> or <code>https://</code>.</p>                                                                                                                                                                                                                                                                                                                              |

| Name                     | Type    | Required | Example                | Description                                                                                                                                                                                                                           |
|--------------------------|---------|----------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk<br>. DiskName | String  | No       | cloud_ssdS<br>ystem    | The name of the system disk<br>. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). |
| SystemDisk<br>. Size     | Integer | No       | 40                     | The size of the system disk.<br>Unit: GiB. Valid values: 20 to 500.<br><br>The value of this parameter must be at least 20 GiB, or greater than or equal to the value of ImageSize.                                                   |
| Tag . N .<br>Key         | String  | No       | FinanceDept            | The tag key of an instance, disk , or NIC. Valid values of N: 1 to 5. It cannot be a null string . It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https ://.       |
| Tag . N .<br>Value       | String  | No       | FinanceDept.<br>Joshua | The tag value of an instance, disk, or NIC. Valid values of N : 1 to 5. It can be a null string . It can be a maximum of 128 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https ://.       |

| Name               | Type   | Required | Example                           | Description                                                                                                                                   |
|--------------------|--------|----------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| UserData           | String | No       | ZWNobyBoZW<br>xsbyBIY3Mh          | The custom data of the instance. It is encoded by using Base64. The maximum size of the raw data is 16 KB.                                    |
| VSwitchId          | String | No       | vsw-<br>bp1s5fnvk4<br>gn2tw03ziX  | The ID of the VSwitch. If you are creating VPC-type instances, you must specify this parameter.                                               |
| VersionDescription | String | No       | LTFinanceJ<br>oshua               | The description of instance launch template. The description must be 2 to 256 characters in length and cannot start with http:// or https://. |
| VpcId              | String | No       | vpc-<br>bp12433upq<br>1y5sceni07X | The ID of the VPC.                                                                                                                            |
| ZoneId             | String | No       | cn-hangzhou-g                     | The ID of the zone to which the instance belongs.                                                                                             |

#### Response parameters

| Name                        | Type   | Example                              | Description                                         |
|-----------------------------|--------|--------------------------------------|-----------------------------------------------------|
| LaunchTemplateVersionNumber | Long   | 2                                    | The version number of the instance launch template. |
| RequestId                   | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                              |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=CreateLaunchTemplate
Version
&RegionId=cn-hangzhou
&LaunchTemplateId=lt-m5eiaupmvm2op9dxxxxx
&LaunchTemplateName=JoshuaWinPrePaid
&VersionDescription=LTFinanceJoshua
&ImageId=win2008r2_64_ent_sp1_en-us_40G_alibase_20170915.vhd
&InstanceType=ecs.g5.large
&SecurityGroupIds=sg-bp15ed6xe1yxeycg7ov3
&VpcId=vpc-bp12433upq1y5sceni07X
&VSwitchId=vsw-bp1s5fnvk4gn2tws03ziX
&InstanceName=JoshuaHost
&Description=FinanceDept
&InternetMaxBandwidthIn=200
&InternetMaxBandwidthOut=5
&HostName=JoshuaHost
&ZoneId=cn-hangzhou-g
&SystemDisk.Category=cloud_ssd
&SystemDisk.Size=40
&SystemDisk.DiskName=cloud_ssd_System
&SystemDisk.Description=FinanceDept
&DataDisk.1.Size=2000
&DataDisk.1.SnapshotId=s-bp17441ohwka0yuhx3h0
&DataDisk.1.Category=cloud_ssd
&DataDisk.1.Encrypted=false
&DataDisk.1.DiskName=cloud_ssd_Data
&DataDisk.1.Description=FinanceDept
&DataDisk.1.DeleteWithInstance=true
&IoOptimized=optimized
&NetworkInterfaces.1.PrimaryIpAddress=192.168.2.XXX
&NetworkInterfaces.1.VSwitchId=vsw-bp1s5fnvk4gn2tws03ziX
&NetworkInterfaces.1.SecurityGroupId=sg-bp15ed6xe1yxeycg7ov3
&NetworkInterfaces.1.NetworkInterfaceName=FinnanceJoshua
&NetworkInterfaces.1.Description=FinanceDept
&InstanceChargeType=PrePaid
&Period=1
&InternetChargeType=PayByTraffic
&NetworkType=vpc
&UserData=ZWNoByBoZWxsbyBly3Mh
&KeyPairName=InstanceTest
&RamRoleName=FinanceDept
&AutoReleaseTime=2018-01-01T12:05:00Z
&SpotStrategy=NoSpot
&SpotPriceLimit=0.97
&SecurityEnhancementStrategy=Active
&Tag.1.Key=FinanceDept
&Tag.1.Value=FinanceDept.Joshua
&<Common request parameters>
```

### Successful response examples

**XML format**

```
< CreateLaunchTemplate VersionResponse >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx xx </
  RequestId >
  < LaunchTemplateLateVersionNumber > 2 </ LaunchTemplateLateVersion
  nNumber >
</ CreateLaunchTemplate VersionResponse >
```

**JSON format**

```
{
  "RequestId": "04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx xx",
  "LaunchTemplateLateVersionNumber": 2
}
```

**Error codes**

| HTTP status code | Error code                           | Error message | Description                                                                                         |
|------------------|--------------------------------------|---------------|-----------------------------------------------------------------------------------------------------|
| 400              | InvalidRegion.NotFound               | %s            | The error message returned when the specified region does not exist.                                |
| 403              | LaunchTemplateLateVersionLimitExceed | %s            | The error message returned when the number of launch template versions has reached the upper limit. |
| 404              | InvalidLaunchTemplate.NotFound       | %s            | The error message returned when the specified launch template name does not exist.                  |
| 400              | MissingParameter                     | %s            | The error message returned when a required parameter is not specified.                              |
| 400              | InvalidParameter                     | %s            | The error message returned when the parameter format is invalid.                                    |

| HTTP status code | Error code                          | Error message | Description                                                                                            |
|------------------|-------------------------------------|---------------|--------------------------------------------------------------------------------------------------------|
| 403              | InnerServiceFailed                  | %s            | The error message returned when an internal service failed to be called.                               |
| 400              | InvalidUserData.SizeExceeded        | %s            | The error message returned when the size of the specified custom data exceeds the limit.               |
| 400              | InvalidUserData.Base64FormatInvalid | %s            | The error message returned when the specified template version description is not formatted correctly. |

[View error codes](#)

## 7.3 DeleteLaunchTemplate

Deletes an instance launch template.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                                   |
|----------|--------|----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region to which the instance launch template belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |



| Name               | Type   | Required | Example                  | Description                                                                                                                                                                                                                             |
|--------------------|--------|----------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action             | String | No       | DeleteLaunchTemplate     | The operation that you want to perform. Set the value to DeleteLaunchTemplate.                                                                                                                                                          |
| LaunchTemplateId   | String | No       | lt-bp1apo0bbb-kuy0rj3b9X | The ID of the instance launch template. For more information, call <a href="#">DescribeLaunchTemplates</a> . You must specify either the LaunchTemplateId parameter or the LaunchTemplateName parameter to determine a launch template. |
| LaunchTemplateName | String | No       | JoshuaWinPostPaid        | The name of the instance launch template. You must specify either the LaunchTemplateId parameter or the LaunchTemplateName parameter to determine a launch template.                                                                    |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteLaunchTemplate
&RegionId=cn-hangzhou
&LaunchTemplateId=lt-bp1apo0bbb-kuy0rj3b9X
&LaunchTemplateName=JoshuaWinPostPaid
```

&< Common request parameters >

## Successful response examples

### XML format

```
< DeleteLaunchTemplateResponse >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx xx </
  RequestId >
</ DeleteLaunchTemplateResponse >
```

### JSON format

```
{
  "RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx xx "
}
```

## Error codes

| HTTP status code | Error code                | Error message | Description                                                              |
|------------------|---------------------------|---------------|--------------------------------------------------------------------------|
| 400              | InvalidRegion.NotFound    | %s            | The error message returned when the specified region does not exist.     |
| 400              | MissingParameter          | %s            | The error message returned when a required parameter is not specified.   |
| 400              | InvalidParameter          | %s            | The error message returned when the parameter format is invalid.         |
| 403              | InternalServerErrorFailed | %s            | The error message returned when an internal service failed to be called. |

[View error codes](#)

## 7.4 DeleteLaunchTemplateVersion

Deletes an instance launch template version. This operation does not delete the default version of an instance launch template. To delete the default version, you must call `DeleteLaunchTemplate` to delete the instance launch template.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name              | Type       | Required | Example                     | Description                                                                                                                                                                       |
|-------------------|------------|----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DeleteVersion . N | RepeatList | Yes      | 2                           | The version number of the template. Valid values of N: 1 to 29. You can call <a href="#">DescribeLaunchTemplateVersions</a> to query all versions of an instance launch template. |
| RegionId          | String     | Yes      | cn-hangzhou                 | The ID of the region to which the template belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                     |
| Action            | String     | No       | DeleteLaunchTemplateVersion | The operation that you want to perform. Set the value to <code>DeleteLaunchTemplateVersion</code> .                                                                               |
| LaunchTemplateId  | String     | No       | lt-bp1apo0bbbkuy0rj3b9X     | The ID of the instance launch template. For more information, call <a href="#">DescribeLaunchTemplates</a> .                                                                      |

| Name               | Type   | Required | Example               | Description                               |
|--------------------|--------|----------|-----------------------|-------------------------------------------|
| LaunchTemplateName | String | No       | JoshuaWinP<br>ostPaid | The name of the instance launch template. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteLaunchTemplateVersion
&DeleteVersion=1
&RegionId=cn-hangzhou
&LaunchTemplateId=lt-bp1apo0bbb-kuy0rj3b9X
&LaunchTemplateName=JoshuaWinP-ostPaid
&<Common request parameters>
```

#### Successful response examples

##### XML format

```
<DeleteLaunchTemplateVersionResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx-xx</RequestId>
</DeleteLaunchTemplateVersionResponse>
```

##### JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxx-xx"
}
```

### Error codes

| HTTP status code | Error code             | Error message | Description                                                          |
|------------------|------------------------|---------------|----------------------------------------------------------------------|
| 400              | InvalidRegion.NotFound | %s            | The error message returned when the specified region does not exist. |

| HTTP status code | Error code                | Error message | Description                                                              |
|------------------|---------------------------|---------------|--------------------------------------------------------------------------|
| 400              | MissingParameter          | %s            | The error message returned when a required parameter is not specified .  |
| 400              | InvalidParameter          | %s            | The error message returned when the parameter format is invalid.         |
| 403              | InternalServerErrorFailed | %s            | The error message returned when an internal service failed to be called. |

[View error codes](#)

## 7.5 DescribeLaunchTemplates

Queries one or more instance launch templates.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example                 | Description                                                                                                     |
|----------|--------|----------|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou             | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | DescribeLaunchTemplates | The operation that you want to perform. Set the value to DescribeLaunchTemplates.                               |

| Name                    | Type       | Required | Example                 | Description                                                                                                                                                                                                                                      |
|-------------------------|------------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LaunchTemplateId . N    | RepeatList | No       | lt-m5e3ofjr1zn1aw7qdxxx | The IDs of one or more instance launch templates to be queried. You can specify a maximum of 100 launch template IDs. You must specify either the LaunchTemplateId parameter or the LaunchTemplateName parameter to determine a launch template. |
| LaunchTemplateName . N  | RepeatList | No       | wd-1526307480xxx        | The names of one or more instance launch templates to be queried. You can specify a maximum of 100 launch template names.                                                                                                                        |
| PageNumber              | Integer    | No       | 1                       | The page number that you query in the instance launch template list. Starting value: 1.<br>Default value: 1.                                                                                                                                     |
| PageSize                | Integer    | No       | 10                      | The number of entries per page . Maximum value: 50.<br>Default value: 10.                                                                                                                                                                        |
| TemplateResourceGroupId | String     | No       | rg-resourcegroupid1     | The ID of the resource group to which the launch template belongs.                                                                                                                                                                               |
| TemplateTag . N . Key   | String     | No       | FinanceDept             | The tag key of the launch template. Valid values of N: 1 to 20.                                                                                                                                                                                  |

| Name                | Type   | Required | Example           | Description                                                       |
|---------------------|--------|----------|-------------------|-------------------------------------------------------------------|
| TemplateTag.N.Value | String | No       | FinanceDeptJoshua | The tag value of the launch template. Valid values of N: 1 to 20. |

## Response parameters

| Name                   | Type   | Example                 | Description                                                        |
|------------------------|--------|-------------------------|--------------------------------------------------------------------|
| LaunchTemplateSets     |        |                         | A set of instance launch templates.                                |
| └─CreateTime           | String | 2018-05-14T14:18:00Z    | The creation time of the instance launch template.                 |
| └─CreatedBy            | String | 1942111349714xxx        | The creator of the instance launch template.                       |
| └─DefaultVersionNumber | Long   | 1                       | The default version number of the template.                        |
| └─LatestVersionNumber  | Long   | 1                       | The latest version number of the template.                         |
| └─LaunchTemplateId     | String | lt-m5e3ofjr1zn1aw7qdxxx | The ID of the instance launch template.                            |
| └─LaunchTemplateName   | String | wd-1526307480xxx        | The name of the instance launch template.                          |
| └─ModifiedTime         | String | 2018-05-14T14:18:00Z    | The time when the template was last modified.                      |
| └─ResourceGroupId      | String | rg-resourcegroupid1     | The ID of the resource group to which the launch template belongs. |
| └─Tags                 |        |                         | The tag of the launch template.                                    |
| └─TagKey               | String | FinanceDept             | The tag key of the launch template.                                |

| Name                  | Type    | Example                              | Description                                                                                          |
|-----------------------|---------|--------------------------------------|------------------------------------------------------------------------------------------------------|
| <sup>L</sup> TagValue | String  | FinanceDep<br>tJoshua                | The tag value of the launch template.                                                                |
| PageNumber            | Integer | 1                                    | The current page number.                                                                             |
| PageSize              | Integer | 10                                   | The number of entries per page.                                                                      |
| RequestId             | String  | 04F0F334-1335-436C-A1D7-6C044FExxxxx | The ID of the request. This parameter is returned regardless of whether the operation is successful. |
| TotalCount            | Integer | 1                                    | The total number of instance launch templates.                                                       |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeLaunchTemplates
&RegionId=cn-hangzhou
&TemplateTag.1.Key=FinanceDept
&TemplateTag.1.Value=FinanceDeptJoshua
&LaunchTemplateId.1=lt-m5e3ofjr1zn1aw7qdxxx
&LaunchTemplateName.1=wd-1526307480xxx
&PageNumber=1
&PageSize=10
&TemplateResourceGroupId=rg-resourcegroupid1
&<Common request parameters>
```

### Successful response examples

#### XML format

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



```

    < LaunchTemp    lateName > wd - 1526307480   xxx </ LaunchTemp
lateName >
    < DefaultVer    sionNumber > 1 </ DefaultVer    sionNumber >
    < LatestVers    ionNumber > 1 </ LatestVers    ionNumber >
    < CreatedBy > 1942111349   714xxx </ CreatedBy >
    </ LaunchTemp    lateSet >
  </ LaunchTemp    lateSets >
</ DescribeLa    unchTempla    tesRespons    e >

```

### JSON format

```

{
  " PageNumber ": 1 ,
  " TotalCount ": 1 ,
  " LaunchTemp    lateSets ":{
    " LaunchTemp    lateSet ":[
      {
        " DefaultVer    sionNumber ": 1 ,
        " LaunchTemp    lateId ":" lt - m5e3ofjr1z   n1aw7qdxxx ",
        " LatestVers    ionNumber ": 1 ,
        " CreateTime ":" 2018 - 05 - 14T14 : 18 : 00Z ",
        " CreatedBy ":" 1942111349   714xxx ",
        " ModifiedTi    me ":" 2018 - 05 - 14T14 : 18 : 00Z ",
        " LaunchTemp    lateName ":" wd - 1526307480   xxx "
      }
    ]
  },
  " PageSize ": 10 ,
  " RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx   xx "
}

```

### Error codes

| HTTP status code | Error code                 | Error message | Description                                                             |
|------------------|----------------------------|---------------|-------------------------------------------------------------------------|
| 400              | InvalidRegion.<br>NotExist | %s            | The error message returned when the specified region does not exist.    |
| 400              | MissingPar<br>ameter       | %s            | The error message returned when a required parameter is not specified . |
| 400              | InvalidPar<br>ameter       | %s            | The error message returned when the parameter format is invalid.        |

| HTTP status code | Error code         | Error message | Description                                                              |
|------------------|--------------------|---------------|--------------------------------------------------------------------------|
| 403              | InnerServiceFailed | %s            | The error message returned when an internal service failed to be called. |

[View error codes](#)

## 7.6 DescribeLaunchTemplateVersions

Queries one or more instance launch template versions.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name           | Type    | Required | Example                        | Description                                                                                                                                                   |
|----------------|---------|----------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId       | String  | Yes      | cn-hangzhou                    | The ID of the region to which the instance launch template belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action         | String  | No       | DescribeLaunchTemplateVersions | The operation that you want to perform. Set the value to DescribeLaunchTemplateVersions.                                                                      |
| DefaultVersion | Boolean | No       | true                           | Indicates whether to query the default version.                                                                                                               |

| Name                      | Type       | Required | Example                 | Description                                                                                                                                                                                                                                                                                                  |
|---------------------------|------------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DetailFlag                | Boolean    | No       | true                    | Indicates whether the details tag is supported.<br><br><div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |
| LaunchTemplateId          | String     | No       | lt-launchtemplateid1    | The ID of the instance launch template. You must specify either the LaunchTemplateId parameter or the LaunchTemplateName parameter to determine a launch template.                                                                                                                                           |
| LaunchTemplateName        | String     | No       | FinanceJoshua           | The name of the instance launch template.                                                                                                                                                                                                                                                                    |
| LaunchTemplateVersion . N | RepeatList | No       | 1                       | One or more instance launch template versions.                                                                                                                                                                                                                                                               |
| MaxVersion                | Long       | No       | 10                      | The maximum version number when a range is used to specify the template.                                                                                                                                                                                                                                     |
| MinVersion                | Long       | No       | 1                       | The minimum version number when a range is used to specify the template.                                                                                                                                                                                                                                     |
| OwnerAccount              | String     | No       | EcsforCloud@Alibaba.com | The logon name of a RAM user.                                                                                                                                                                                                                                                                                |

| Name       | Type    | Required | Example | Description                                                                                                  |
|------------|---------|----------|---------|--------------------------------------------------------------------------------------------------------------|
| PageNumber | Integer | No       | 1       | The page number that you query in the instance launch template list. Starting value: 1.<br>Default value: 1. |
| PageSize   | Integer | No       | 10      | The number of entries per page.<br>Maximum value: 50.<br>Default value: 10.                                  |

## Response parameters

| Name                      | Type    | Example              | Description                                                             |
|---------------------------|---------|----------------------|-------------------------------------------------------------------------|
| LaunchTemplateVersionSets |         |                      | A set of template versions.                                             |
| └─CreateTime              | String  | 2018-05-14T14:18:00Z | The creation time of the template.                                      |
| └─CreatedBy               | String  | 1942111349714xxx     | The creator of the template.                                            |
| └─DefaultVersion          | Boolean | true                 | The default version of the template.                                    |
| └─LaunchTemplateData      |         |                      | The specific configurations of the template.                            |
| └─AutoReleaseTime         | String  | 2018-05-14T14:18:00Z | The automatic release time of the template.                             |
| └─DataDisks               |         |                      | A set of data disks.                                                    |
| └─Category                | String  | cloud_ssd            | The category of the data disk.                                          |
| └─DeleteWithInstance      | Boolean | true                 | Indicates whether the data disk is released together with the instance. |
| └─Description             | String  | FinanceDept          | The description of the data disk.                                       |

| Name                | Type    | Example       | Description                                                                                                                                                                                                                                                                                                                  |
|---------------------|---------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| └Device             | String  | /dev/xvda     | The device name of the data disk.                                                                                                                                                                                                                                                                                            |
| └DiskName           | String  | FinanceJoshua | The name of the data disk.                                                                                                                                                                                                                                                                                                   |
| └Encrypted          | String  | false         | Indicates whether the data disk is encrypted.                                                                                                                                                                                                                                                                                |
| └Size               | Integer | 2000          | The size of the data disk.                                                                                                                                                                                                                                                                                                   |
| └SnapshotId         | String  | s-snapshotid1 | The ID of the snapshot used to create the data disk.                                                                                                                                                                                                                                                                         |
| └Description        | String  | FinanceDept   | The description of the instance.                                                                                                                                                                                                                                                                                             |
| └EnableVmOsConfig   | Boolean | false         | Indicates whether the operating system configuration of the instance is enabled.<br><br><div>  <b>Note:</b><br/> This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. </div> |
| └HostName           | String  | JoshuaHost    | The hostname of the instance.                                                                                                                                                                                                                                                                                                |
| └ImageId            | String  | m-imagid1     | The ID of the image used by the instance.                                                                                                                                                                                                                                                                                    |
| └ImageOwnerAlias    | String  | system        | The source of the image.                                                                                                                                                                                                                                                                                                     |
| └InstanceChargeType | String  | Postpaid      | The billing method of the instance.                                                                                                                                                                                                                                                                                          |
| └InstanceName       | String  | FinanceJoshua | The name of the instance.                                                                                                                                                                                                                                                                                                    |
| └InstanceType       | String  | ecs.g5.large  | The instance type.                                                                                                                                                                                                                                                                                                           |

| Name                                 | Type    | Example             | Description                                                                     |
|--------------------------------------|---------|---------------------|---------------------------------------------------------------------------------|
| <code>InternetChargeType</code>      | String  | PayByTraffic        | The billing method of Internet bandwidth.                                       |
| <code>InternetMaxBandwidthIn</code>  | Integer | 5                   | The maximum inbound Internet bandwidth.                                         |
| <code>InternetMaxBandwidthOut</code> | Integer | 200                 | The maximum outbound Internet bandwidth.                                        |
| <code>IoOptimized</code>             | String  | none                | Indicates whether the instance is I/O optimized.                                |
| <code>KeyPairName</code>             | String  | FinanceJoshuaV25    | The name of the key pair.                                                       |
| <code>NetworkInterfaces</code>       |         |                     | The attributes of the ENI.                                                      |
| <code>Description</code>             | String  | FinanceDept         | The description of the ENI.                                                     |
| <code>NetworkInterfaceName</code>    | String  | FinanceJoshua       | The name of the ENI.                                                            |
| <code>PrimaryIpAddress</code>        | String  | 203.0.113.2         | The primary private IP address.                                                 |
| <code>SecurityGroupId</code>         | String  | sg-securitygroupid1 | The ID of the security group to which the ENI belongs.                          |
| <code>VSwitchId</code>               | String  | vsw-vswitchid1      | The ID of the VSwitch to which the ENI belongs.                                 |
| <code>NetworkType</code>             | String  | vpc                 | The network type.                                                               |
| <code>PasswordInherit</code>         | Boolean | true                | Indicates whether the username and password pair of the original image is used. |
| <code>Period</code>                  | Integer | 1                   | The duration of the subscription.                                               |

| Name                                      | Type    | Example             | Description                                                                                                                                                                                                                                                                               |
|-------------------------------------------|---------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└RamRoleName</code>                 | String  | FinanceDeptTest     | The RAM role name of the instance.                                                                                                                                                                                                                                                        |
| <code>└ResourceGroupId</code>             | String  | rg-resourcegroupid1 | The ID of the resource group to which the launch template belongs.                                                                                                                                                                                                                        |
| <code>└SecurityEnhancementStrategy</code> | String  | active              | Indicates whether to enable security hardening.                                                                                                                                                                                                                                           |
| <code>└SecurityGroupId</code>             | String  | sg-securitygroupid1 | The ID of the security group.                                                                                                                                                                                                                                                             |
| <code>└SpotDuration</code>                | Integer | 1                   | The protection period of the instance.                                                                                                                                                                                                                                                    |
| <code>└SpotPriceLimit</code>              | Float   | 0.98                | The maximum hourly price of the instance.                                                                                                                                                                                                                                                 |
| <code>└SpotStrategy</code>                | String  | NoSpot              | The bidding policy of a Pay-As-You-Go instance.                                                                                                                                                                                                                                           |
| <code>└SystemDisk.Category</code>         | String  | cloud_ssd           | The category of the system disk.                                                                                                                                                                                                                                                          |
| <code>└SystemDisk.Description</code>      | String  | FinanceDept         | The description of the system disk.                                                                                                                                                                                                                                                       |
| <code>└SystemDisk.DiskName</code>         | String  | FinanceJoshua       | The name of the system disk.                                                                                                                                                                                                                                                              |
| <code>SystemDisk.Iops</code>              | Integer | 30000               | The number of I/O operations per second for the system disk.<br><br> <b>Note:</b><br>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. |
| <code>└SystemDisk.Size</code>             | Integer | 80                  | The size of the system disk. Unit: GiB.                                                                                                                                                                                                                                                   |

| Name                | Type    | Example                              | Description                                                     |
|---------------------|---------|--------------------------------------|-----------------------------------------------------------------|
| └Tags               |         |                                      | The tag of the instance.                                        |
| └Key                | String  | FinanceDept                          | The tag key of the instance.                                    |
| └Value              | String  | FinanceDeptJoshua                    | The tag value of the instance.                                  |
| └UserData           | String  | SGVsbG9FQ1M=                         | The custom data of the instance. It is encoded by using Base64. |
| └VSwitchId          | String  | vsw-vswitchid2                       | The ID of the VSwitch to which the instance belongs.            |
| └VpcId              | String  | v-vpcid2                             | The ID of the VPC.                                              |
| └ZoneId             | String  | cn-hangzhou-g                        | The ID of the zone.                                             |
| └LaunchTemplateId   | String  | lt-launchtemplateid                  | The ID of the template.                                         |
| └LaunchTemplateName | String  | FinanceJoshua                        | The name of the template.                                       |
| └ModifiedTime       | String  | 2018-05-14T14:18:00Z                 | The time when the template was last modified.                   |
| └VersionDescription | String  | InitialVersion                       | The description of the template version.                        |
| └VersionNumber      | Long    | 1                                    | The version number of the template.                             |
| RequestId           | String  | 04F0F334-1335-436C-A1D7-6C044FExxxxx | The ID of the request.                                          |
| PageSize            | Integer | 10                                   | The number of entries per page.                                 |
| PageNumber          | Integer | 1                                    | The current page number.                                        |



| Name       | Type    | Example | Description                                    |
|------------|---------|---------|------------------------------------------------|
| TotalCount | Integer | 1       | The total number of instance launch templates. |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

```
<DescribeLaunchTemplateVersionsResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx</RequestId>
  <TotalCount>1</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <LaunchTemplateVersions>
    <LaunchTemplateVersionSet>
      <CreateTime>2018-05-14T14:18:00Z</CreateTime>
      <ModifiedTime>2018-05-14T14:18:00Z</ModifiedTime>
      <LaunchTemplateId>lt-m5e3ofjr1z-n1aw7xxxx</LaunchTemplateId>
      <LaunchTemplateName>wd-1526307480-xxx</LaunchTemplateName>
      <DefaultVersion>true</DefaultVersion>
      <VersionNumber>1</VersionNumber>
      <CreatedBy>1942111349-714xxx</CreatedBy>
      <VersionDescription>www</VersionDescription>
      <launchtemplatedata>
        <imageowneralias>ImageOwnerAlias1</imageowneralias>
      >
      <description>Description1</description>
      <resourcegroupid>ResourceGroupId1</resourcegroupid>
    >
    <datadisks>
      <datadisk>
        <snapshotid>SnapshotId1</snapshotid>
        <description>Description1</description>
        <category>cloud_efficiency</category>
        <encrypted>>false</encrypted>
        <size>44</size>
        <deletewithinstance>true</deletewithinstance>
        <diskname>DataDiskName1</diskname>
      </datadisk>
    </datadisks>
    <userdata>UserData1</userdata>
    <systemdisk.diskname>SystemDiskName1</systemdisk.diskname>
  </LaunchTemplateVersions>
</DescribeLaunchTemplateVersionsResponse>
```

```

    < systemdisk . size > 44 </ systemdisk . size >
    < ramrolenam e > RamRoleNam e1 </ ramrolenam e >
    < networktyp e > NetworkTyp e1 </ networktyp e >
    < networkint erfaces >
      < networkint erface >
        < descriptio n > Descriptio n1 </ descriptio n >
        < securitygr oupid > SecurityGr oupId1 </ securitygr
oupid >
        < vswitchid > VSwitchId1 </ vswitchid >
        < networkint erfacename > NetworkInt erfaceName 1 </
networkint erfacename >
        < primaryipa ddress > PrimaryIpA ddress1 </ primaryipa
ddress >
      </ networkint erface >
    </ networkint erfaces >
    < imageid > windows200 8 . vhd </ imageid >
    < spotpricel imit > 1 </ spotpricel imit >
    < systemdisk . category > cloud_effi ciency </ systemdisk .
category >
    < instancety pe > ecs . xn4 . small </ instancety pe >
    < spotstrate gy > SpotWithPr iceLimit </ spotstrate gy >
    < hostname > HostName1 </ hostname >
    < tags >
      < instanceta g >
        < value > bb </ value >
        < key > ss </ key >
      </ instanceta g >
    </ tags >
    < keypairnam e > KeyPairNam e1 </ keypairnam e >
    < systemdisk . iops > 22 </ systemdisk . iops >
    < iooptimize d > true </ iooptimize d >
    < zoneid > ZoneId1 </ zoneid >
    < systemdisk . descriptio n > SystemDisk Descriptio n1 </
systemdisk . descriptio n >
    < securitygr oupid > sg - tiantt1234 </ securitygr oupid >
    < vswitchid > vsw - xxxxxx </ vswitchid >
    < period > 1 </ period >
    < internetch argetype > PayByBandw idth </ internetch
argetype >
    < instancena me > InstanceNa me1 </ instancena me >
    < internetma xbandwidth out > 20 </ internetma xbandwidth
out >
    < internetma xbandwidth in > 1 </ internetma xbandwidth in
>
    < securityen hancements trategy > Active </ securityen
hancements trategy >
    < autoreleas etime > 2019 - 10 - 21T00 : 00 : 00Z </
autoreleas etime >
  </ launchtemp latedata >
  </ LaunchTemp lateVersio nSet >
  </ LaunchTemp lateVersio nSets >
</ DescribeLa unchTempla teVersions Response >

```

## JSON format

```

{
  " PageNumber ": 1 ,
  " TotalCount ": 1 ,
  " PageSize ": 10 ,
  " RequestId ": " 3989ED0C - 20A1 - 4351 - A127 - 2067FF8390 AX ",
  " LaunchTemp lateVersio nSets ": {
    " LaunchTemp lateVersio nSet ": [
      {

```

```

" LaunchTemp lateId ":" lt - bp16jovvln 1cgaaqg01X ",
" CreateTime ":" 2018 - 10 - 17T07 : 36 : 22Z ",
" CreatedBy ":" 1942111349 714xxx ",
" ModifiedTime ":" 2018 - 10 - 17T07 : 36 : 22Z ",
" VersionNumber ": 1 ,
" LaunchTemplateData ":{
  " ImageId ":" centos_7_0 4_64_20G_a libase_201 701015 . vhd ",
  " SecurityGroupId ":" sg - bplazkttqp ldxgtedupX ",
  " Description ":" DocV587 !",
  " NetworkInterfaces ":{
    " NetworkInterface ":[ ]
  },
  " DataDisks ":{
    " DataDisk ":[ ]
  },
  " SecurityEnhancementStrategy ":" Active ",
  " ZoneId ":" random ",
  " ImageOwnerAlias ":" system ",
  " InternetChargeType ":" PayByTraffic ",
  " VSwitchId ":" vsw - bp1s5fnvk4 gn2tws03zi X ",
  " VpcId ":" vpc - bp1opxu1zk hn00gzv26c X ",
  " HostName ":" LocalHost ",
  " InstanceType ":" ecs . g5 . large ",
  " IoOptimized ":" true ",
  " NetworkType ":" vpc ",
  " Tags ":{
    " InstanceTag ":[ ]
  },
  " InternetMaxBandwidth Out ": 5 ,
  " SystemDisk . Size ": 40 ,
  " SystemDisk . Category ":" cloud_efficiency ",
  " InstanceChargeType ":" PostPaid ",
  " InstanceName ":" JoshuaCent OSPAYG "
},
" DefaultVersion ": true ,
" LaunchTemplateLateName ":" JoshuaCent OSPAYG ",
" VersionDescription ":" EcsV587 !"
}
}
}
}
}

```

## Error codes

| HTTP status code | Error code             | Error message | Description                                                             |
|------------------|------------------------|---------------|-------------------------------------------------------------------------|
| 400              | InvalidRegion.NotFound | %s            | The error message returned when the specified region does not exist.    |
| 400              | MissingParameter       | %s            | The error message returned when a required parameter is not specified . |

| HTTP status code | Error code                     | Error message                              | Description                                                                   |
|------------------|--------------------------------|--------------------------------------------|-------------------------------------------------------------------------------|
| 400              | InvalidParameter               | %s                                         | The error message returned when the parameter format is invalid.              |
| 404              | InvalidLaunchTemplate.NotFound | The specified LaunchTemplate is not found. | The error message returned when the specified launch template does not exist. |
| 403              | InternalServerErrorFailed      | %s                                         | The error message returned when an internal service failed to be called.      |

[View error codes](#)

## 7.7 ModifyLaunchTemplateDefaultVersion

Modifies the default version of a launch template. If you do not specify a template version number when creating an instance (RunInstances), the default version will be used.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name                 | Type | Required | Example | Description                                                  |
|----------------------|------|----------|---------|--------------------------------------------------------------|
| DefaultVersionNumber | Long | Yes      | 2       | The default version number for the instance launch template. |

| Name               | Type   | Required | Example                            | Description                                                                                                                                                          |
|--------------------|--------|----------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId           | String | Yes      | cn-hangzhou                        | The ID of the region to which the template belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                        |
| Action             | String | No       | ModifyLaunchTemplateDefaultVersion | The operation that you want to perform. Set the value to ModifyLaunchTemplateDefaultVersion.                                                                         |
| LaunchTemplateId   | String | No       | lt-templateid1                     | The ID of the instance launch template. You must specify either the LaunchTemplateId parameter or the LaunchTemplateName parameter to determine a launch template.   |
| LaunchTemplateName | String | No       | lt-name1                           | The name of the instance launch template. You must specify either the LaunchTemplateId parameter or the LaunchTemplateName parameter to determine a launch template. |

#### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyLaunchTemplate
DefaultVersion
&DefaultVersionNumber=2
&RegionId=cn-hangzhou
&LaunchTemplateId=lt-templateid-1
&LaunchTemplateName=lt-name1
<Common request parameters>
```

### Successful response examples

#### XML format

```
<ModifyLaunchTemplateDefaultVersionResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx-xx</
  RequestId>
</ModifyLaunchTemplateDefaultVersionResponse>
```

#### JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxx-xx"
}
```

## Error codes

| HTTP status code | Error code                         | Error message | Description                                                                        |
|------------------|------------------------------------|---------------|------------------------------------------------------------------------------------|
| 400              | InvalidRegion.NotFound             | %s            | The error message returned when the specified region does not exist.               |
| 404              | InvalidLaunchTemplateName.NotFound | %s            | The error message returned when the specified launch template name does not exist. |
| 400              | MissingParameter                   | %s            | The error message returned when a required parameter is not specified.             |

| HTTP status code | Error code                | Error message | Description                                                              |
|------------------|---------------------------|---------------|--------------------------------------------------------------------------|
| 400              | InvalidParameter          | %s            | The error message returned when the parameter format is invalid.         |
| 403              | InternalServerErrorFailed | %s            | The error message returned when an internal service failed to be called. |

[View error codes](#)

## 8 Auto provisioning group

---

### 8.1 CreateAutoProvisioningGroup

You can call this operation to create an auto provisioning group.

Auto Provisioning is free to use. However, instance resources created through auto provisioning will incur charges. For more information on pricing, see [Preemptible instance](#) and [Pay-as-you-go](#).

#### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

#### Request parameters

| Parameter        | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|--------|----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LaunchTemplateId | String | Yes      | lt-bp1fgzds4bdogu03**** | <p>The ID of the instance launch template associated with the auto provisioning group. You can call the <a href="#">DescribeLaunchTemplates</a> operation to query available instance launch templates.</p> <p>An auto provisioning group can be associated with only one instance launch template. But you can configure multiple extended configurations for the launch template through the LaunchTemplateConfig parameter.</p> |



| Parameter                 | Type   | Required | Example                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|--------|----------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId                  | String | Yes      | cn-hangzhou                 | The region ID of the auto provisioning group. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list.                                                                                                                                                                                                                                                                                                                                      |
| TotalTargetCapacity       | String | Yes      | 60                          | The total target capacity of the auto provisioning group. The target capacity consists of the following three parts: <ul style="list-style-type: none"> <li>• The target capacity of pay-as-you-go instances specified by the PayAsYouGoTargetCapacity parameter</li> <li>• The target capacity of preemptible instances specified by the SpotTargetCapacity parameter</li> <li>• The supplemental capacity besides PayAsYouGoTargetCapacity and SpotTargetCapacity</li> </ul> |
| Action                    | String | No       | CreateAutoProvisioningGroup | The operation that you want to perform. Set this parameter to CreateAutoProvisioningGroup.                                                                                                                                                                                                                                                                                                                                                                                     |
| AutoProvisioningGroupName | String | No       | apg-test                    | The name of the auto provisioning group to be created. It must be 2 to 128 characters in length. It must start with a letter but cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).                                                                                                                                                                                                                          |

| Parameter                 | Type   | Required | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|--------|----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AutoProvisioningGroupType | String | No       | maintain | <p>The type of the auto provisioning group. Valid values:</p> <ul style="list-style-type: none"><li>• request: One-time delivery. After the auto provisioning group is started, it only attempts to create an instance cluster once. If the cluster fails to be created, the group does not try again.</li><li>• maintain: The continuous delivery and maintain capacity type. After the auto provisioning group is started, it continuously attempts to create and maintain the instance cluster. The auto provisioning group compares the real-time and target capacity of the cluster. If the cluster does not meet the target capacity, the group will create instances until the cluster meets the target capacity.</li></ul> <p>Default value: maintain</p> |

| Parameter                 | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------|--------|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DefaultTargetCapacityType | String | No       | Spot    | <p>The type of supplemental instances. When the total value of PayAsYouGoTargetCapacity and SpotTargetCapacity is smaller than the value of TotalTargetCapacity, the auto provisioning group will create instances of the specified type to meet the capacity requirements. Valid values:</p> <ul style="list-style-type: none"><li>· PayAsYouGo: Pay-as-you-go instances.</li><li>· Spot: Preemptible instances.</li></ul> <p>Default value: Spot</p> |
| Description               | String | No       | test    | The description of the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                        |

| Parameter                           | Type    | Required | Example      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------|---------|----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ExcessCapacityTerminationPolicy     | String  | No       | termination  | <p>The shutdown policy for excess preemptible instances followed when the capacity of the auto provisioning group exceeds the target capacity.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>no-termination: Excess preemptible instances are not shut down.</li> <li>termination: Excess preemptible instances are to be shut down. The action to be performed on these shutdown instances is specified by the SpotInstanceInterruptionBehavior parameter.</li> </ul> <p>Default value: no-termination</p> |
| LaunchTemplateConfig.N.InstanceType | String  | No       | ecs.g5.large | The instance type of the Nth extended configurations of the launch template.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| LaunchTemplateConfig.N.MaxPrice     | Double  | No       | 3            | The maximum price of the instance type specified in the Nth extended configurations of the launch template.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LaunchTemplateConfig.N.Priority     | Integer | No       | 1            | The priority of the instance type specified in the Nth extended configurations of the launch template. A value of 0 indicates the highest priority.                                                                                                                                                                                                                                                                                                                                                                           |

| Parameter                               | Type   | Required | Example                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------|--------|----------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LaunchTemplateConfig.N.VSwitchId        | String | No       | vsw-sn5bsitu4lfzgc5o7**** | The ID of the VSwitch in the Nth extended configurations of the launch template.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LaunchTemplateConfig.N.WeightedCapacity | Double | No       | 2                         | <p>The weight of the instance type specified in the Nth extended configurations of the launch template.</p> <p>The weight is calculated based on the computing power of a specified instance type and the minimum computing power of a single node of the cluster. A greater weight indicates that the instance has more computing power, and as a result fewer instances are required.</p> <p>For example, when the minimum computing power of a single node is 8 vCPUs and 60 GiB of memory, the weight of the instance type with 8 vCPUs and 60 GiB of memory is 1, and the weight of the instance type with 16 vCPUs and 120 GiB of memory is 2.</p> |

| Parameter                    | Type   | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|--------|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LaunchTemplateVersion        | String | No       | 1           | The version of the instance launch template associated with the auto provisioning group. You can call the <a href="#">DescribeLaunchTemplateVersions</a> operation to query the versions of available instance launch templates.                                                                                                                                                                                                                                                                                                       |
| MaxSpotPrice                 | Float  | No       | 2           | The global maximum price for preemptible instances in the auto provisioning group. If both the MaxSpotPrice and LaunchTemplateConfig.N.MaxPrice parameters are specified, the maximum price is the lower value of the two.                                                                                                                                                                                                                                                                                                             |
| PayAsYouGoAllocationStrategy | String | No       | prioritized | <p>The scale-out policy for pay-as-you-go instances. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>lowest-price:</b> The cost optimization policy the auto provisioning group follows to select instance types of the lowest cost to create instances.</li> <li>• <b>prioritized:</b> The priority-based policy the auto provisioning group follows to create instances. The priority of an instance type is specified by the LaunchTemplateConfig.N.Priority parameter.</li> </ul> <p>Default value: lowest-price</p> |

| Parameter                        | Type   | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------|--------|----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PayAsYouGoTargetCapacity         | String | No       | 30          | The target capacity of pay-as-you-go instances in the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SpotAllocationStrategy           | String | No       | diversified | <p>The scale-out policy for preemptible instances. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>lowest-price:</b> The cost optimization policy the auto provisioning group follows to select instance types of the lowest cost to create instances.</li> <li>• <b>diversified:</b> The distribution balancing policy the auto provisioning group follows to evenly create instances across zones specified in multiple extended template configurations.</li> </ul> <p>Default value: lowest-price</p> |
| SpotInstanceInterruptionBehavior | String | No       | terminate   | <p>The default behavior after preemptible instances are shut down. Value values:</p> <ul style="list-style-type: none"> <li>• <b>stop:</b> stops preemptible instances.</li> <li>• <b>terminate:</b> releases preemptible instances.</li> </ul> <p>Default value: stop</p>                                                                                                                                                                                                                                              |

| Parameter                        | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------|---------|----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotInstancePoolsToUseCount      | Integer | No       | 2       | This parameter takes effect when the SpotAllocationStrategy parameter is set to lowest-price. The auto provisioning group selects instance types of the lowest cost to create instances.                                                                                                                                                                                                            |
| SpotTargetCapacity               | String  | No       | 20      | The target capacity of preemptible instances in the auto provisioning group.                                                                                                                                                                                                                                                                                                                        |
| TerminateInstances               | Boolean | No       | true    | Specifies whether to release instances of the auto provisioning group. Valid values: <ul style="list-style-type: none"> <li>· true</li> <li>· false</li> </ul> Default: false                                                                                                                                                                                                                       |
| TerminateInstancesWithExpiration | Boolean | No       | true    | The shutdown policy for preemptible instances when the auto provisioning group expires. Valid values: <ul style="list-style-type: none"> <li>· true: shuts down preemptible instances. The action to be performed on these shutdown instances is specified by the SpotInstanceInterruptionBehavior parameter.</li> <li>· false: does not shut down preemptible instances.</li> </ul> Default: false |



| Parameter  | Type   | Required | Example              | Description                                                                                                                                                                                                                                                                                                              |
|------------|--------|----------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ValidFrom  | String | No       | 2019-04-01T15:10:20Z | <p>The time when the auto provisioning group is started. The period of time between this point in time and the point in time specified by the ValidUntil parameter is the effective time period of the auto provisioning group.</p> <p>By default, an auto provisioning group is immediately started after creation.</p> |
| ValidUntil | String | No       | 2019-06-01T15:10:20Z | <p>The time when the auto provisioning group expires. The period of time between this point in time and the point in time specified by the ValidFrom parameter is the effective time period of the auto provisioning group.</p> <p>By default, an auto provisioning group never expires.</p>                             |

#### Response parameters

| Parameter               | Type   | Example                              | Description                            |
|-------------------------|--------|--------------------------------------|----------------------------------------|
| AutoProvisioningGroupId | String | apg-sn54avj8htgvtyh8****             | The ID of the auto provisioning group. |
| RequestId               | String | 745CEC9F-0DD7-4451-9FE7-8B752F39**** | The ID of the request.                 |

## Examples

### Sample requests

```
http ( s ):// ecs . aliyuncs . com /? Action = CreateAuto
Provisioni ngGroup
& LaunchTemp lateId = lt - bp1fgzds4b dogu03 ****
& RegionId = cn - hangzhou
& TotalTarge tCapacity = 60
&< Common request parameters >
```

### Sample success responses

#### XML format

```
< CreateAuto Provisioni ngGroupRes ponse >
  < CreateAuto Provisioni ngGroupId > apg - sn54avj8ht gvtyh8
  ****</ CreateAuto Provisioni ngGroupId >
  < RequestId > 745CEC9F - 0DD7 - 4451 - 9FE7 - 8B752F39 ****</
  RequestId >
</ CreateAuto Provisioni ngGroupRes ponse >
```

#### JSON format

```
{
  " RequestId ":" 745CEC9F - 0DD7 - 4451 - 9FE7 - 8B752F39 ****",
  " CreateAuto Provisioni ngGroupId ":" apg - sn54avj8ht gvtyh8
  ****"
}
```

## Error codes

| HTTP status code | Error code          | Error message                                                | Description                                                                                                                    |
|------------------|---------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 500              | InternalServerError | The request processing has failed due to some unknown error. | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket. |

### [View error codes](#)

## 8.2 ModifyAutoProvisioningGroup

You can call this operation to modify the configurations of an auto provisioning group.

Before you call this operation, take note of the following points:

- If you modify the capacity or capacity-related settings of an auto provisioning group, the group will execute scheduling tasks once after modification.
- You cannot modify an auto provisioning group when the group is being deleted.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Parameter               | Type   | Required | Example                     | Description                                                                                |
|-------------------------|--------|----------|-----------------------------|--------------------------------------------------------------------------------------------|
| RegionId                | String | Yes      | cn-hangzhou                 | The region ID of the auto provisioning group to be modified.                               |
| Action                  | String | No       | ModifyAutoProvisioningGroup | The operation that you want to perform. Set this parameter to ModifyAutoProvisioningGroup. |
| AutoProvisioningGroupId | String | No       | apg-uf6jel2bbl62wh13****    | The ID of the auto provisioning group to be modified.                                      |

| Parameter                 | Type   | Required | Example    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|--------|----------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DefaultTargetCapacityType | String | No       | PayAsYouGo | <p>The type of supplemental instances. When the total value of <code>PayAsYouGoTargetCapacity</code> and <code>SpotTargetCapacity</code> is smaller than the value of <code>TotalTargetCapacity</code>, the auto provisioning group will create instances of the specified type to meet the capacity requirements. Valid values:</p> <ul style="list-style-type: none"><li>• <code>PayAsYouGo</code>: Pay-as-you-go instances.</li><li>• <code>Spot</code>: Preemptible instances.</li></ul> |

| Parameter                       | Type   | Required | Example        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|--------|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ExcessCapacityTerminationPolicy | String | No       | no-termination | <p>The shutdown policy of the auto provisioning group for excess preemptible instances when the target capacity has been exceeded. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>no-termination:</b> Excess preemptible instances are not shut down.</li> <li>• <b>termination:</b> Excess preemptible instances are to be shut down. The action to be performed on these shutdown instances is specified by the <code>SpotInstanceInterruptionBehavior</code> parameter.</li> </ul> <div>  <b>Note:</b><br/> The <code>SpotInstanceInterruptionBehavior</code> parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>. </div> |

| Parameter                | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|--------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MaxSpotPrice             | Float  | No       | 8       | <p>The global maximum price for preemptible instances in the auto provisioning group. If both the MaxSpotPrice and LaunchTemplateConfig.N.MaxPrice parameters are specified, the maximum price is the lower value of the two.</p> <div>  <b>Note:</b><br/>           The LaunchTemplateConfig.N.MaxPrice parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>.         </div> |
| PayAsYouGoTargetCapacity | String | No       | 5       | The target capacity of pay-as-you-go instances in the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SpotTargetCapacity       | String | No       | 5       | The target capacity of preemptible instances in the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Parameter                        | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------|---------|----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TerminateInstancesWithExpiration | Boolean | No       | false   | <p>The shutdown policy for preemptible instances when the auto provisioning group expires. Valid values:</p> <ul style="list-style-type: none"> <li>· true: shuts down preemptible instances. The action to be performed on these shutdown instances is specified by the SpotInstanceInterruptionBehavior parameter.</li> <li>· false: does not shut down preemptible instances.</li> </ul> <div>  <b>Note:</b><br/>           The SpotInstanceInterruptionBehavior parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>.         </div> |
| TotalTargetCapacity              | String  | No       | 10      | <p>The total capacity of the auto provisioning group. The capacity consists of the following three parts:</p> <ul style="list-style-type: none"> <li>· The target capacity of pay-as-you-go instances specified by the PayAsYouGoTargetCapacity parameter</li> <li>· The target capacity of preemptible instances specified by the SpotTargetCapacity parameter</li> <li>· The supplemental capacity besides PayAsYouGoTargetCapacity and SpotTargetCapacity</li> </ul>                                                                                                                                                                                                                                                                  |

## Response parameters

| Parameter | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | B48A12CD-1295-4A38-A8F0-0E92C937**** | The ID of the request. |

## Examples

### Sample requests

```
http ( s ) : // ecs . aliyuncs . com / ? Action = ModifyAutoProvisioningGroup
& RegionId = cn - hangzhou
& AutoProvisioningGroupId = apg - uf6jel2bbl 62wh13 ****
&< Common request parameters >
```

### Sample success responses

#### XML format

```
< ModifyAutoProvisioningGroupResponse >
  < RequestId > 928E2273 - 5715 - 46B9 - A730 - 238DC996 ****</
  RequestId >
</ ModifyAutoProvisioningGroupResponse >
```

#### JSON format

```
{
  "RequestId ":" B48A12CD - 1295 - 4A38 - A8F0 - 0E92C937 ****"
}
```

## Error codes

| HTTP status code | Error code    | Description                                                                                | Error message                                                      |
|------------------|---------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| 403              | Forbidden.RAM | User not authorized to operate on the specified resource, or this API doesn't support RAM. | The error message returned because the RAM user is not authorized. |

### [View error codes](#)



## 8.3 DeleteAutoProvisioningGroup

You can call this operation to delete an auto provisioning group.

When deleting an auto provisioning group, you can use the `TerminateInstances` parameter to specify the behavior of the instances within the group.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Parameter                            | Type    | Required | Example                     | Description                                                                                                                                                 |
|--------------------------------------|---------|----------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>AutoProvisioningGroupId</code> | String  | Yes      | apg-uf6jel2bbl62wh13****    | The ID of the auto provisioning group to be deleted.                                                                                                        |
| <code>RegionId</code>                | String  | Yes      | cn-hangzhou                 | The region ID of the auto provisioning group.                                                                                                               |
| <code>TerminateInstances</code>      | Boolean | Yes      | true                        | Specifies whether to release instances of the auto provisioning group. Valid values: <ul style="list-style-type: none"><li>· true</li><li>· false</li></ul> |
| <code>Action</code>                  | String  | No       | DeleteAutoProvisioningGroup | The operation that you want to perform. Set this parameter to <code>DeleteAutoProvisioningGroup</code> .                                                    |

### Response parameters

| Parameter              | Type   | Example                              | Description            |
|------------------------|--------|--------------------------------------|------------------------|
| <code>RequestId</code> | String | B48A12CD-1295-4A38-A8F0-0E92C937**** | The ID of the request. |

## Examples

### Sample requests

```
http ( s ):// ecs . aliyuncs . com /? Action = DeleteAuto
Provisioni ngGroup
& AutoProvis ioningGrou pId = fleet - uf6jel2bbl 62wh13 ****
& RegionId = cn - hangzhou
& TerminateI nstances = true
&< Common request parameters >
```

### Sample success responses

#### XML format

```
< DeleteAuto Provisioni ngGroupRes ponse >
  < RequestId > 928E2273 - 5715 - 46B9 - A730 - 238DC996 ****</
  RequestId >
</ DeleteAuto Provisioni ngGroupRes ponse >
```

#### JSON format

```
{
  " RequestId ":" B48A12CD - 1295 - 4A38 - A8F0 - 0E92C937 ****"
}
```

## Error codes

| HTTP status code | Error code    | Error message                                                                              | Description                                                        |
|------------------|---------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| 403              | Forbidden.RAM | User not authorized to operate on the specified resource, or this API doesn't support RAM. | The error message returned because the RAM user is not authorized. |

[View error codes](#)

## 8.4 DescribeAutoProvisioningGroups

You can call this operation to query auto provisioning groups.

## Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter                   | Type       | Required | Example                        | Description                                                                                   |
|-----------------------------|------------|----------|--------------------------------|-----------------------------------------------------------------------------------------------|
| RegionId                    | String     | Yes      | cn-hangzhou                    | The region ID of the auto provisioning group.                                                 |
| Action                      | String     | No       | DescribeAutoProvisioningGroups | The operation that you want to perform. Set this parameter to DescribeAutoProvisioningGroups. |
| AutoProvisioningGroupId . N | RepeatList | No       | apg-sn54avj8htgvtyh8****       | The ID of the auto provisioning group to be queried.                                          |
| AutoProvisioningGroupName   | String     | No       | test                           | The name of the auto provisioning group to be queried.                                        |

| Parameter                       | Type       | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|------------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AutoProvisioningGroupStatus . N | RepeatList | No       | active  | <p>The status of the auto provisioning group to be queried. Valid values:</p> <ul style="list-style-type: none"> <li>· submitted: The auto provisioning group has been created but has not started to execute scheduling tasks.</li> <li>· active: The auto provisioning group is executing scheduling tasks.</li> <li>· deleted: The auto provisioning group has been deleted.</li> <li>· deleted-running: The auto provisioning group is being deleted.</li> <li>· modifying: The auto provisioning group is being modified.</li> </ul> |
| PageNumber                      | Integer    | No       | 1       | The number of the page to return. Pages start from page 1. Default value: 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| PageSize                        | Integer    | No       | 10      | The number of entries to return on each page. Maximum value: 100. Default value: 10.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

#### Response parameters

| Parameter                  | Type   | Example                  | Description                                             |
|----------------------------|--------|--------------------------|---------------------------------------------------------|
| AutoProvisioningGroups     |        |                          | The information about queried auto provisioning groups. |
| └ AutoProvisioningGroup.Id | String | apg-sn54avj8htgvtyh8**** | The ID of the auto provisioning group.                  |

| Parameter                               | Type   | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------|--------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└AutoProvisioningGroupName</code> | String | apg-test             | The name of the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>└AutoProvisioningGroupType</code> | String | maintain             | <p>The type of the auto provisioning group. Valid values:</p> <ul style="list-style-type: none"> <li>· request: The one-time delivery type. After the auto provisioning group is started, it only attempts to create an instance cluster once. If the cluster fails to be created, the group does not try again.</li> <li>· maintain: The continuous delivery and maintain capacity type. After the auto provisioning group is started, it continuously attempts to create and maintain the instance cluster. The auto provisioning group compares the real-time and target capacity of the cluster. If the cluster does not meet the target capacity, the group will create instances until the cluster meets the target capacity.</li> </ul> |
| <code>└CreationTime</code>              | String | 2019-04-01T15:10:20Z | The time when the auto provisioning group was created.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Parameter                                      | Type   | Example      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------|--------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└─ExcessCapacityTerminationPolicy</code> | String | termination  | <p>The shutdown policy of the auto provisioning group for excess preemptible instances when the target capacity has been exceeded.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>no-termination: Excess preemptible instances are not shut down.</li> <li>termination: Excess preemptible instances are to be shut down. The action to be performed on these shutdown instances is specified by the <code>SpotInstanceInterruptionBehavior</code> parameter.</li> </ul> <div>  <p><b>Note:</b><br/>The <code>SpotInstanceInterruptionBehavior</code> parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>.</p> </div> |
| <code>└─LaunchTemplateConfigs</code>           |        |              | The extended configurations of the launch template for the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <code>└─InstanceType</code>                    | String | ecs.g5.large | The instance type specified in extended configurations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>└─MaxPrice</code>                        | Float  | 3            | The maximum price of the instance type specified in extended configurations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Parameter                           | Type   | Example                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------|--------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└Priority</code>              | Float  | 1                         | The priority of the instance type specified in extended configurations. A value of 0 indicates the highest priority.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>└VSwitchId</code>             | String | vsw-sn5bsitu4lfzgc5o7**** | The ID of the VSwitch in extended configurations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>└WeightedCapacity</code>      | Float  | 2                         | The weight of the instance type specified in extended configurations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <code>└LaunchTemplateId</code>      | String | lt-bp1fgzds4bdogu03****   | The ID of the launch template associated with the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>└LaunchTemplateVersion</code> | String | 1                         | The version of the launch template associated with the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>└MaxSpotPrice</code>          | Float  | 2                         | <p>The global maximum price for preemptible instances in the auto provisioning group. If both the <code>MaxSpotPrice</code> and <code>LaunchTemplateConfig.N.MaxPrice</code> parameters are specified, the maximum price is the lower value of the two.</p> <div>  <b>Note:</b><br/>           The <code>LaunchTemplateConfig.N.MaxPrice</code> parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>.         </div> |

| Parameter             | Type   | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|--------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| └ PayAsYouGo Options  |        |             | The policies related with pay-as-you-go instances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| └ Allocation Strategy | String | prioritized | <p>The scale-out policy for pay-as-you-go instances. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>lowest-price:</b> The cost optimization policy the auto provisioning group follows to select instance types of the lowest cost to create instances.</li> <li>· <b>prioritized:</b> The priority-based policy the auto provisioning group follows to create instances. The priority of an instance type is specified by the LaunchTemplateConfig.N. Priority parameter.</li> </ul> <div>  <b>Note:</b><br/>           The LaunchTemplateConfig.N. Priority parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>.         </div> |
| └ RegionId            | String | cn-hangzhou | The region ID of the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| └ SpotOptions         |        |             | The policy of preemptible instances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



| Parameter                                  | Type    | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------|---------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└AllocationStrategy</code>           | String  | diversified | <p>The scale-out policy for preemptible instances. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>lowest-price:</b> The cost optimization policy the auto provisioning group follows to select instance types of the lowest cost to create instances.</li> <li>· <b>diversified:</b> The distribution balancing policy the auto provisioning group follows to create instances evenly across multiple zones specified in extended template configurations.</li> </ul>                                                                         |
| <code>└InstanceInterruptionBehavior</code> | String  | stop        | <p>The default behavior after preemptible instances are shut down. Value values:</p> <ul style="list-style-type: none"> <li>· <b>stop:</b> stops preemptible instances.</li> <li>· <b>terminate:</b> releases preemptible instances.</li> </ul>                                                                                                                                                                                                                                                                                                              |
| <code>└InstancePoolsToUseCount</code>      | Integer | 2           | <p>This parameter takes effect when the <code>SpotAllocationStrategy</code> parameter is set to <code>lowest-price</code>. The auto provisioning group selects the instance types of the lowest cost to create instances.</p> <div>  <b>Note:</b><br/> The <code>SpotAllocationStrategy</code> parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>. </div> |

| Parameter                                 | Type   | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└State</code>                       | String | fulfilled | <p>The overall status of instance scheduling of the auto provisioning group. Valid values:</p> <ul style="list-style-type: none"> <li>• fulfilled: Scheduling has been completed and the instance cluster has been delivered.</li> <li>• pending-fulfillment: The instances are being created.</li> <li>• pending-termination: The instances are being removed.</li> <li>• error: An exception has occurred during scheduling and the instance cluster was not delivered.</li> </ul>                                        |
| <code>└Status</code>                      | String | submitted | <p>The status of the auto provisioning group. Valid values:</p> <ul style="list-style-type: none"> <li>• submitted: The auto provisioning group has been created but has not started to execute scheduling tasks.</li> <li>• active: The auto provisioning group is executing scheduling tasks.</li> <li>• deleted: The auto provisioning group has been deleted.</li> <li>• deleted-running: The auto provisioning group is being deleted.</li> <li>• modifying: The auto provisioning group is being modified.</li> </ul> |
| <code>└TargetCapacitySpecification</code> |        |           | The settings of the target capacity of the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Parameter                               | Type   | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|--------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└DefaultTargetCapacityType</code> | String | Spot    | The type of supplemental instances. When the total value of <code>PayAsYouGoTargetCapacity</code> and <code>SpotTargetCapacity</code> is smaller than the value of <code>TotalTargetCapacity</code> , the auto provisioning group will create instances of the specified type to meet the capacity requirements. Valid values: <ul style="list-style-type: none"> <li>PayAsYouGo: Pay-as-you-go instances.</li> <li>Spot: Preemptible instances.</li> </ul>                                                     |
| <code>└PayAsYouGoTargetCapacity</code>  | Float  | 30      | The target capacity of pay-as-you-go instances in the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>└SpotTargetCapacity</code>        | Float  | 20      | The target capacity of preemptible instances in the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>└TotalTargetCapacity</code>       | Float  | 60      | The total capacity of the auto provisioning group. The capacity consists of the following three parts : <ul style="list-style-type: none"> <li>The target capacity of pay-as-you-go instances specified by the <code>PayAsYouGoTargetCapacity</code> parameter</li> <li>The target capacity of preemptible instances specified by the <code>SpotTargetCapacity</code> parameter</li> <li>The supplemental capacity besides <code>PayAsYouGoTargetCapacity</code> and <code>SpotTargetCapacity</code></li> </ul> |

| Parameter                                      | Type    | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------|---------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>⌞TerminateInstances</code>               | Boolean | false                | Indicates whether to release instances of the auto provisioning group. Valid values: <ul style="list-style-type: none"> <li>· true</li> <li>· false</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <code>⌞TerminateInstancesWithExpiration</code> | Boolean | true                 | The shutdown policy for preemptible instances when the auto provisioning group expires. Valid values: <ul style="list-style-type: none"> <li>· true: shuts down preemptible instances. The action to be performed on these shutdown instances is specified by the <code>SpotInstanceInterruptionBehavior</code> parameter.</li> <li>· false: does not shut down preemptible instances.</li> </ul> <div>  <b>Note:</b><br/>The <code>SpotInstanceInterruptionBehavior</code> parameter is set during the auto provisioning group creation process and cannot be modified. For more information, see <a href="#">CreateAutoProvisioningGroup</a>. </div> |
| <code>⌞ValidFrom</code>                        | String  | 2019-04-01T15:10:20Z | The time when the auto provisioning group was started. The period of time between this point in time and the point in time specified by the <code>ValidUntil</code> parameter is the effective time period of the auto provisioning group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Parameter               | Type    | Example                              | Description                                                                                                                                                                                                              |
|-------------------------|---------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>ValidUntil</code> | String  | 2019-06-01T15:10:20Z                 | The time when the auto provisioning group expires. The period of time between this point in time and the point in time specified by the ValidFrom parameter is the effective time period of the auto provisioning group. |
| <code>PageNumber</code> | Integer | 1                                    | The number of the page returned.                                                                                                                                                                                         |
| <code>PageSize</code>   | Integer | 10                                   | The number of entries returned on each page.                                                                                                                                                                             |
| <code>RequestId</code>  | String  | 745CEC9F-0DD7-4451-9FE7-8B752F39**** | The ID of the request.                                                                                                                                                                                                   |
| <code>TotalCount</code> | Integer | 10                                   | The number of queried auto provisioning groups.                                                                                                                                                                          |

## Examples

### Sample requests

```
http ( s ) : // ecs . aliyuncs . com / ? Action = DescribeAutoProvisioningGroups
& AutoProvisioningGroupId . 1 = apg - sn54avj8ht gvt8h8 ****
& < Common request parameters >
```

### Sample success responses

#### XML format

```
< DescribeAutoProvisioningGroups >
  < PageNumber > 1 </ PageNumber >
  < TotalCount > 1 </ TotalCount >
  < PageSize > 10 </ PageSize >
  < RequestId > 85331AC9 - 82C0 - 4604 - 9A14 - 048865BE ****</
RequestId >
  < AutoProvisioningGroups >
    < AutoProvisioningGroup >
      < TerminateInstancesWithExpiration > false </ TerminateI
nstancesWithExpiration >
      < TerminateInstances > false </ TerminateInstances >
      < ValidFrom > 2019 - 06 - 17T15 : 22Z </ ValidFrom >
```

```

    < AutoProvis ioningGrou pType > maintain </ AutoProvis
ioningGrou pType >
    < PayAsYouGo Options >
    < Allocation Strategy > lowest - price </ Allocation
Strategy >
    </ PayAsYouGo Options >
    < AutoProvis ioningGrou pName > test61 ****</ AutoProvis
ioningGrou pName >
    < CreationTi me />
    < ExcessCapa cityTermin ationPolic y > no - terminatio n </
ExcessCapa cityTermin ationPolic y >
    < Status > active </ Status >
    < MaxSpotPri ce > 5 </ MaxSpotPri ce >
    < LaunchTemp lateVersio n > 1 </ LaunchTemp lateVersio n >
    < ValidUntil > 2100 - 01 - 01T07 : 59Z </ ValidUntil >
    < TargetCapa citySpecif ication >
    < SpotTarget Capacity > 180 </ SpotTarget Capacity >
    < TotalTarge tCapacity > 300 </ TotalTarge tCapacity >
    < PayAsYouGo TargetCapa city > 120 </ PayAsYouGo
TargetCapa city >
    < DefaultTar getCapacit yType > PayAsYouGo </ DefaultTar
getCapacit yType >
    </ TargetCapa citySpecif ication >
    < State > fulfilled </ State >
    < LaunchTemp lateId > lt - uf657o6auo b6aivd ****</
LaunchTemp lateId >
    < RegionId > cn - shanghai </ RegionId >
    < AutoProvis ioningGrou pId > apg - uf6c7pl7b3 0t4m98 ****</
AutoProvis ioningGrou pId >
    < SpotOption s >
    < InstancePo olsToUseCo unt > 1 </ InstancePo olsToUseCo
unt >
    < InstanceIn terruption Behavior > terminate </ InstanceIn
terruption Behavior >
    < Allocation Strategy > lowest - price </ Allocation
Strategy >
    </ SpotOption s >
    < LaunchTemp lateConfig s >
    < LaunchTemp lateConfig >
    < MaxPrice > 3 </ MaxPrice >
    < WeightedCa pacity > 1 </ WeightedCa pacity >
    < VSwitchId > vsw - uf6qbjwokz l67uqqf ****</ VSwitchId >
    < Priority > 1 </ Priority >
    < InstanceTy pe > ecs . c5 . xlarge </ InstanceTy pe >
    </ LaunchTemp lateConfig >
    < LaunchTemp lateConfig >
    < MaxPrice > 2 </ MaxPrice >
    < WeightedCa pacity > 2 </ WeightedCa pacity >
    < VSwitchId > vsw - uf6n6iy1ib 39eqvph ****</ VSwitchId >
    < Priority > 1 </ Priority >
    < InstanceTy pe > ecs . g5 . large </ InstanceTy pe >
    </ LaunchTemp lateConfig >
    < LaunchTemp lateConfig >
    < MaxPrice > 1 </ MaxPrice >
    < WeightedCa pacity > 3 </ WeightedCa pacity >
    < VSwitchId > vsw - uf6gs8uerj 5osels4 ****</ VSwitchId >
    < Priority > 1 </ Priority >
    < InstanceTy pe > ecs . hfc5 . large </ InstanceTy pe >
    </ LaunchTemp lateConfig >
    </ LaunchTemp lateConfig s >
    </ AutoProvis ioningGrou p >
</ AutoProvis ioningGrou ps >

```

```
</ DescribeAutoProvisioningGroups >
```

### JSON format

```
{
  "PageNumber": 1,
  "TotalCount": 1,
  "PageSize": 10,
  "RequestId": "85331AC9 - 82C0 - 4604 - 9A14 - 048865BE ****",
  "AutoProvisioningGroups": {
    "AutoProvisioningGroup": [
      {
        "TerminateInstancesWithExpiration": false,
        "TerminateInstances": false,
        "ValidFrom": "2019 - 06 - 17T15 : 22Z",
        "AutoProvisioningGroupType": "maintain",
        "PayAsYouGoOptions": {
          "AllocationStrategy": "lowest - price"
        },
        "AutoProvisioningGroupName": "test61 ****",
        "CreationTime": "",
        "ExcessCapacityTerminationPolicy": "no - termination",
        "Status": "active",
        "MaxSpotPrice": 5,
        "LaunchTemplateVersion": "1",
        "ValidUntil": "2100 - 01 - 01T07 : 59Z",
        "LaunchTemplateId": "lt - uf657o6auo b6aivd ****",
        "State": "fulfilled",
        "TargetCapacitySpecification": {
          "TotalTargetCapacity": 300,
          "SpotTargetCapacity": 180,
          "PayAsYouGoTargetCapacity": 120,
          "DefaultTargetCapacityType": "PayAsYouGo"
        },
        "RegionId": "cn - shanghai",
        "AutoProvisioningGroupId": "apg - uf6c7pl7b3 0t4m98 ****",
        "SpotOptions": {
          "InstancePoolsToUseCount": 1,
          "InstanceInterruptionBehavior": "terminate",
          "AllocationStrategy": "lowest - price"
        },
        "LaunchTemplateConfigs": {
          "LaunchTemplateConfig": [
            {
              "MaxPrice": 3,
              "WeightedCapacity": 1,
              "VSwitchId": "vsw - uf6qbjwokz l67uqqf ****",
              "InstanceType": "ecs . c5 . xlarge",
              "Priority": 1
            },
            {
              "MaxPrice": 2,
              "WeightedCapacity": 2,
              "VSwitchId": "vsw - uf6n6iy1ib 39eqvph ****",
              "InstanceType": "ecs . g5 . large",
              "Priority": 1
            },
            {
              "MaxPrice": 1,
              "WeightedCapacity": 3,
              "VSwitchId": "vsw - uf6gs8uerj 5osels4 ****",
              "InstanceType": "ecs . hfc5 . large",
              "Priority": 1
            }
          ]
        }
      }
    ]
  }
}
```

```
}  
]  
}  
}  
]  
}  
}
```

#### Error codes

| HTTP status code | Error code               | Error message                    | Description                                                                 |
|------------------|--------------------------|----------------------------------|-----------------------------------------------------------------------------|
| 400              | MissingParamter.RegionId | The regionId should not be null. | The error message returned because the RegionId parameter is not specified. |

[View error codes](#)

## 8.5 DescribeAutoProvisioningGroupInstances

You can call this operation to query instances in an auto provisioning group.

#### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

#### Request parameters

| Parameter               | Type   | Required | Example                  | Description                                                         |
|-------------------------|--------|----------|--------------------------|---------------------------------------------------------------------|
| AutoProvisioningGroupId | String | Yes      | apg-uf6jel2bbl62wh13**** | The ID of the auto provisioning group for which to query instances. |
| RegionId                | String | Yes      | cn-hangzhou              | The region ID of the auto provisioning group.                       |



| Parameter  | Type    | Required | Example                                | Description                                                                                           |
|------------|---------|----------|----------------------------------------|-------------------------------------------------------------------------------------------------------|
| Action     | String  | No       | DescribeAutoProvisioningGroupInstances | The operation that you want to perform. Set this parameter to DescribeAutoProvisioningGroupInstances. |
| PageNumber | Integer | No       | 1                                      | The number of the page to return. Pages start from page 1. Default value: 1.                          |
| PageSize   | Integer | No       | 10                                     | The number of entries to return on each page. Maximum value: 100. Default value: 10.                  |

## Response parameters

| Parameter     | Type    | Example           | Description                                                             |
|---------------|---------|-------------------|-------------------------------------------------------------------------|
| Instances     |         |                   | The information about all the instances in the auto provisioning group. |
| └CPU          | Integer | 2                 | The number of vCPUs.                                                    |
| └CreationTime | String  | 2017-12-10T04:04Z | The time when the instance was created.                                 |
| └InstanceId   | String  | i-instanc****     | The ID of the instance.                                                 |
| └InstanceType | String  | ecs.g5.large      | The type of the instance.                                               |
| └IoOptimized  | Boolean | true              | Indicates whether the instance is I/O optimized.                        |
| └IsSpot       | Boolean | true              | Indicates whether the instance is preemptible.                          |

| Parameter                | Type    | Example                              | Description                                                                                                                       |
|--------------------------|---------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <code>Memory</code>      | Integer | 1024                                 | The memory size of the instance.<br>Unit: MiB.                                                                                    |
| <code>NetworkType</code> | String  | vpc                                  | The network type of the instance.<br>Valid values: <ul style="list-style-type: none"> <li>vpc</li> <li>classic</li> </ul>         |
| <code>OsType</code>      | String  | linux                                | The operating system type of the instance. Valid values: <ul style="list-style-type: none"> <li>windows</li> <li>linux</li> </ul> |
| <code>RegionId</code>    | String  | cn-hangzhou                          | The region ID of the instance.                                                                                                    |
| <code>Status</code>      | String  | Running                              | The status of the instance.                                                                                                       |
| <code>ZoneId</code>      | String  | cn-hangzhou-g                        | The zone ID of the instance.                                                                                                      |
| <code>PageNumber</code>  | Integer | 1                                    | The number of the page to return.                                                                                                 |
| <code>PageSize</code>    | Integer | 10                                   | The number of entries to return on each page.                                                                                     |
| <code>RequestId</code>   | String  | B48A12CD-1295-4A38-A8F0-0E92C937**** | The ID of the request.                                                                                                            |
| <code>TotalCount</code>  | Integer | 10                                   | The number of queried instances in the auto provisioning group.                                                                   |

## Examples

### Sample requests

```
http (s)://ecs.aliyuncs.com/? Action = DescribeAutoProvisioningGroupInstances
$ AutoProvisioningGroupId = apg-uf6jel2bbl62wh13****
```

&< Common request parameters >

## Sample success responses

### XML format

```
< DescribeAutoProvisioningGroupInstancesResponse >
  < PageNumber > 1 </ PageNumber >
  < TotalCount > 100 </ TotalCount >
  < PageSize > 2 </ PageSize >
  < RequestId > A43735F7 - 30BD - 4D89 - AB8A - 030EB24B ****</
RequestId >
  < Instances >
    < Instance >
      < CreationTime > 2019 - 06 - 17T15 : 25Z </ CreationTime >
      < IoOptimized > true </ IoOptimized >
      < OsType > linux </ OsType >
      < NetworkType > vpc </ NetworkType >
      < Status > Running </ Status >
      < Memory > 8192 </ Memory >
      < RegionId > cn - shanghai </ RegionId >
      < InstanceId > i - uf64neea72 - piruk0 ****</ InstanceId >
      < CPU > 2 </ CPU >
      < ZoneId > cn - shanghai - a </ ZoneId >
      < InstanceType > ecs . g5 . large </ InstanceType >
    </ Instance >
    < Instance >
      < CreationTime > 2019 - 06 - 17T15 : 25Z </ CreationTime >
      < IoOptimized > true </ IoOptimized >
      < OsType > linux </ OsType >
      < NetworkType > vpc </ NetworkType >
      < Status > Running </ Status >
      < Memory > 8192 </ Memory >
      < RegionId > cn - shanghai </ RegionId >
      < InstanceId > i - uf64neea72 - piruk0 ****</ InstanceId >
      < CPU > 2 </ CPU >
      < ZoneId > cn - shanghai - a </ ZoneId >
      < InstanceType > ecs . g5 . large </ InstanceType >
    </ Instance >
  </ Instances >
</ DescribeAutoProvisioningGroupInstancesResponse >
```

### JSON format

```
{
  "PageNumber": 1,
  "TotalCount": 100,
  "PageSize": 2,
  "RequestId": "A43735F7 - 30BD - 4D89 - AB8A - 030EB24B ****",
  "Instances": {
    "Instance": [
      {
        "IoOptimized": true,
        "CreationTime": "2019 - 06 - 17T15 : 25Z",
        "Status": "Running",
        "NetworkType": "vpc",
        "OsType": "linux",
        "Memory": 8192,
        "InstanceId": "i - uf64neea72 - piruk0 ****",
        "RegionId": "cn - shanghai",
        "CPU": 2,

```

```

    " ZoneId ":" cn - shanghai - a ",
    " InstanceTy pe ":" ecs . g5 . large "
  },
  {
    " IoOptimize d ": true ,
    " CreationTi me ":" 2019 - 06 - 17T15 : 25Z ",
    " Status ":" Running ",
    " NetworkTyp e ":" vpc ",
    " OsType ":" linux ",
    " Memory ": 8192 ,
    " InstanceId ":" i - uf64neea72 piruk0 ****",
    " RegionId ":" cn - shanghai ",
    " CPU ": 2 ,
    " ZoneId ":" cn - shanghai - a ",
    " InstanceTy pe ":" ecs . g5 . large "
  }
]
}
}

```

### Error codes

| HTTP status code | Error code               | Error message                                                                              | Description                                                                 |
|------------------|--------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 403              | Forbidden.RAM            | User not authorized to operate on the specified resource, or this API doesn't support RAM. | The error message returned because the RAM user is not authorized.          |
| 400              | MissingParamter.RegionId | The regionId should not be null.                                                           | The error message returned because the RegionId parameter is not specified. |

[View error codes](#)

## 8.6 DescribeAutoProvisioningGroupHistory

You can call this operation to query the scheduling tasks of an auto provisioning group.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter               | Type   | Required | Example                              | Description                                                                                                                                                                      |
|-------------------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AutoProvisioningGroupId | String | Yes      | apg-uf6jel2bbl62wh13****             | The ID of the auto provisioning group for which to query scheduling tasks.                                                                                                       |
| RegionId                | String | Yes      | cn-hangzhou                          | The region ID of the auto provisioning group.                                                                                                                                    |
| Action                  | String | No       | DescribeAutoProvisioningGroupHistory | The operation that you want to perform. Set this parameter to DescribeAutoProvisioningGroupHistory.                                                                              |
| EndTime                 | String | No       | 2019-06-20T15:10:20Z                 | The end of the time range where the data is queried. The period of time between this point in time and the point in time specified by StartTime is the time range for query.     |
| StartTime               | String | No       | 2019-04-01T15:10:20Z                 | The beginning of the time range where the data is queried. The period of time between this point in time and the point in time specified by EndTime is the time range for query. |

## Response parameters

| Parameter                      | Type | Example | Description                                 |
|--------------------------------|------|---------|---------------------------------------------|
| AutoProvisioningGroupHistories |      |         | The information about all scheduling tasks. |

| Parameter                    | Type   | Example                                                           | Description                                                                                                                                                                                                                                                                                                                             |
|------------------------------|--------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>ActivityDetails</code> |        |                                                                   | The detailed information about a single scheduling task.                                                                                                                                                                                                                                                                                |
| <code>Detail</code>          | String | New ECS instances "i-<br>instanc****, i-<br>instanc****" created. | The execution details of instance creation performed by a single scheduling task.                                                                                                                                                                                                                                                       |
| <code>Status</code>          | String | Successful                                                        | The execution status of instance creation performed by a single scheduling task. Valid values: <ul style="list-style-type: none"> <li>Successful: Instances are created.</li> <li>Failed: Instances failed to be created.</li> <li>InProgress: Instances are being created.</li> <li>Warning: Partial instances are created.</li> </ul> |
| <code>LastEventTime</code>   | String | 2019-04-01T15:10:20Z                                              | The execution time of the last instance creation performed by a single scheduling task.                                                                                                                                                                                                                                                 |
| <code>StartTime</code>       | String | 2019-04-01T15:10:20Z                                              | The execution time of a single scheduling task.                                                                                                                                                                                                                                                                                         |
| <code>Status</code>          | String | success                                                           | The execution status of a single scheduling task. Valid values: <ul style="list-style-type: none"> <li>prepare: The scheduling task is being executed.</li> <li>success: The scheduling task is executed.</li> <li>failed: The scheduling task failed to be executed.</li> </ul>                                                        |
| <code>TaskId</code>          | String | apg-task-uf60<br>****                                             | The ID of the scheduling task.                                                                                                                                                                                                                                                                                                          |

| Parameter  | Type    | Example                              | Description                                                            |
|------------|---------|--------------------------------------|------------------------------------------------------------------------|
| PageNumber | Integer | 1                                    | The number of the page returned.                                       |
| PageSize   | Integer | 10                                   | The number of entries returned on each page.                           |
| RequestId  | String  | B48A12CD-1295-4A38-A8F0-0E92C937**** | The ID of the request.                                                 |
| TotalCount | Integer | 10                                   | The number of queried scheduling tasks in the auto provisioning group. |

## Examples

### Sample requests

```
http ( s ) : // ecs . aliyuncs . com / ? Action = DescribeAutoProvisioningGroupHistory
& AutoProvisioningGroupId = apg - uf6jel2bbl 62wh13 ****
& RegionId = cn - hangzhou
&< Common request parameters >
```

### Sample success responses

#### XML format

```
< DescribeAutoProvisioningGroups >
  < PageNumber > 1 </ PageNumber >
  < TotalCount > 1 </ TotalCount >
  < PageSize > 10 </ PageSize >
  < RequestId > 85331AC9 - 82C0 - 4604 - 9A14 - 048865BE76 03 </ RequestId >
  < AutoProvisioningGroupHistorys >
    < AutoProvisioningGroupHistory >
      < Status > success </ Status >
      < ActivityDetails >
        < ActivityDetail />
      </ ActivityDetails >
      < LastEventTime > 2019 - 06 - 17T08 : 48 : 00Z </ LastEventTime >
      < StartTime > 2019 - 06 - 17T08 : 47 : 52Z </ StartTime >
      < TaskId > apg - task - uf66bqtabg 10wcf6 **** </ TaskId >
    </ AutoProvisioningGroupHistory >
  </ AutoProvisioningGroupHistorys >
```

```
</ DescribeAutoProvisioningGroups >
```

### JSON format

```
{
  "PageNumber": 1,
  "TotalCount": 1,
  "PageSize": 10,
  "RequestId": "BA55349F - 6E36 - 4E64 - 964B - 419515D1 ****",
  "AutoProvisioningGroupHistorys": {
    "AutoProvisioningGroupHistory": [
      {
        "Status": "success",
        "LastEventTime": "2019 - 06 - 17T08 : 48 : 00Z",
        "ActivityDetails": {
          "ActivityDetail": []
        },
        "TaskId": "apg - task - uf66bqtabg_10wcf6 ****",
        "StartTime": "2019 - 06 - 17T08 : 47 : 52Z"
      }
    ]
  }
}
```

### Error codes

| HTTP status code | Error code                | Error message                                                                              | Description                                                                 |
|------------------|---------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 403              | Forbidden.RAM             | User not authorized to operate on the specified resource, or this API doesn't support RAM. | The error message returned because the RAM user is not authorized.          |
| 400              | MissingParameter.RegionId | The regionId should not be null.                                                           | The error message returned because the RegionId parameter is not specified. |

[View error codes](#)



# 9 Disks

---

## 9.1 CreateDisk

Creates a Pay-As-You-Go or Subscription data disk. You can create a basic disk, an Ultra disk, or an SSD disk.

### Description

- To ensure that instances can be successfully created, you must maintain a sufficient balance in your linked credit card or PayPal account. For more information, see [Charging overview](#).
- By default, the `DeleteAutoSnapshot` parameter is set to true when a disk is created. This indicates that when the disk is released, snapshots that were created from the disk are deleted together with the disk. You can call [ModifyDiskAttribute](#) to modify the parameter value.
- The default performance level of an ESSD cloud disk is PL1 if you do not specify the performance level when you create the ESSD cloud disk. You can call [ModifyDiskSpec](#) to modify the performance level of an ESSD cloud disk.
- By default, the `Portable` attribute of disks created by calling this operation is set to true, and the billing method is Pay-As-You-Go.
- You must specify either the `Size` or `SnapshotId` parameter. The `Size` parameter specifies the size of the disk and the `SnapshotId` parameter specifies the snapshot that is used to create the disk.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|--------|----------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId   | String | Yes      | cn-hangzhou           | The ID of the region to which the instance belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Action     | String | No       | CreateDisk            | The operation that you want to perform. Set the value to CreateDisk.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ZoneId     | String | No       | cn-hangzhou-g         | Creates a Pay-As-You-Go disk in a specified availability zone. You cannot specify ZoneId and InstanceId simultaneously.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| InstanceId | String | No       | i-bp1g6zv0ce8og*****p | <p>Creates a Subscription disk and the system automatically attaches it to a Subscription instance with the InstanceId you specified.</p> <ul style="list-style-type: none"> <li>If you enter the InstanceId in this request, the ResourceGroupId, Tag.N, Key, Tag.N.Value, ClientToken, and KMSKeyId are not effective any longer.</li> <li>You cannot specify ZoneId and InstanceId simultaneously.</li> </ul> <p>Default value: null, which indicates you create a Pay-As-You-Go disk. While you must specify the ZoneId if you choose the default setting for InstanceId.</p> |

| Name         | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                          |
|--------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken  | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotence</a> . |
| Description  | String | No       | FinanceDisk                          | The description of the disk. The description must be 2 to 256 characters in length and cannot start with http:// or https://. Default value: null.                                                                                                                                                                   |
| DiskCategory | String | No       | cloud_ssd                            | The category of the data disk. Valid values: <ul style="list-style-type: none"> <li>cloud: basic disk</li> <li>cloud_efficiency: ultra disk</li> <li>cloud_ssd: SSD</li> <li>cloud_essd: ESSD</li> </ul> Default value: cloud.                                                                                       |
| DiskName     | String | No       | FinanceJoshua                        | The name of the disk. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). Default value: null.                                                                      |

| Name            | Type    | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                |
|-----------------|---------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Encrypted       | Boolean | No       | false                                | Indicates whether the disk is encrypted. Default value: false.                                                                                                                                                                                                                                                             |
| KMSKeyId        | String  | No       | 0e478b7a-4262-4802-b8cb-00d3fb40826X | The ID of the KMS key corresponding to the data disk.                                                                                                                                                                                                                                                                      |
| ResourceGroupId | String  | No       | rg-resourcegroupid1                  | The ID of the resource group to which the disk belongs.                                                                                                                                                                                                                                                                    |
| Size            | Integer | No       | 2000                                 | The size of the disk. Unit: GiB. The value of this parameter must be equal to or greater than the size of the specified snapshot. Valid values: <ul style="list-style-type: none"> <li>cloud: 5 to 2000</li> <li>cloud_efficiency: 20 to 32768</li> <li>cloud_ssd: 20 to 32768</li> <li>cloud_essd: 20 to 32768</li> </ul> |
| SnapshotId      | String  | No       | s-snapshot1                          | The ID of the snapshot used to create the disk. If this parameter is specified, the Size parameter will be ignored, and the size of the created disk will be the size of the specified snapshot. The specified snapshot cannot be created on or before July 15, 2013.                                                      |

| Name             | Type   | Required | Example           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|--------|----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . Key    | String | No       | FinanceDept       | The tag key of the disk. Valid values of N: 1 to 20. It cannot be a null string. It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.                                                                                                                                                                                                                                                                                                      |
| Tag . N . Value  | String | No       | FinanceDeptJoshua | The tag value of the disk. Valid values of N: 1 to 20. It can be a null string. It can be a maximum of 128 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.                                                                                                                                                                                                                                                                                                      |
| PerformanceLevel | String | No       | PL1               | <p>The performance level you select for an ESSD cloud disk. Valid values:</p> <ul style="list-style-type: none"> <li>• PL1 (default value): The maximum random read/write IOPS of a single disk is 50,000.</li> <li>• PL2 : The maximum random read/write IOPS of a single disk is 100,000.</li> <li>• PL3 : The maximum random read/write IOPS of a single disk is 1,000,000.</li> </ul> <p>For information about how to select a performance level for an ESSD cloud disk, see <a href="#">#unique_247</a>.</p> |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| DiskId    | String | d-bp131n0q38u3a4ziXXXXX              | The ID of the disk.    |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=CreateDisk
&RegionId=cn-hangzhou
&ZoneId=cn-hangzhou-g
&SnapshotId=s-snapshot1
&DiskName=FinanceJos_hua
&Size=2000
&DiskCategory=cloud_ssd
&Description=FinanceDisk
&Encrypted=false
&ClientToken=123e4567-e89b-12d3-a456-426655440000
&Tag.1.value=FinanceDeptJoshua
&Tag.1.key=FinanceDept
&Tag.1.Key=FinanceDept
&Tag.1.Value=FinanceDeptJoshua
<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Errors

| HTTP status code | Error code                               | Error message                                                                            | Meaning                                                                                                                           |
|------------------|------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidDataDiskCategory.<br>NotSupported | Specified disk category is not supported.                                                | The error message returned when the specified disk category does not support this operation.                                      |
| 404              | InvalidRegionId.<br>NotFound             | The specified RegionId does not exist.                                                   | The error message returned when the specified Region ID does not exist. Check whether the service is available in this region.    |
| 404              | InvalidZoneId.<br>NotFound               | The specified zone does not exist.                                                       | The error message returned when the specified zone does not exist.                                                                |
| 403              | InvalidSnapshot.<br>TooOld               | This operation is forbidden because the specified snapshot is created before 2013-07-15. | The error message returned when the specified source snapshot was created on or before July 15, 2013 and cannot be reinitialized. |
| 403              | InvalidSnapshot.<br>TooLarge             | The capacity of snapshot exceeds 2000GB.                                                 | The error message returned when the size of the specified snapshot exceeds 2,000 GB.                                              |
| 403              | OperationDenied                          | The specified snapshot is not allowed to create disk.                                    | The error message returned when the specified snapshot cannot be used to create a disk.                                           |
| 400              | MissingParameter                         | The input parameter either SnapshotId or Size should be specified.                       | The error message returned when neither the SnapshotId parameter nor the Size parameter is specified.                             |

| HTTP status code | Error code                                | Error message                                          | Meaning                                                                                       |
|------------------|-------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 403              | InvalidDiskCategory.<br>ValueUnauthorized | The disk category is not authorized.                   | The error message returned when you are not authorized to use the specified disk category.    |
| 403              | InvalidSnapshotId.<br>NotReady            | The specified snapshot has not completed yet.          | The error message returned when the specified snapshot is being created.                      |
| 403              | InvalidDiskSize.<br>TooSmall              | Specified disk size is less than the size of snapshot. | The error message returned when the specified disk size is smaller than that of the snapshot. |
| 403              | OperationDenied                           | The type of the disk does not support the operation.   | The error message returned when the specified data disk type does not support this operation. |
| 403              | InvalidDataDiskCategory.<br>NotSupported  | %s                                                     | The error message returned when the specified data disk type does not support this operation. |
| 400              | Account.<br>Arrearage                     | Your account has an outstanding payment.               | The error message returned when your account has overdue payments.                            |
| 400              | InvalidDiskCategory.<br>ValueNotSupported | The specified parameter DiskCategory is not valid.     | The error message returned when the specified value of the DiskCategory parameter is invalid. |



| HTTP status code | Error code                                    | Error message                                          | Meaning                                                                                                               |
|------------------|-----------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidAccountStatus.<br>NotEnoughBalance     | Your account does not have enough balance.             | The error message returned when your account balance is insufficient. You must top up your account before proceeding. |
| 400              | InvalidDataDiskCategory.<br>ValueNotSupported | %s                                                     | The error message returned when the parameter is not supported.                                                       |
| 400              | InvalidParameter.Conflict                     | %s                                                     | The error message returned when the parameter conflicts with another parameter.                                       |
| 400              | InvalidDataDiskSize.<br>ValueNotSupported     | %s                                                     | The error message returned when the parameter is not supported.                                                       |
| 400              | OperationDenied                               | The specified Zone is not available or not authorized. | The error message returned when the specified zone is unavailable or you are not authorized to access it.             |
| 403              | InvalidDiskCategory.<br>NotSupported          | The specified disk category is not supported.          | The error message returned when the specified disk category is not supported.                                         |
| 403              | InvalidDiskSize.<br>NotSupported              | The specified disk size is not supported.              | The error message returned when the specified disk size is not supported.                                             |
| 400              | InvalidDiskSize.<br>NotSupported              | The specified parameter size is not valid.             | The error message returned when the specified Size parameter is invalid.                                              |

| HTTP status code | Error code                                       | Error message                                                                      | Meaning                                                                                             |
|------------------|--------------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 403              | UserNotInTheWhiteList                            | The user is not in disk white list.                                                | The error message returned when you are not authorized to use the specified disk.                   |
| 400              | InvalidParameter.<br>EncryptedIllegal            | %s                                                                                 | The error message returned when the parameter is not supported because the disk is encrypted.       |
| 400              | InvalidParameter.<br>EncryptedNotSupported       | %s                                                                                 | The error message returned when the parameter is not supported because the disk is encrypted.       |
| 400              | EncryptedOption.<br>.Conflict                    | %s                                                                                 | The error message returned when the parameter is not supported because the disk is encrypted.       |
| 400              | InvalidParameter.<br>Encrypted.<br>KmsNotEnabled | The encrypted disk need enable KMS                                                 | The error message returned when KMS has not been activated. KMS must be activated to encrypt disks. |
| 500              | InternalError                                    | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.                                            |
| 403              | InvalidRegion.<br>NotSupport                     | The specified region does not support byok.                                        | The error message returned when BYOK is not supported in this region.                               |
| 403              | UserNotInTheWhiteList                            | The user is not in byok white list.                                                | The error message returned when you are not authorized to use BYOK.                                 |

| HTTP status code | Error code                                    | Error message                                                              | Meaning                                                                                                                |
|------------------|-----------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidParameter.<br>EncryptedIllegal         | The specified parameter Encrypted must be true when kmsKeyId is not empty. | The error message returned when you have not enabled the encryption attribute after specifying the KMSKeyId parameter. |
| 404              | InvalidParameter.<br>KMSKeyId.NotFound        | The specified KMSKeyId does not exist.                                     | The error message returned when the specified KMSKeyId parameter does not exist.                                       |
| 403              | InvalidParameter.<br>KMSKeyId.KMSUnauthorized | ECS service have no right to access your KMS.                              | The error message returned when ECS is not authorized to access your KMS resources.                                    |

[View error codes](#)

## 9.2 DeleteDisk

Releases a Pay-As-You-Go data disk. You can release a basic disk, an ultra disk, or an SSD.

### Description

When you call this operation, note that:

- This operation does not delete manual snapshots of your disk.
- You can call [ModifyDiskAttribute](#) to configure whether automatic snapshots are retained or released together with the disk. We recommend that you delete unnecessary snapshots to ensure enough snapshot data storage for periodical automatic snapshot policies.
- When you release a disk, the disk must be in the Available state.
- If no disk with the specified ID exists, the request will be ignored.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name   | Type   | Required | Example     | Description                                                          |
|--------|--------|----------|-------------|----------------------------------------------------------------------|
| DiskId | String | Yes      | d-23jbf2v5m | The ID of the disk to be released.                                   |
| Action | String | No       | DeleteDisk  | The operation that you want to perform. Set the value to DeleteDisk. |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

```
<DeleteDiskResponse>
  <RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA9 84</RequestId>
</DeleteDiskResponse>
```

#### JSON format

```
{
  "RequestId": "CEF72CEB-54B6-4AE8-B225-F876FF7BA9 84"
}
```

## Error codes

| HTTP status code | Error code                | Error message                                                      | Description                                                                                  |
|------------------|---------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 403              | DiskCreatingSnapshot      | The operation is denied due to a snapshot of the specified disk is | The error message returned when a snapshot of the specified disk is currently being created. |
| 403              | DiskStillAttached         | The disk is still attached to the disk.                            | The error message returned when the disk to be released is still attached to the disk.       |
| 403              | UserNotInTheWhiteList     | The user is not in disk white list.                                | The error message returned when you are not authorized to use the specified disk.            |
| 400              | InvalidRegionId.Malformed | The specified parameter RegionId is not valid.                     | The error message returned when the specified value of the RegionId parameter is invalid.    |

[View error codes](#)

## 9.3 DescribeDisks

Queries the list of disks.

### Description

- Request parameters such as `RegionId` , `ZoneId` , `DiskIds` ,and `InstanceId` act as filtering conditions and have a Boolean AND relationship with each other.
- The `DiskIds` value is a JSON-formatted array. If the parameter is not specified, the filtering conditions are not applied. If the `DiskIds` parameter is an empty array, the filtering condition is applied and a blank result will be returned.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name                   | Type       | Required | Example         | Description                                                                                                                                                                                                                                                |
|------------------------|------------|----------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId               | String     | Yes      | cn-hangzhou     | The ID of the region to which the disk belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                  |
| Action                 | String     | No       | DescribeDisks   | The operation that you want to perform. Set the value to <code>DescribeDisks</code> .                                                                                                                                                                      |
| AdditionalAttributes.N | RepeatList | No       | null            | Other attribute values. <div> <b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.</div> |
| AutoSnapshotPolicyId   | String     | No       | auto_20140724_2 | The ID of the automatic snapshot policy.                                                                                                                                                                                                                   |

| Name               | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|---------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category           | String  | No       | all     | <p>The category of the disk. Valid values:</p> <ul style="list-style-type: none"><li>• all: all disks</li><li>• cloud: basic disk</li><li>• cloud_efficiency: ultra disk</li><li>• cloud_ssd: SSD</li><li>• ephemeral: local I/O-intensive disk</li><li>• local_hdd_pro: local throughput-intensive disk</li><li>• local_ssd_pro: local disk</li><li>• ephemeral_ssd: local SSD</li><li>• cloud_essd: ESSD</li></ul> <p>Default value: all.</p> |
| DeleteAutoSnapshot | Boolean | No       | false   | <p>Indicates whether the automatic snapshot is deleted when the disk is released. Valid values:</p> <ul style="list-style-type: none"><li>• true: The automatic snapshot is deleted when the disk is released.</li><li>• False: The automatic snapshot is retained when the disk is released.</li></ul> <p>Default value: false.</p>                                                                                                            |

| Name               | Type    | Required | Example                                           | Description                                                                                                                                                                                                                                                                                                            |
|--------------------|---------|----------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DeleteWithInstance | Boolean | No       | false                                             | Indicates whether the disk is released together with the instance. Valid values: <ul style="list-style-type: none"> <li>· true: When the instance is deleted, the disk will be released together with it.</li> <li>· false: When the instance is released, the disk will be retained.</li> </ul> Default value: false. |
| DiskChargeType     | String  | No       | PostPaid                                          | The billing method of the disk. Valid values: <ul style="list-style-type: none"> <li>· PrePaid: Subscription</li> <li>· PostPaid: Pay-As-You-Go</li> </ul>                                                                                                                                                             |
| DiskIds            | String  | No       | ["d-xxxxxxxxx", "d-yyyyyyyyy", ... "d-zzzzzzzzz"] | The IDs of the disks. The parameter value is an array of disk IDs separated with commas (,). You can specify a maximum of 100 disk IDs at a time.                                                                                                                                                                      |
| DiskName           | String  | No       | JoshuaFinance                                     | The name of the disk.                                                                                                                                                                                                                                                                                                  |
| DiskType           | String  | No       | all                                               | The type of the disk. Valid values: <ul style="list-style-type: none"> <li>· all: queries both the system disk and data disks</li> <li>· system: queries the system disk only</li> <li>· data: queries data disks only</li> </ul> Default value: all.                                                                  |



| Name               | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|---------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DryRun             | Boolean | No       | false   | <p>Indicates whether the system performs a permission check only.</p> <ul style="list-style-type: none"><li>· <b>true:</b> Sends a permission check request, without querying resource status. The system checks whether your AccessKey is valid, whether RAM users are authorized, and whether the required parameters are set. For a failed check, corresponding error message is returned. For a successful check, the <code>DryRunOperation</code> error code is returned.</li><li>· <b>false:</b> Sends a normal request, returns the 2XX HTTP status code after the check, and queries the resource status directly.</li></ul> <p>Default value: false.</p> |
| EnableAutoSnapshot | Boolean | No       | false   | <p>Indicates whether an automatic snapshot policy is applied to the disk. Your automatic snapshot policy must be enabled.</p> <p>Default value: false.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Name                          | Type    | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                             |
|-------------------------------|---------|----------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EnableAutomatedSnapshotPolicy | Boolean | No       | false                                | <p>Indicates whether an automatic snapshot policy is configured for the disk.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |
| EnableShared                  | Boolean | No       | false                                | Indicates whether the disk is a shared block storage.                                                                                                                                                                                                                                                                                   |
| Encrypted                     | Boolean | No       | false                                | <p>Indicates whether encrypted disks are queried. Valid values:</p> <ul style="list-style-type: none"> <li>· true: Only encrypted disks are queried.</li> <li>· false: Encrypted disks are not queried.</li> </ul> <p>Default value: false.</p>                                                                                         |
| InstanceId                    | String  | No       | i-instance1                          | The ID of the instance.                                                                                                                                                                                                                                                                                                                 |
| KMSKeyId                      | String  | No       | 0e478b7a-4262-4802-b8cb-00d3fb40826X | The ID of the KMS key corresponding to the data disk.                                                                                                                                                                                                                                                                                   |

| Name       | Type    | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------|---------|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LockReason | String  | No       | recycling | <p>The reason why the disk is locked. Valid values:</p> <ul style="list-style-type: none"><li>• <b>financial:</b> The disk is locked due to overdue payments.</li><li>• <b>security:</b> The disk is locked for security reasons.</li><li>• <b>recycling:</b> The preemptible instance is locked and is pending for release.</li><li>• <b>dedicatedhostfinancial:</b> The ECS instance is locked because of overdue payments on the Dedicated Host.</li></ul> |
| PageNumber | Integer | No       | 1         | <p>The page number that you query in the disk status list.</p> <p>Starting value: 1.</p> <p>Default value: 1.</p>                                                                                                                                                                                                                                                                                                                                             |
| PageSize   | Integer | No       | 10        | <p>The number of entries per page.</p> <p>Maximum value: 100.</p> <p>Default value: 10.</p>                                                                                                                                                                                                                                                                                                                                                                   |

| Name            | Type    | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|---------|----------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Portable        | Boolean | No       | true                | <p>Indicates whether the disk is detachable. This attribute cannot be modified. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>true:</b> The disk can be attached to or detached from instances within the same zone.</li> <li>· <b>false:</b> The disk cannot be detached, and is created or released together with the instance it is attached to.</li> </ul> <p>Disks whose Portable attribute is <code>true</code> can be attached or detached, except the following disks:</p> <ul style="list-style-type: none"> <li>· Local disks</li> <li>· Local SSDs</li> <li>· System disks of the basic, ultra, ESSD, and SSD disk categories</li> <li>· Subscription-based disks of the basic, ultra, ESSD, and SSD categories</li> </ul> <p>The Portable attribute of the preceding disks is <code>false</code>.</p> |
| ResourceGroupId | String  | No       | rg-resourcegroupid1 | The ID of the resource group to which the disk belongs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| SnapshotId      | String  | No       | s-snapshotid1       | The ID of the snapshot used to create the disk.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Name            | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                                 |
|-----------------|--------|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Status          | String | No       | all           | The status of the disk. For more information, see <a href="#">Basic disk statuses</a> . Valid values: <ul style="list-style-type: none"> <li>· In_use</li> <li>· Available</li> <li>· Attaching</li> <li>· Detaching</li> <li>· Creating</li> <li>· ReIniting</li> <li>· All</li> </ul> Default value: All. |
| Tag . N . Key   | String | No       | FinanceJoshua | The tag key of the disk.                                                                                                                                                                                                                                                                                    |
| Tag . N . Value | String | No       | FinanceDept   | The tag value of the disk.                                                                                                                                                                                                                                                                                  |
| ZoneId          | String | No       | cn-hangzhou-g | The ID of the zone.                                                                                                                                                                                                                                                                                         |

### Response parameters

| Name                              | Type   | Example              | Description                                                                                                                                                                                           |
|-----------------------------------|--------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disks                             |        |                      | The disk information.                                                                                                                                                                                 |
| <sup>⌞</sup> AttachedTime         | String | 2018-01-01T01:04:22Z | The time when the disk is detached . The time follows the ISO 8601 standard and uses UTC time. The format is YYYY-MM-DDThh:mmZ. This parameter is valid only when the disk is in the Available state. |
| <sup>⌞</sup> AutoSnapshotPolicyId | String | s-23f2i9s4t          | The ID of the automatic snapshot policy applied to the disk.                                                                                                                                          |

| Name                       | Type    | Example              | Description                                                                                                                                                                                                                                                                                   |
|----------------------------|---------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>└Category</b>           | String  | cloud_ssd            | The category of the disk. Valid values: <ul style="list-style-type: none"> <li>cloud: basic disk</li> <li>cloud_efficiency: ultra disk</li> <li>cloud_ssd: SSD</li> <li>ephemeral_ssd: local SSD</li> <li>ephemeral: local disk</li> <li>cloud_essd: ESSD</li> </ul>                          |
| <b>└CreationTime</b>       | String  | 2018-01-01T01:01:22Z | The creation time of the disk.                                                                                                                                                                                                                                                                |
| <b>└DeleteAutoSnapshot</b> | Boolean | false                | Indicates whether the automatic snapshot is deleted when the disk is released.<br><br>Snapshots created using <a href="#">CreateSnapshot</a> or on the console are retained permanently and not affected by this attribute.                                                                   |
| <b>└DeleteWithInstance</b> | Boolean | true                 | Indicates whether the disk is released together with the instance . Valid values: <ul style="list-style-type: none"> <li>true: When the instance is deleted, the disk will be released together with it.</li> <li>false: When the instance is released, the disk will be retained.</li> </ul> |
| <b>└Description</b>        | String  | FinanceDept          | The description of the disk.                                                                                                                                                                                                                                                                  |
| <b>└DetachedTime</b>       | String  | 2018-01-08T01:01:22Z | The time when the disk is detached . This parameter is valid only when the disk is in the Available state.                                                                                                                                                                                    |

| Name                                        | Type    | Example                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------|---------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└Device</code>                        | String  | <code>/dev/xvdb</code>            | <p>The device name of the instance that the disk is attached to, such as <code>/dev/xvdb</code>. It is null unless the disk is in the <code>In_use</code> state.</p> <div>  <b>Note:</b><br/>           This parameter is currently undergoing beta testing and has not yet been officially launched. We recommend that you do not use this parameter for the time being.         </div> |
| <code>└DiskChargeType</code>                | String  | <code>PostPaid</code>             | <p>The billing method of the disk.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>PrePaid: Subscription</li> <li>PostPaid: Pay-As-You-Go</li> </ul>                                                                                                                                                                                                                                                                                                      |
| <code>└DiskId</code>                        | String  | <code>d-23jbf2v5m</code>          | The ID of the disk.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <code>└DiskName</code>                      | String  | <code>FinanceDeptJoshua</code>    | The name of the disk.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <code>└EnableAutoSnapshot</code>            | Boolean | <code>false</code>                | <p>Indicates whether an automatic snapshot policy is applied to the disk.</p> <p>Default value: <code>false</code>.</p>                                                                                                                                                                                                                                                                                                                                                   |
| <code>└EnableAutomatedSnapshotPolicy</code> | Boolean | <code>false</code>                | Indicates whether an automatic snapshot policy is applied to the disk.                                                                                                                                                                                                                                                                                                                                                                                                    |
| <code>└Encrypted</code>                     | Boolean | <code>false</code>                | Indicates whether the disk is encrypted.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <code>└ExpiredTime</code>                   | String  | <code>2018-01-10T01:01:22Z</code> | The time when the subscription-based disk expires.                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Name                           | Type    | Example                              | Description                                                                                                                                                                                      |
|--------------------------------|---------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>⌞IOPS</code>             | Integer | 4000                                 | The number of input/output operations per second. Unit: times/s.                                                                                                                                 |
| <code>⌞IOPSRead</code>         | Integer | 2000                                 | The number of I/O reads. Unit: times/s.                                                                                                                                                          |
| <code>⌞IOPSWrite</code>        | Integer | 2000                                 | The number of I/O writes. Unit: times/s.                                                                                                                                                         |
| <code>⌞ImageId</code>          | String  | m-bp13aqm171qynt3udgd                | The ID of the image from which the disk is created. It is null unless the disk is created from an image. The value of this parameter will remain unchanged throughout the lifecycle of the disk. |
| <code>⌞InstanceId</code>       | String  | i-instanceid1                        | The ID of the instance that the disk is attached to. It is null unless the disk is in the In_use state.                                                                                          |
| <code>⌞KMSKeyId</code>         | String  | 0e478b7a-4262-4802-b8cb-00d3fb40826X | The ID of the KMS key corresponding to the data disk.                                                                                                                                            |
| <code>⌞MountInstanceNum</code> | Integer | 1                                    | The number of instances that a shared block storage can be attached to.                                                                                                                          |
| <code>⌞MountInstances</code>   |         |                                      | The information about instance attachment.                                                                                                                                                       |
| <code>⌞AttachedTime</code>     | String  | 2017-12-05T2340:00Z                  | The time when the disk is attached. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.                                                |



| Name              | Type   | Example       | Description                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|--------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ↳Device           | String | /dev/xvda     | <p>The mount point of the disk.</p> <div>  <b>Note:</b><br/>           This parameter is currently undergoing beta testing and has not yet been officially launched. We recommend that you do not use this parameter for the time being.         </div>                                    |
| ↳InstanceId       | String | i-instanceid1 | The ID of the instance that the disk is attached to.                                                                                                                                                                                                                                                                                                                        |
| ↳OperationLocks   |        |               | The reason why the disk is locked.                                                                                                                                                                                                                                                                                                                                          |
| ↳LockReason       | String | security      | The reason why the disk is locked.                                                                                                                                                                                                                                                                                                                                          |
| ↳PerformanceLevel | String | PL2           | <p>The performance level you select for an ESSD cloud disk. Valid values :</p> <ul style="list-style-type: none"> <li>• PL1 : The maximum random read/write IOPS of a single disk is 50,000.</li> <li>• PL2 : The maximum random read/write IOPS of a single disk is 100,000.</li> <li>• PL3 : The maximum random read/write IOPS of a single disk is 1,000,000.</li> </ul> |

| Name             | Type    | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|---------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| └Portable        | Boolean | false                | <p>Indicates whether the disk is detachable. Valid values:</p> <ul style="list-style-type: none"> <li>· true: The disk is an independent basic disk. This type of disk can be attached to or detached from instances within the same zone.</li> <li>· false: The disk is not an independent basic disk. This type of disk is created or released together with the instance it is attached to.</li> </ul> <p>Disks whose Portable attribute is true can be attached (<a href="#">AttachDisk</a>) or detached (<a href="#">DetachDisk</a>). The Portable attribute of the following disks is false: system disks of the local, local SSD, basic, and SSD disk categories, and subscription-based basic disks. The Portable attribute of these disks cannot be modified.</p> |
| └ProductCode     | String  | jxsc000204           | The product code in Alibaba Cloud Marketplace.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| └RegionId        | String  | cn-hangzhou          | The ID of the region to which the disk belongs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| └ResourceGroupId | String  | rg-resourcegroup-id1 | The ID of the resource group to which the disk belongs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| └Size            | Integer | 2000                 | The size of the disk. Unit: GiB.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Name               | Type    | Example                              | Description                                                                                                                                                                                              |
|--------------------|---------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| └ SourceSnapshotId | String  | s-snapshotid1                        | The ID of the snapshot used to create the disk. It is null if no snapshot is used to create the disk. The value of this parameter will remain unchanged throughout the lifecycle of the disk.            |
| └ Status           | String  | Available                            | The status of the disk. Valid values: <ul style="list-style-type: none"> <li>• In_use</li> <li>• Available</li> <li>• Attaching</li> <li>• Detaching</li> <li>• Creating</li> <li>• ReIniting</li> </ul> |
| └ Tags             |         |                                      | A set of disk tags.                                                                                                                                                                                      |
| └ TagKey           | String  | FinanceJoshua                        | The tag key of the disk.                                                                                                                                                                                 |
| └ TagValue         | String  | FinanceDept                          | The tag value of the disk.                                                                                                                                                                               |
| └ Type             | String  | data                                 | The type of the disk. Valid values: <ul style="list-style-type: none"> <li>• system: system disk</li> <li>• data: data disk</li> </ul>                                                                   |
| └ ZoneId           | String  | cn-hangzhou-g                        | The ID of the zone to which the disk belongs.                                                                                                                                                            |
| PageNumber         | Integer | 1                                    | The page number that you query in the disk list.                                                                                                                                                         |
| PageSize           | Integer | 10                                   | The number of entries per page.                                                                                                                                                                          |
| RequestId          | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                                                                                   |
| TotalCount         | Integer | 1                                    | The total number of disks.                                                                                                                                                                               |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeDisks
&RegionId=cn-hangzhou
&ZoneId=cn-hangzhou-g
&DiskIds=["d-disk1"]
&InstanceId=i-instance1
&DiskType=all
&Category=all
&Status=all
&SnapshotId=s-snapshotid-1
&Portable=true
&DeleteWithInstance=false
&DeleteAutoSnapshot=false
&PageNumber=1
&PageSize=10
&DiskName=JoshuaFinance
&AutoSnapshotPolicyId=auto_20140724_2
&EnableAutoSnapshot=false
&Encrypted=false
&DryRun=false
<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeDisksResponse>
  <Disks>
    <Disk>
      <DeleteAutoSnapshot>true</DeleteAutoSnapshot>
      <DeleteWithInstance>false</DeleteWithInstance>
      <EnableAutoSnapshot>false</EnableAutoSnapshot>
      <Category>cloud</Category>
      <Description />
      <DiskName />
      <Size>5</Size>
      <Type>data</Type>
      <InstanceId />
      <CreationTime>2014-07-23T02:44:07Z</CreationTime>
      <ImageId />
      <ZoneId>cn-qingdao-b</ZoneId>
      <AttachedTime>2014-07-23T07:47:35Z</AttachedTime>
      <DetachedTime>2014-07-23T08:28:48Z</DetachedTime>
      <Device />
      <OperationLocks />
      <Portable>true</Portable>
      <ProductCode />
      <RegionId>cn-qingdao</RegionId>
      <DiskId>d-28m5zbua0</DiskId>
      <SourceSnapshotId />
      <Status>Available</Status>
    </Disk>
    <Disk>
      <DeleteAutoSnapshot>true</DeleteAutoSnapshot>
      <DeleteWithInstance>false</DeleteWithInstance>
```

```

    < EnableAuto Snapshot > false </ EnableAuto Snapshot >
    < Category > cloud </ Category >
    < Description />
    < DiskName />
    < Size > 5 </ Size >
    < Type > data </ Type >
    < InstanceId />
    < CreationTime > 2014 - 07 - 23T02 : 44 : 06Z </ CreationTime >
  </ Disk >
</ Disks >
< PageNumber > 1 </ PageNumber >
< PageSize > 2 </ PageSize >
< TotalCount > 9 </ TotalCount >
< RequestId > ED5CF6DD - 71CA - 462C - 9C94 - A61A78A014 79 </
RequestId >
</ DescribeDisksResponse >

```

### JSON format

```

{
  "PageNumber": 1,
  "TotalCount": 9,
  "PageSize": 2,
  "RequestId": "ACD9BBB0 - A9D1 - 46D7 - 9630 - B7A69889E1 10",
  "Disks": {
    "Disk": [
      {
        "ImageId": "",
        "Description": "",
        "Device": "",
        "ProductCode": "",
        "Portable": true,
        "DetachTime": "2014 - 07 - 23T08 : 28 : 48Z",
        "Type": "data",
        "InstanceId": "",
        "ZoneId": "cn - qingdao - b",
        "EnableAutoSnapshot": false,
        "DiskName": "",
        "AttachTime": "2014 - 07 - 23T07 : 47 : 35Z",
        "SourceSnapshotId": "",
        "CreationTime": "2014 - 07 - 23T02 : 44 : 07Z",
        "Status": "Available",
        "DeleteAutoSnapshot": true,
        "Category": "cloud",
        "RegionId": "cn - qingdao",
        "DeleteWithInstance": false,
        "OperationLocks": {
          "OperationLock": []
        },
        "DiskId": "d - 28m5zbua0",

```

```

    " Size ": 5
  },
  {
    " ImageId ": "",
    " Descriptio n ": "",
    " Device ": "",
    " ProductCod e ": "",
    " Portable ": true ,
    " DetachedTi me ": "",
    " Type ": " data ",
    " InstanceId ": "",
    " ZoneId ": " cn - qingdao - b ",
    " EnableAuto Snapshot ": false ,
    " DiskName ": "",
    " AttachedTi me ": "",
    " SourceSnap shotId ": "",
    " CreationTi me ": " 2014 - 07 - 23T02 : 44 : 06Z ",
    " Status ": " Available ",
    " DeleteAuto Snapshot ": true ,
    " Category ": " cloud ",
    " RegionId ": " cn - qingdao ",
    " DeleteWith Instance ": false ,
    " OperationL ocks ": {
      " OperationL ock ": []
    },
    " DiskId ": " d - 28zfrmo13 ",
    " Size ": 5
  }
]
}
}
}

```

## Errors

| HTTP status code | Error code                         | Error message                                       | Meaning                                                                                  |
|------------------|------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------|
| 403              | InvalidDiskIds.<br>Malformed       | The amount of specified disk Ids exceeds the limit. | The error message returned when the specified value of the DiskIds parameter is invalid. |
| 404              | InvalidDiskChargeType.<br>NotFound | The DiskChargeType does not exist in our records    | The error message returned when the specified disk type does not exist.                  |

| HTTP status code | Error code                       | Error message                                          | Meaning                                                                                                                       |
|------------------|----------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidTag.Mismatch              | The specified Tag.n.Key and Tag.n.Value are not match. | The error message returned when the specified Tag.n.Key parameter does not correspond to the specified Tag.n.Value parameter. |
| 400              | InvalidRegion.NotFound           | The specified parameter RegionId is not valid.         | The error message returned when the specified RegionId parameter is invalid.                                                  |
| 400              | InvalidZoneId.NotFound           | The zoneId provided does not exist in our records.     | The error message returned when the specified zone ID does not exist.                                                         |
| 400              | InvalidParamter                  | Some parameters are invalid in this request.           | The error message returned when the request contains invalid parameter values.                                                |
| 400              | InvalidSnapshot.NotFound         | The specified parameter SnapshotId is not valid.       | The error message returned when the specified value of the SnapshotId parameter is invalid.                                   |
| 404              | InvalidDiskIds.ValueNotSupported | The specified parameter DiskIds is not supported.      | The error message returned when the specified value of the DiskIds parameter is invalid.                                      |

[View error codes](#)

## 9.4 AttachDisk

Attaches a data disk to an ECS instance.

### Description

When you call this operation, note that:

- The operation can be performed only when the instance is in the Running or Stopped state.
- The data disk to be attached must be in the Available state.
- The instance must not be locked by [security control](#). The OperationLocks parameter of the ECS instance must not be set to "LockReason": "security".
- If an instance is locked for security reasons (the OperationLocks parameter is "LockReason": "security"), the DeleteWithInstance attribute will be ignored and the disk will be released together with the instance.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example     | Description                                                                                |
|------------|--------|----------|-------------|--------------------------------------------------------------------------------------------|
| DiskId     | String | Yes      | d-23jbf2v5m | The ID of the disk to be attached. The disk and the instance must belong to the same zone. |
| InstanceId | String | Yes      | i-instance1 | The ID of the ECS instance that the disk is to be attached to.                             |
| Action     | String | No       | AttachDisk  | The operation that you want to perform. Set the value to AttachDisk.                       |



| Name                | Type    | Required | Example   | Description                                                                                                                             |
|---------------------|---------|----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------|
| DeleteWith Instance | Boolean | No       | false     | Indicates whether the disk is to be released together with the instance. Default value: false.                                          |
| Device              | String  | No       | /dev/xvda | The name of the disk. This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=AttachDisk
&DiskId=d-23jbf2v5m
&InstanceId=i-instance1
&DeleteWithInstance=false
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

## Error codes

| HTTP status code | Error code                 | Error message                                                                                                     | Description                                                                                                                      |
|------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidDevice.Malformed    | The specified port is not valid.                                                                                  | The error message returned when the specified disk name does not exist.                                                          |
| 403              | InstanceDiskLimitExceeded  | The amount of the disk on instance in question reach its limits.                                                  | The error message returned when the specified instance is already attached with the maximum number of disks.                     |
| 403              | InvalidDevice.InUse        | The specified device has been occupied.                                                                           | The error message returned when the specified device already has an attached disk.                                               |
| 403              | InstanceLockedForSecurity  | The instance is locked due to security.                                                                           | The error message returned when the specified instance is locked for security reasons and the operation cannot be completed.     |
| 403              | InstanceExpiredOrInArrears | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned when the subscription of the instance has expired. You must renew the subscription before proceeding. |
| 400              | IncorrectInstanceState     | The current status of the resource does not support this operation.                                               | The error message returned when the specified resource is in a state that does not support the current operation.                |
| 403              | DiskError                  | IncorrectDiskStatus.                                                                                              | The error message returned when the status of the specified disk is invalid.                                                     |

| HTTP status code | Error code                                | Error message                                                                 | Description                                                                                                           |
|------------------|-------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 403              | DiskId.ValueNotSupported                  | The specified parameter diskid is not supported.                              | The error message returned when the specified disk type does not support this operation.                              |
| 403              | DiskId.StatusNotSupported                 | The specified disk status is not supported.                                   | The error message returned when the specified disk is in a state that does not support this operation.                |
| 404              | InvalidDisk.InUse                         | The specified disk has been occupied.                                         | The error message returned when the specified disk is already in use.                                                 |
| 403              | UserNotInTheWhiteList                     | The user is not in disk white list.                                           | The error message returned when you are not authorized to use the specified disk.                                     |
| 400              | InvalidOperation.InstanceTypeNotSupported | The instance type of the specified instance does not support hot attach disk. | The error message returned when the instance that the disk is attached to does not support the hot swapping of disks. |

[View error codes](#)

## 9.5 DetachDisk

Detaches a Pay-As-You-Go disk from an instance. The disk types that support Pay-As-You-Go billing are basic disks, ultra disks, and SSDs.

### Description

When you call this operation, note that:

- The Portable attribute of the disk must be set to true.
- The disk to be detached must be in the In\_use state.

- The instance that the disk is attached to must be in the Running or Stopped state.
- The instance must not be locked by [security control](#). The OperationLocks parameter of the ECS instance must not be set to "LockReason": "security".
- After the disk is detached from an instance, its DeleteWithInstance attribute will be set to false. Because it is no longer attached to the instance, it can no longer be released together with the instance.
- The DetachDisk operation is asynchronous. After a response is returned, it will take about a minute before the disk is detached.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example       | Description                                                          |
|------------|--------|----------|---------------|----------------------------------------------------------------------|
| DiskId     | String | Yes      | d-diskid1     | The ID of the disk to be detached.                                   |
| InstanceId | String | Yes      | i-instanceid1 | The ID of the ECS instance from which the disk is to be detached.    |
| Action     | String | No       | DetachDisk    | The operation that you want to perform. Set the value to DetachDisk. |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

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

```
& DiskId = d - diskid1
& InstanceId = i - instanceid 1
&< Common request parameters >
```

### Successful response examples

#### XML format

```
< DetachDisk Response >
  < RequestId > 473469C7 - AA6F - 4DC5 - B3DB - A3DC0DE3C8 3E </
    RequestId >
</ DetachDisk Response >
```

#### JSON format

```
{
  "RequestId ":" 473469C7 - AA6F - 4DC5 - B3DB - A3DC0DE3C8 3E "
}
```

### Error codes

| HTTP status code | Error code                              | Error message                                                                 | Description                                                                                                                  |
|------------------|-----------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 403              | InstanceLockedForSecurity               | The instance is locked due to security.                                       | The error message returned when the specified instance is locked for security reasons and the operation cannot be completed. |
| 400              | InvalidOperation.InstanceTypeNotSupport | The instance type of the specified instance does not support hot detach disk. | The error message returned when the instance that the disk is attached to does not support the hot swapping of disks.        |

[View error codes](#)

## 9.6 ModifyDiskChargeType

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

### Description

After you change the billing method, automatic payment is enabled by default. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid

and you have to cancel this order. If your account balance is insufficient, you can set the `AutoPay` parameter to `false` to generate a normal order. Then, you can log on to the [ECS console](#) to pay for the order.

When you call this operation, note that:

- Changing the billing method from Subscription to Pay-As-You-Go is suitable for Subscription-based disks that are attached to a Subscription-based instance.
- Changing the billing method from Pay-As-You-Go to Subscription is suitable for Pay-As-You-Go data disks that are attached to a Subscription-based or Pay-As-You-Go instance.
- The instances cannot be in the Stopped state due to overdue payments.
- You can modify the billing method for each disk three times at most. The refunding of price difference cannot exceed three times.
- The price difference is refunded to the payment account you used. Price difference of coupon purchases are not refunded.
- The billing method of a disk cannot be modified for at least five minutes after it has been modified.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example                                          | Description                                                                                                                                |
|------------|--------|----------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| DiskIds    | String | Yes      | [ "d-xxxxxxxx", "d-yyyyyyyy", ... "d-zzzzzzzz" ] | The list of disk IDs. The parameter is a JSON-formatted array. You can specify a maximum of 16 IDs. Separate multiple IDs with commas (,). |
| InstanceId | String | Yes      | i-instanceid1                                    | The ID of the instance that the disk is attached to.                                                                                       |

| Name     | Type    | Required | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|---------|----------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String  | Yes      | cn-hangzhou          | The ID of the region to which the instance belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                                                                                                                                                                 |
| Action   | String  | No       | ModifyDiskChargeType | The operation that you want to perform. Set the value to ModifyDiskChargeType.                                                                                                                                                                                                                                                                                                                                                                                                                                |
| AutoPay  | Boolean | No       | true                 | Indicates whether automatic payment is enabled. Valid values: <ul style="list-style-type: none"><li>· true (default): Automatic payment is enabled. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order.</li><li>· false: No payment is made and only an order is generated. If your account has insufficient funds, the system generates a normal unpaid order. You can log on to the ECS console to complete the payment.</li></ul> |

| Name           | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                            |
|----------------|--------|----------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken    | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. It can contain a maximum of 64 ASCII characters. For more information, see How to ensure idempotency. |
| DiskChargeType | String | No       | PostPaid                             | The billing method for disks.<br>Valid values: <ul style="list-style-type: none"><li>• PrePaid (default): changes the billing method from Pay-As-You-Go to Subscription.</li><li>• PostPaid: changes the billing method from Subscription to Pay-As-You-Go.</li></ul>  |

### Response parameters

| Name      | Type   | Example                              | Description                  |
|-----------|--------|--------------------------------------|------------------------------|
| OrderId   | String | 1111111111<br>111111111111110        | The ID of a generated order. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.       |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyDiskChargeType
&DiskIds=["d-diskid1"]
&InstanceId=i-instanceid-1
&RegionId=cn-hangzhou
&AutoPay=true
&ClientToken=123e4567-e89b-12d3-a456-426655440000
&DiskChargeType=PostPaid
```



&< Common request parameters >

## Successful response examples

### XML format

```
< ModifyDisk ChargeType >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 </
    RequestId >
  < Order > 1011111111 111111 </ Order >
</ ModifyDisk ChargeType >
```

### JSON format

```
{
  " RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 ",
  " Order ": 1011111111 111111
}
```

## Error codes

| HTTP status code | Error code                            | Error message                                                      | Description                                                                                         |
|------------------|---------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 404              | InvalidRegionId.NotFound              | The RegionId provided does not exist.                              | The error message returned when the specified region ID does not exist.                             |
| 400              | InvalidInstanceType.ValueNotSupported | The specified InstanceType is not supported.                       | The error message returned when you are not authorized to use the specified instance type.          |
| 400              | ChargeTypeViolation                   | The operation is not permitted due to charge type of the instance. | The error message returned when the billing method of the instance does not support this operation. |
| 400              | InvalidInstance.PurchaseNotFound      | The specified Instance has no purchase.                            | The error message returned when the specified instance cannot be purchased.                         |

| HTTP status code | Error code                            | Error message                                                                   | Description                                                                                                                   |
|------------------|---------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidInstance.UnPaidOrder           | The specified Instance has unpaid order.                                        | The error message returned when the specified instance has outstanding orders. You must pay for the orders before proceeding. |
| 400              | Account.Arrearage                     | Your account has been in arrears.                                               | The error message returned when your account balance is insufficient. You must top up your account before proceeding.         |
| 400              | InvalidInstanceType.ValueUnauthorized | The specified InstanceType is not Supported.                                    | The error message returned when the specified instance type does not support this operation.                                  |
| 400              | OrderCreationFailed                   | Create Order failed, please check your parameters and try it later.             | The error message returned when the order failed to be created. Check your parameters and try again later.                    |
| 400              | Throttling                            | Request was denied due to request throttling, please try again after 5 minutes. | The error message returned when the request is denied due to throttling.                                                      |
| 404              | PaymentMethodNotFound                 | No billing method has been registered on the account.                           | The error message returned when you have not selected a billing method.                                                       |
| 404              | InvalidRamRole.NotFound               | The specified parameter RAMRoleName does not exist.                             | The error message returned when the specified RAM role name does not exist.                                                   |

| HTTP status code | Error code                                | Error message                                                   | Description                                                                                                           |
|------------------|-------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 400              | InstanceDowngrade.<br>QuotaExceed         | Quota of instance downgrade is exceed.                          | The error message returned when the instance has been downgraded the allowed times.                                   |
| 404              | InvalidDiskIds.<br>NotFound               | Some of the specified data disks do not exist.                  | The error message returned when the specified data disk does not exist.                                               |
| 404              | InvalidDiskIds.<br>NotPortable            | The specified DiskId is not portable.                           | The error message returned when the specified disk does not support the Portable attribute.                           |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance | Your account does not have enough balance.                      | The error message returned when your account balance is insufficient. You must top up your account before proceeding. |
| 403              | InvalidInstanceChargeType.NotFound        | The chargeType of the instance does not support this operation. | The error message returned when the billing method of the instance does not support this operation.                   |

[View error codes](#)

## 9.7 ModifyDiskAttribute

Modifie the attributes of a disk.

### Description

If an instance is locked for security reasons (the OperationLocks parameter is "LockReason": "security"), the DeleteWithInstance attribute will be ignored and the disk will be released together with the instance.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name               | Type    | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|---------|----------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DiskId             | String  | Yes      | d-diskid1           | The ID of the disk to be modified.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Action             | String  | No       | ModifyDiskAttribute | The operation that you want to perform. Set the value to ModifyDiskAttribute.                                                                                                                                                                                                                                                                                                                                                                                                                |
| DeleteAutoSnapshot | Boolean | No       | false               | Indicates whether the automatic snapshot is deleted when the disk is released. Default value: null, indicating that the parameter value remains unchanged.                                                                                                                                                                                                                                                                                                                                   |
| DeleteWithInstance | Boolean | No       | false               | <p>Indicates whether the disk is released together with the instance: Default value: null, indicating that the parameter value remains unchanged.</p> <p>An error will be returned if you set the DeleteWithInstance attribute to false in the following cases:</p> <ul style="list-style-type: none"><li>• When the Category attribute of a disk is set to ephemeral.</li><li>• When the Category attribute of a disk is set to cloud and the Portable attribute is set to false.</li></ul> |

| Name               | Type    | Required | Example           | Description                                                                                                                                                                                                                |
|--------------------|---------|----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description        | String  | No       | FinanceDeptJoshua | The description of the disk. The description must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                              |
| DiskName           | String  | No       | FinanceJoshua     | The name of the disk. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). |
| EnableAutoSnapshot | Boolean | No       | true              | Indicates whether to apply a created automatic snapshot policy to the disk. Default value: null, indicating that the parameter value remains unchanged.                                                                    |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

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

#### Successful response examples

**XML format**

```
< ModifyDisk  AttributeR  esponse >
  < RequestId > 473469C7 - AA6F - 4DC5 - B3DB - A3DC0DE3C8  3E </
    RequestId >
</ ModifyDisk  AttributeR  esponse >
```

**JSON format**

```
{
  " RequestId ":" 473469C7 - AA6F - 4DC5 - B3DB - A3DC0DE3C8  3E "
```

**Error codes**

| HTTP status code | Error code                    | Error message                                | Description                                                                                                                                                            |
|------------------|-------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidDescription. Malformed | The specified description is wrongly formed. | The error message returned when the specified description is invalid. The description must be 2 to 256 characters in length and cannot start with http:// or https://. |
| 403              | QuotaExceed. Snapshot         | The snapshot quota exceeds.                  | The error message returned when the snapshot quota has been exhausted. To store new snapshots, you can delete existing snapshots without affecting your business.      |
| 400              | Incomplete Paramter           | Some fields can not be null in this request. | The error message returned when a required parameter is not specified .                                                                                                |

[View error codes](#)

## 9.8 ReplaceSystemDisk

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

### Description

When you call this operation, note that:

- You cannot change the category of the system disk for your ECS instance.
- This operation changes the ID of the system disk but does not change its billing method. The original system disk is released when the operation is completed.
- The instance to which the specified disk is attached must be in the Stopped state. You must disable No Fees for Stopped Instances (VPC-Connected) when you stop the instance. This prevents the instance from being unable to be restarted because of insufficient ECS resources after the system disk is replaced. For more information, see [StopInstance](#).
- The instance must not be locked by [security control](#) (the OperationLocks parameter is "LockReason": "security").
- The instance cannot have overdue payments.
- You can specify a new capacity by setting the SystemDisk.Size parameter for the system disk. The parameter value must be at least 20 GiB and greater than or equal to the disk capacity before replacement. Extra fees are charged for the size that exceeds  $\max\{20, \text{the disk capacity before replacement}\}$ .

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example           | Description                                                                 |
|------------|--------|----------|-------------------|-----------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-instanceid1     | The ID of the instance.                                                     |
| Action     | String | No       | ReplaceSystemDisk | The operation that you want to perform. Set the value to ReplaceSystemDisk. |

| Name         | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|--------|----------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architecture | String | No       | i386                                 | The system architecture. Valid values: i386   x86_64.                                                                                                                                                                                                                                                                                                                                 |
| ClientToken  | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotency</a> .                                                                  |
| ImageId      | String | No       | m-imageid1                           | The ID of the image used to replace the system disk.                                                                                                                                                                                                                                                                                                                                  |
| KeyPairName  | String | No       | JoshuaCentOS                         | The name of the key pair. <ul style="list-style-type: none"> <li>For a Windows ECS instance, this parameter is ignored. This parameter is not specified by default. The Password parameter is still effective even when the KeyPairName parameter is specified.</li> <li>For a Linux ECS instance, the username and password authentication method is disabled by default.</li> </ul> |



| Name            | Type    | Required | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|---------|----------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Password        | String  | No       | EcsV587! | <p>The password of the instance.</p> <div>  <b>Note:</b><br/>           If the Password parameter is specified, use HTTPS to call the operation to avoid password leakage.         </div> <p>The password must be 8 to 30 characters in length and must contain uppercase or lowercase letters, digits, and special characters. The password of a Windows instance cannot start with a forward slash (/). The password can contain any of the following special characters:</p> <pre>( ) ` ~ ! @ # \$ % ^ &amp; * - _ + =   { }</pre> <pre>[ ] : ; ' &lt; &gt; , . ? /</pre> |
| PasswordInherit | Boolean | No       | false    | <p>Indicates whether to use the pre-configured password of the specified image. When the PasswordInherit parameter is specified, the Password parameter must be null. For secure access, make sure that the selected image has password configured.</p> <p>Default value: false.</p>                                                                                                                                                                                                                                                                                                                                                                           |
| Platform        | String  | No       | CentOS   | <p>The release version of the operating system. Valid values: CentOS   Ubuntu.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Name                         | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|---------|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SecurityEnhancementsStrategy | String  | No       | Active  | <p>Indicates whether to enable security hardening and install Alibaba Cloud Security on the system disk. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>Active:</b> enables security hardening and installs Alibaba Cloud Security for free. This value is applicable to only public images.</li> <li>• <b>Deactive:</b> disables security hardening and does not install Alibaba Cloud Security. This value is applicable to all images.</li> </ul> |
| SystemDisk.Size              | Integer | No       | 80      | <p>The capacity of the new system disk. Unit: GiB. Valid values: Max{20, the size of the specified image} to 500.</p> <p>Default value: Max{40, the size of the specified image}.</p>                                                                                                                                                                                                                                                                               |
| UseAdditionalService         | Boolean | No       | true    | <p>Indicates whether to use the VM system configuration provided by Alibaba Cloud. Windows: NTP and KMS. Linux : NTP and YUM.</p> <div>  <b>Note:</b><br/>           You can specify this parameter when you attach a system disk (device is /dev/xvda).         </div>                                                                                                         |

## Response parameters

| Name      | Type   | Example                              | Description                    |
|-----------|--------|--------------------------------------|--------------------------------|
| DiskId    | String | d-j6cam2z21u4ks3dj6flb               | The ID of the new system disk. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.         |

## Examples

### Sample requests

```
https :// ecs . aliyuncs . com /? Action = ReplaceSys temDisk
& InstanceId = i - instanceid 1
& ImageId = m - imageid1
& SystemDisk . Size = 80
& ClientToke n = 123e4567 - e89b - 12d3 - a456 - 4266554400 00
& Password = EcsV587 !
& PasswordIn herit = false
& KeyPairNam e = JoshuaCent OS
& SecurityEn hancementsS trategy = Active
&< Common request parameters >
```

### Successful response examples

#### XML format

```
< ReplaceSys temDiskRes ponse >
  < DiskId > d - 23jbf2v5m </ DiskId >
  < RequestId > F3CD6886 - D8D0 - 4FEE - B93E - 1B73239673 DE </
  RequestId >
</ ReplaceSys temDiskRes ponse >
```

#### JSON format

```
{
  " RequestId ":" 337568C5 - 64F3 - 4B76 - 8CDD - D3D8C57B5B 8C ",
  " DiskId ":" d - j6cam2z21u 4ks3dj6flb "
}
```

## Error codes

| HTTP status code | Error code                              | Error message                                                                                                                                                                                                                                             | Description                                                                                                                   |
|------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidSystemDiskSize.ValueNotSupported | The specified parameter SystemDisk.Size is invalid.                                                                                                                                                                                                       | The error message returned when the specified value of the SystemDisk.Size parameter is invalid.                              |
| 404              | InvalidImageId.NotFound                 | The specified ImageId does not exist.                                                                                                                                                                                                                     | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct. |
| 403              | IncorrectInstanceState                  | The current status of the resource does not support this operation.                                                                                                                                                                                       | The error message returned when the specified resource is in a state that does not support the current operation.             |
| 403              | InstanceLockedForSecurity               | The instance is locked due to security.                                                                                                                                                                                                                   | The error message returned when the specified instance is locked for security reasons and the operation cannot be completed.  |
| 403              | 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. | The error message returned when the specified image from Marketplace is unavailable.                                          |

| HTTP status code | Error code                              | Error message                                                                                                     | Description                                                                                                                      |
|------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 500              | OperationDenied                         | Internal Error.                                                                                                   | The error message returned when an unknown internal error occurs.                                                                |
| 403              | InstanceExpiredOrInArrears              | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned when the subscription of the instance has expired. You must renew the subscription before proceeding. |
| 403              | ChargeTypeViolation                     | The operation is not permitted due to charge type of the instance.                                                | The error message returned when the billing method of the instance does not support this operation.                              |
| 403              | DiskCreatingSnapshot                    | The operation is denied due to a snapshot of the specified disk is not completed yet.                             | The error message returned when a snapshot of the specified disk is being created.                                               |
| 403              | QuotaExceeded.BuyImage                  | The specified image is from the image market ,You have not bought it or your quota has been exceeded.             | The error message returned when you are not authorized to use the specified image from Marketplace.                              |
| 404              | InvalidSystemDiskSize.LessThanImageSize | The specified parameter SystemDisk.Size is less than the image size.                                              | The error message returned when the specified system disk size is smaller than the size of the image.                            |
| 404              | NoSuchResource                          | The specified resource is not found.                                                                              | The error message returned when the specified resource does not exist.                                                           |
| 403              | INST_HAS_UNPAID_ORDER                   | The instance has unpaid order.                                                                                    | The error message returned when the instance has overdue payments.                                                               |

| HTTP status code | Error code                              | Error message                                                                                | Description                                                                                                           |
|------------------|-----------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidSystemDiskSize.ValueNotSupported | The specified parameter SystemDisk.Size is invalid                                           | The error message returned when the specified value of the SystemDisk.Size parameter is invalid.                      |
| 400              | InvalidPasswordParam.Mismatch           | The input password should be null when passwdInherit is true.                                | The error message returned when the PasswdInherit parameter is specified but the Password parameter is not left null. |
| 400              | OperationDenied                         | The specified image contains the snapshot of the data disk, does not support this operation. | The error message returned when the specified image contains the snapshot of the data disk and cannot be exported.    |
| 400              | InvalidDiskCategory.ValueNotSupported   | The specified parameter DiskCategory is not valid.                                           | The error message returned when the specified value of the DiskCategory parameter is invalid.                         |
| 400              | InvalidParameter.Conflict               | %s                                                                                           | The error message returned when a specified parameter conflicts with another parameter.                               |
| 400              | InvalidSystemDiskSize.ValueNotSupported | %s                                                                                           | The error message returned when a specified parameter is not supported.                                               |
| 403              | InvalidParameter.NotMatch               | %s                                                                                           | The error message returned when a specified parameter conflicts with another parameter.                               |

| HTTP status code | Error code                            | Error message                                                   | Description                                                                                   |
|------------------|---------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 400              | MissingParameter.Architecture         | Architecture should not be null.                                | The error message returned when a required parameter is not specified .                       |
| 400              | InvalidArchitecture.Malformed         | Architecture is not valid.                                      | The error message returned when the value of a specified parameter is invalid.                |
| 400              | MissingParameter.Platform             | Platform should not be null.                                    | The error message returned when a required parameter is not specified .                       |
| 400              | InvalidPlatform.Malformed             | Platform is not valid.                                          | The error message returned when the specified value of the Platform parameter is invalid.     |
| 400              | InvalidParameter.AllEmpty             | %s                                                              | The error message returned when a required parameter is not specified .                       |
| 400              | InvalidDiskId.NotFound                | The specified disk do not exist.                                | The error message returned when the specified disk does not exist.                            |
| 400              | InvalidDatadisk.DiskStatusViolation   | The operation is not permitted due to status of the Datadisk.   | The error message returned when the specified data disk type does not support this operation. |
| 400              | InvalidDatadisk.DiskCategoryViolation | The operation is not permitted due to category of the Datadisk. | The error message returned when the specified data disk type does not support this operation. |

| HTTP status code | Error code                              | Error message                                                                      | Description                                                                                              |
|------------------|-----------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 400              | InvalidSystemDiskSize.ValueNotSupported | The specified SystemDiskSize is not valid.                                         | The error message returned when the specified value of the SystemDisk.Size parameter is invalid.         |
| 403              | ImageNotSupportedInstanceType           | The specified instanceType is not supported by instance with marketplace image.    | The error message returned when the specified image from Marketplace does not support the instance type. |
| 500              | InternalServerError                     | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.                                                 |

[View error codes](#)

## 9.9 ReInitDisk

Resets a disk to its initial state .

### Description

When you call this operation, note that:

- The operation can be performed only when the disk is in the In\_use state and the instance that the disk is attached to is in the Stopped state.
- If the instance has not been activated for the first time after creation, the disks attached to it cannot be reinitialized.
- A system disk will be initialized to the initial status of the image. If the source image used to create the disk is deleted, the disk cannot be initialized.
- A user-created data disk will be initialized to the state of an empty data disk.
- A data disk that was created from a snapshot will be initialized to the state of the snapshot. If the source snapshot used to create the disk is deleted, the disk cannot be initialized and an error will be returned.



## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name              | Type    | Required | Example      | Description                                                              |
|-------------------|---------|----------|--------------|--------------------------------------------------------------------------|
| DiskId            | String  | Yes      | d-diskid1    | The ID of the disk.                                                      |
| Action            | String  | No       | ReInitDisk   | The operation that you want to perform. Set the value to ReInitDisk.     |
| AutoStartInstance | Boolean | No       | true         | Indicates whether to start the instance after the disk is reinitialized. |
| KeyPairName       | String  | No       | JoshuaCentOS | The name of the key pair.                                                |

| Name                         | Type   | Required | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------|--------|----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Password                     | String | No       | EcsV587! | <p>The new password of the instance.</p> <div>  <b>Note:</b><br/>           If the Password parameter is specified, use HTTPS to call the operation to avoid password leakage.         </div> <p>The password must be 8 to 30 characters in length and must contain uppercase or lowercase letters, digits, and special characters. The password of a Windows instance cannot start with a forward slash (/). The password can contain any of the following special characters:</p> <pre>( ) ` ~ ! @ # \$ % ^ &amp; * - _ + =   { } [ ] : ; ' &lt; &gt; , . ? /</pre> |
| SecurityEnhancementsStrategy | String | No       | Active   | <p>Indicates whether to enable security hardening and install Alibaba Cloud Security on the system disk. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>Active:</b> enables security hardening and installs Alibaba Cloud Security for free. This value is applicable to only public images.</li> <li>• <b>Deactive:</b> disables security hardening and does not install Alibaba Cloud Security. This value is applicable to all images.</li> </ul>                                                                                                                                                                                     |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ReInitDisk
&DiskId=d-diskid1
&Password=EcsV587!
&KeyPairName=JoshuaCentOS
&AutoStartInstance=true
&SecurityEnhancementStrategy=Active
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code              | Error message                                                       | Description                                                                                                       |
|------------------|-------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectInstanceStatus | The current status of the resource does not support this operation. | The error message returned when the specified resource is in a state that does not support the current operation. |

| HTTP status code | Error code                 | Error message                                                                                                                                      | Description                                                                                                                      |
|------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 403              | InstanceLockedForSecurity  | The instance is locked due to security.                                                                                                            | The error message returned when the specified instance is locked for security reasons and the operation cannot be completed.     |
| 403              | 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. | The error message returned when the specified snapshot is created on or before July 15, 2013.                                    |
| 403              | OperationDenied            | The snapshot which is used to create the specified disk has been deleted.                                                                          | The error message returned when the snapshot used to create the specified disk does not exist.                                   |
| 403              | InstanceExpiredOrInArrears | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).                                  | The error message returned when the subscription of the instance has expired. You must renew the subscription before proceeding. |
| 403              | DiskCreatingSnapshot       | The operation is denied due to a snapshot of the specified disk is not completed yet.                                                              | The error message returned when a snapshot of the specified disk is being created.                                               |
| 403              | InvalidSourceSnapshot      | The snapshot which is used to create the specified disk has been deleted.                                                                          | The error message returned when the snapshot used to create the specified disk has been deleted.                                 |
| 404              | InvalidImageId.NotFound    | The specified ImageId does not exist.                                                                                                              | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct.    |

| HTTP status code | Error code                              | Error message                                          | Description                                                         |
|------------------|-----------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------|
| 404              | InvalidDiskId<br>.OperationNotSupported | The operation is not supported due to image not exist. | The error message returned when the specified image does not exist. |

[View error codes](#)

## 9.10 ResetDisk

Rolls back a disk to the specific disk status by using one of its snapshots.

### Description

When you call this operation, note that:

- The operation can be performed only when the disk is in the In\_use state.
- The instance that the specified disk is attached to must be in the Stopped state.
- The specified snapshot must be created from the disk specified by the DiskId parameter.
- The instance must not be locked by [security control](#) (the OperationLocks parameter is "LockReason": "security").

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example       | Description                                                                    |
|------------|--------|----------|---------------|--------------------------------------------------------------------------------|
| DiskId     | String | Yes      | d-diskid1     | The ID of the disk.                                                            |
| SnapshotId | String | Yes      | s-snapshotid1 | The ID of the snapshot that is used to roll back the disk to a specific state. |

| Name   | Type   | Required | Example   | Description                                                         |
|--------|--------|----------|-----------|---------------------------------------------------------------------|
| Action | String | No       | ResetDisk | The operation that you want to perform. Set the value to ResetDisk. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ResetDisk
&DiskId=d-diskid1
&SnapshotId=s-snapshotid_1
&<Common request parameters>
```

#### Successful response examples

##### XML format

```
<ResetDiskResponse>
  <RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673-DE</
  RequestId>
</ResetDiskResponse>
```

##### JSON format

```
{
  "RequestId": "F3CD6886-D8D0-4FEE-B93E-1B73239673-DE"
}
```

## Error codes

| HTTP status code | Error code                 | Error message                                                                                                     | Description                                                                                                                      |
|------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 404              | Disk.NotFound              | The specified disk does not exist.                                                                                | The error message returned when the specified disk does not exist. Check whether the disk ID is correct.                         |
| 403              | IncorrectInstanceState     | The current status of the resource does not support this operation.                                               | The error message returned when the specified resource is in a state that does not support the current operation.                |
| 403              | InstanceLockedForSecurity  | The instance is locked due to security.                                                                           | The error message returned when the specified instance is locked for security reasons and the operation cannot be completed.     |
| 403              | InvalidParameterMismatch   | The specified snapshot is not created from the specified disk.                                                    | The error message returned when the specified snapshot was not created from the specified disk.                                  |
| 403              | InvalidSnapshotTooOld      | The snapshotId is created before 2013-07-15, it cannot be restored since the first time the disk detached.        | The error message returned when the specified snapshot was created on or before July 15, 2013.                                   |
| 403              | InstanceExpiredOrInArrears | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned when the subscription of the instance has expired. You must renew the subscription before proceeding. |

| HTTP status code | Error code                                | Error message                                                                      | Description                                                                                                           |
|------------------|-------------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 403              | OperationDenied                           | The specified snapshot does not support ResetDisk.                                 | The error message returned when the specified snapshot does not support the ResetDisk operation.                      |
| 403              | InvalidSnapshotId.<br>NotReady            | The specified snapshot has not completed yet.                                      | The error message returned when the specified snapshot is being created.                                              |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance | Your account does not have enough balance.                                         | The error message returned when your account balance is insufficient. You must top up your account before proceeding. |
| 403              | Operation.<br>Conflict                    | The operation may conflicts with others.                                           | The error message returned when the specified operation conflicts with other operations.                              |
| 403              | UserNotInTheWhiteList                     | The user is not in disk white list.                                                | The error message returned when you are not authorized to use the specified disk.                                     |
| 500              | InternalServerError                       | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurred.                                                            |

[View error codes](#)



## 9.11 ResizeDisk

You can call this operation to resize a cloud disk. You can resize both system disks and data disks.

### Description



#### Note:

Before calling this operation, you must check the partition format of the cloud disk. If an existing partition of the cloud disk is created by using MBR, you cannot resize the cloud disk to greater than or equal to 2 TiB. Otherwise, data may be lost. If the MBR partition format is used, we recommend that you create and attach another data disk. Format a GPT partition and copy the data in the MBR partition to the GPT partition. For more information, see [Resize cloud disks offline](#).

- You can resize the following cloud disk types: basic disks (cloud), ultra disks (cloud\_efficiency), SSD disks (cloud\_ssd), and ESSD disks (cloud\_essd).
- You cannot resize a cloud disk when a snapshot is being created for it.
- The instance to which the disk is attached must be in the running or stopped state.
- After resizing a cloud disk, you must [restart the instance](#) in the console or call the [RebootInstance](#) operation to validate the operation.
- After you resize a cloud disk, its partitions and file systems will not change. You can allocate the storage space after resizing.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Parameter | Type   | Required | Example  | Description                             |
|-----------|--------|----------|----------|-----------------------------------------|
| DiskId    | String | Yes      | d-diskid | The ID of the cloud disk to be resized. |

| Parameter | Type    | Required | Example    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------|----------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NewSize   | Integer | Yes      | 1900       | <p>The new disk capacity that you want to specify. Unit: GiB. Valid values:</p> <ul style="list-style-type: none"> <li>Basic disk (cloud): 5 to 2,000</li> <li>Ultra disk (cloud_efficiency): 20 to 6,144</li> <li>SSD disk (cloud_ssd): 20 to 6,144</li> <li>ESSD disk (cloud_essd): 20 to 32,768</li> </ul> <p>The new disk capacity must be larger than the original disk capacity. If the original capacity of a cloud disk is less than 6 TiB, you cannot resize it to more than 6 TiB.</p> |
| Action    | String  | No       | ResizeDisk | The operation that you want to perform. Set the value to ResizeDisk.                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Type      | String  | No       | offline    | <p>The method that you use to resize the cloud disk. Valid values:</p> <ul style="list-style-type: none"> <li><b>offline:</b> In this method, you need to restart the instance to validate the operation. This is the default value.</li> <li><b>online:</b> In this method, you do not need to restart the instance. This method can only be used on data disk, and only ultra disks and SSD disks are supported.</li> </ul>                                                                    |

| Parameter   | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                                          |
|-------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken | String | No       | 123e4567-e89b-12d3-a456-426655440000 | The client token that is used to ensure the idempotence of the request. You can use the client to generate this value, but you must ensure that it is unique among different requests. The ClientToken parameter can contain only ASCII characters, and cannot exceed 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a> . |

### Response parameters

| Parameter | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ResizeDisk
&DiskId=d-diskid
&NewSize=1900
&ClientToken=123e4567-e89b-12d3-a456-426655440000
&<Common request parameters>
```

#### Sample success responses

##### XML format

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

##### JSON format

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

}

## Error codes

| HTTP status code | Error code                            | Error message                                                                                                                                | Description                                                                                                                      |
|------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidDataDiskSize.ValueNotSupported | The specified DataDisk.n.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category. | The error message returned because the maximum size of the specified data disk is reached.                                       |
| 404              | InvalidDiskId.NotFound                | The specified disk does not exist.                                                                                                           | The error message returned because the specified DiskId parameter does not exist. Check whether the DiskId parameter is correct. |
| 404              | InvalidInstanceId.NotFound            | The specified InstanceId does not exist.                                                                                                     | The error message returned because the specified InstanceId parameter does not exist.                                            |
| 403              | OperationDenied                       | The type of the disk does not support the operation.                                                                                         | The error message returned because the operation is not supported by the specified data disk type.                               |
| 403              | OperationDenied                       | The status of the disk or the instance that the disk is attaching with does not support the operation.                                       | The error message returned because the operation is not supported while the disk or instance is in the current state.            |
| 403              | InvalidDiskSize.TooSmall              | Specified new disk size is less than the original disk size.                                                                                 | The error message returned because the specified new disk capacity is smaller than the original disk capacity.                   |

| HTTP status code | Error code                                    | Error message                                                                                                     | Description                                                                                                                    |
|------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidDiskSize.<br>TooLarge                  | Specified new disk size is beyond the permitted range.                                                            | The error message returned because the specified new disk capacity is greater than the maximum capacity.                       |
| 403              | InstanceExpiredOrInArrears                    | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned because the subscription instance has expired. Renew the instance and try again.                    |
| 403              | DiskError                                     | IncorrectDiskStatus                                                                                               | The error message returned because the specified DiskStatus parameter is invalid.                                              |
| 403              | DiskInArrears                                 | The specified operation is denied as your disk owing fee.                                                         | The error message returned because the disk has an overdue payment.                                                            |
| 403              | IncorrectInstanceStatus                       | The current status of the resource does not support this operation.                                               | The error message returned because the operation is not supported while the resource is in the current state.                  |
| 500              | InternalError                                 | The request processing has failed due to some unknown error.                                                      | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket. |
| 403              | DiskCreatingSnapshot                          | The operation is denied due to a snapshot of the specified disk is not completed yet.                             | The error message returned because a snapshot is being created for the specified disk.                                         |
| 400              | InvalidDataDiskCategory.<br>ValueNotSupported | %s                                                                                                                | The error message returned because the parameter is not supported.                                                             |

| HTTP status code | Error code                            | Error message                                                         | Description                                                                                                                                                              |
|------------------|---------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidParameter.Conflict             | %s                                                                    | The error message returned because the parameter is conflicting with another parameter.                                                                                  |
| 400              | InvalidDataDiskSize.ValueNotSupported | %s                                                                    | The error message returned because the parameter is not supported.                                                                                                       |
| 403              | InvalidDiskSize                       | Specified new disk size is less than or equal the original disk size. | The error message returned because the specified new disk capacity is smaller than or equal to the original disk capacity.                                               |
| 400              | IncompleteParamter                    | Some fields cannot be null in this request.                           | The error message returned because a required parameter is not specified.                                                                                                |
| 403              | Operation.Conflict                    | The operation may conflict with others.                               | The error message returned because the operation is conflicting with another operation.                                                                                  |
| 403              | InstanceLockedForSecurity             | The instance is locked due to security.                               | The error message returned because the operation is not supported while the resource is locked to ensure security.                                                       |
| 403              | IncorrectDiskStatus                   | The current disk status does not support this operation.              | The error message returned because the operation is not supported while the disk is in the current state. Ensure that the disk is available and has no overdue payments. |

| HTTP status code | Error code                       | Error message                                                      | Description                                                                                                     |
|------------------|----------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 403              | UserNotInTheWhiteList            | The user is not in disk white list.                                | The error message returned because you are not authorized to use the specified disk.                            |
| 400              | InvalidRegionId.MalFormed        | The specified RegionId is not valid                                | The error message returned because the specified RegionId parameter is invalid.                                 |
| 403              | InvalidDiskCategory.NotSupported | The specified disk category is not supported.                      | The error message returned because the specified disk type is not supported.                                    |
| 400              | InvalidParam.Type                | The specified type is not supported.                               | The error message returned because the specified parameter is invalid.                                          |
| 403              | InvalidRegion.NotSupport         | The specified region does not support resize online.               | The error message returned because online resizing is not available in the specified region.                    |
| 403              | InvalidDiskCategory.NotSupported | The specified disk category does not support resize online.        | The error message returned because online resizing is not supported by the specified disk type.                 |
| 403              | IncorrectInstanceState           | The current status of the resource does not support resize online. | The error message returned because the operation is not supported while the resource is in the current state.   |
| 403              | IncorrectDiskStatus              | The current status of the resource does not support resize online  | The error message returned because online resizing is not supported while the resource is in the current state. |

| HTTP status code | Error code                              | Error message                                                               | Description                                                                                                        |
|------------------|-----------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidOperation.InstanceTypeNotSupport | The instance type of the specified instance does not support resize online. | The error message returned because online resizing is not supported by the instance to which the disk is attached. |

[View error codes](#)

## 9.12 ModifyDiskSpec

You can call this operation to upgrade the performance level of an ESSD.

### Description

To upgrade the performance level of an ESSD, make sure that:

- The ESSD is in the In Use or Available state.
- If the ESSD is attached to an ECS instance, the ECS instance is in the Running or Stopped state.
- The new performance level of the ESSD takes effect immediately after you call this operation. The ESSD is then billed based on the unit price specific to the new performance level.
- If you cannot upgrade the performance level of the ESSD due to its capacity limit, resize the ESSD by calling the [ResizeDisk](#) operation and then perform the upgrade again. For more information, see [ESSD](#).

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Parameter | Type   | Required | Example                 | Description         |
|-----------|--------|----------|-------------------------|---------------------|
| DiskId    | String | Yes      | d-bp131n0q38u3a4zi***** | The ID of the ESSD. |



| Parameter        | Type   | Required | Example        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|--------|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PerformanceLevel | String | Yes      | PL2            | <p>The performance level you want to upgrade the ESSD to. Default value: PL1. Valid values :</p> <ul style="list-style-type: none"><li>• PL1: indicates that a single ESSD delivers up to 50,000 random read/write IOPS.</li><li>• PL2: indicates that a single ESSD delivers up to 100,000 random read/write IOPS.</li><li>• PL3: indicates that a single ESSD delivers up to 1,000,000 random read/write IOPS.</li></ul> <div> <b>Note:</b><br/>The new performance level cannot be lower than the original one.</div> |
| Action           | String | No       | ModifyDiskSpec | The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set this parameter to <code>ModifyDiskSpec</code> .                                                                                                                                                                                                                                                                                                                                                                                                                            |

### Response parameters

| Parameter | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample request

```
https://ecs.aliyuncs.com/?Action=ModifyDiskSpec&PerformanceLevel=PL2
```

&< Common request parameters >

### Sample success response

#### XML format

```
< ModifyDisk SpecResponse >
  < RequestId > 473469C7 - AA6F - 4DC5 - B3DB - A3DC0DE3C8 3E </
    RequestId >
</ ModifyDisk SpecResponse >
```

#### JSON format

```
{
  "RequestId ":" 473469C7 - AA6F - 4DC5 - B3DB - A3DC0DE3C8 3E "
}
```

### Error codes

| HTTP status code | Error code                 | Error message                                                                                                     | Description                                                                                         |
|------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 404              | InvalidDiskId.NotFound     | The specified disk does not exist.                                                                                | The error message returned because the specified DiskId parameter does not exist.                   |
| 403              | DiskInArrears              | The specified operation is denied as your disk owing fee.                                                         | The error message returned because the specified disk has overdue payments.                         |
| 404              | InvalidInstanceId.NotFound | The specified InstanceId does not exist.                                                                          | The error message returned because the specified InstanceId parameter does not exist.               |
| 403              | InstanceExpiredOrInArrears | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned because the subscription instance has expired. Renew the instance first. |

| HTTP status code | Error code           | Error message                                                                         | Description                                                                                                                                                              |
|------------------|----------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectDiskStatus  | The current disk status does not support this operation.                              | The error message returned because the operation is not supported while the disk is in the current state. Ensure that the disk is available and has no overdue payments. |
| 403              | DiskCreatingSnapshot | The operation is denied due to a snapshot of the specified disk is not completed yet. | The error message returned because a snapshot is being created for the specified disk.                                                                                   |
| 403              | OperationDenied      | The type of the disk does not support the operation.                                  | The error message returned because the operation is not supported by the specified data disk type.                                                                       |

[View error codes](#)

# 10 Reserved Instances

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## 10.1 PurchaseReservedInstancesOffering

After you purchase Pay-As-You-Go instances, you can use `PurchaseReservedInstancesOffering` to purchase Reserved Instances (RIs) so that you can benefit from billing discounts.

### Description

Before you purchase RIs, you can call [DescribeAvailableResource](#) to query available instance resources.

We recommend that you read [Reserved Instance billing methods](#) before you purchase RIs to learn more about the billing methods applied.

### Request parameters

| Name     | Type   | Required | Description                                                                                                                                                                                        |
|----------|--------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action   | String | Yes      | A parameter required by the system. Value: <code>PurchaseReservedInstancesOffering</code> .                                                                                                        |
| RegionId | String | Yes      | ID of the region to which the RI belongs. You can call <a href="#">DescribeRegions</a> to view the latest region list.                                                                             |
| Scope    | String | Yes      | Scope of the RI. Optional values: <ul style="list-style-type: none"><li>Region : region-level</li><li>Zone : zone-level</li></ul> Default value: Region .                                          |
| ZoneId   | String | No       | ID of the zone to which the RI belongs. When <code>Scope</code> is set to <code>Zone</code> , this parameter is required. For information about the zone list, see <a href="#">DescribeZones</a> . |

| Name                 | Type    | Required | Description                                                                                                                                                                                                                                                           |
|----------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ReservedInstanceName | String  | No       | Name of the RI. The name must be a string of 2 to 128 characters in length and can contain letters, numbers, colons (:), underscores (_), and hyphens. It must start with a letter. It cannot start with http:// or https://.                                         |
| InstanceType         | String  | Yes      | Instance type of the RI. For more information, see <a href="#">Instance type families</a> .                                                                                                                                                                           |
| InstanceAmount       | Integer | Yes      | Number of instances allocated to an RI (An RI is a coupon that includes one or more allocated instances.)                                                                                                                                                             |
| OfferingType         | String  | Yes      | Payment type of the RI. Optional values: <ul style="list-style-type: none"> <li>No Upfront : No upfront payment is required.</li> <li>Partial Upfront : A portion of upfront payment is required.</li> <li>All Upfront : Full upfront payment is required.</li> </ul> |
| Period               | Integer | Yes      | Term of the RI. Unit: years. Optional values: 1 and 3 .                                                                                                                                                                                                               |
| PeriodUnit           | String  | Yes      | Term unit. Optional value: Year .                                                                                                                                                                                                                                     |

### Response parameters

| Name               | Type   | Description                                                   |
|--------------------|--------|---------------------------------------------------------------|
| ReservedInstanceId | String | ID of the RI. The ID is the unique identity to access the RI. |

### Examples

#### Request example

```
https://ecs.aliyuncs.com/?Action=PurchaseReservedInstancesOffering
&RegionId=cn-hangzhou
&Scope=Zone
&ZoneId=cn-hangzhou-a
&ReservedInstanceName=test
&InstanceType=ecs.g5.2xlarge
&InstanceAmount=1
```

```
& OfferingType = All Upfront
& Period = 1
& PeriodUnit = Year
&< Common request parameters >
```

### Response example

#### XML format

```
< PurchaseReservedInstancesOfferingResponse >
  < RequestId > 51AB7717 - 6E1A - 4D1D - A44D - 54CBxxxxxx xx </
  RequestId >
  < ReservedInstanceId > ri - instance </ InstanceId >
</ PurchaseReservedInstancesOfferingResponse >
```

#### JSON format

```
{
  "RequestId": " 51AB7717 - 6E1A - 4D1D - A44D - 54CBxxxxxx xx ",
  "ReservedInstanceId": " ri - instance "
}
```

## 10.2 DescribeReservedInstances

You can call `DescribeReservedInstances` to query the Reserved Instances (RIs) that you have purchased.

### Request parameters

| Name     | Type   | Required | Description                                                                                                                                                                                        |
|----------|--------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action   | String | Yes      | A parameter required by the system.<br>Value: <code>DescribeReservedInstances</code> .                                                                                                             |
| RegionId | String | Yes      | ID of the region to which the RI belongs. You can call <a href="#">DescribeRegions</a> to view the latest region list.                                                                             |
| Scope    | String | No       | Scope of the RI. Optional values: <ul style="list-style-type: none"> <li>Region : region-level</li> <li>Zone : zone-level</li> </ul> Default value: <code>Region</code> .                          |
| ZoneId   | String | No       | ID of the zone to which the RI belongs. When <code>Scope</code> is set to <code>Zone</code> , this parameter is required. For information about the zone list, see <a href="#">DescribeZones</a> . |

| Name                 | Type    | Required | Description                                                                                             |
|----------------------|---------|----------|---------------------------------------------------------------------------------------------------------|
| ReservedInstanceName | String  | No       | Name of the RI                                                                                          |
| ReservedInstanceId   | List    | No       | ID of the RI                                                                                            |
| InstanceType         | String  | No       | Instance type of the RI. For more information, see <a href="#">Instance type families</a> .             |
| InstanceTypeFamily   | String  | No       | Instance type family of the RI. For more information, see <a href="#">Instance type families</a> .      |
| Status               | List    | No       | Status of the RI                                                                                        |
| PageNumber           | Integer | No       | Page number of the RI list. The start value is 1.<br><br>The default value is 1.                        |
| PageSize             | Integer | No       | Number of rows per page for queries per page. The maximum value is 100.<br><br>The default value is 10. |

#### Response parameters

| Name              | Type    | Description                                                                     |
|-------------------|---------|---------------------------------------------------------------------------------|
| RequestId         | String  | Request ID                                                                      |
| TotalCount        | Integer | Total number of RIs                                                             |
| PageNumber        | Integer | Page number of the RI list                                                      |
| PageSize          | Integer | Number of rows per page contained in the returned result                        |
| ReservedInstances | List    | Array of <a href="#">ReservedInstances</a> , which contain instance information |

The following table describes the parameters of the ReservedInstance data type.

| Name                 | Type   | Description                              |
|----------------------|--------|------------------------------------------|
| ReservedInstanceName | String | Name of the RI                           |
| RegionId             | String | ID of the region to which the RI belongs |

| Name           | Type   | Description                                                                                               |
|----------------|--------|-----------------------------------------------------------------------------------------------------------|
| ZoneId         | String | ID of the zone to which the RI belongs                                                                    |
| InstanceType   | String | Instance type of the RI                                                                                   |
| Scope          | String | Scope of the RI                                                                                           |
| OfferingType   | String | Payment type of the RI                                                                                    |
| InstanceAmount | String | Number of instances allocated to an RI (An RI is a coupon that includes one or more allocated instances.) |
| Status         | String | Status of the RI                                                                                          |
| CreationTime   | String | Time when the RI is created                                                                               |
| ExpiredTime    | String | Expiration time of the RI                                                                                 |
| StartTime      | String | Time when the RI takes effect                                                                             |

## Examples

### Request example

```
https://ecs.aliyuncs.com/?Action=DescribeReservedInstances
&RegionId=cn-hangzhou
&Scope=Region
&<Common request parameters>
```

### Response example

#### XML format

```
<DescribeReservedInstancesResponse>
  <ReservedInstance>
    <CreationTime>2018-12-10T12:07Z</CreationTime>
    <ExpiredTime>2019-12-10T16:00Z</ExpiredTime>
    <InstanceAmount>1</InstanceAmount>
    <ReservedInstanceId>ri-xxx</ReservedInstanceId>
    <InstanceType>ecs.g5.large</InstanceType>
    <OfferingType>All Upfront</OfferingType>
    <RegionId>cn-hangzhou</RegionId>
    <ReservedInstanceName>riZ0xzhex2ulpzf53xxx-xx</ReservedInstanceName>
    <Scope>region</Scope>
    <StartTime>2018-12-10T12:00Z</StartTime>
    <Status>active</Status>
  </ReservedInstance>
  <ReservedInstance>
    <CreationTime>2018-12-10T12:07Z</CreationTime>
    <ExpiredTime>2019-12-10T16:00Z</ExpiredTime>
    <InstanceAmount>1</InstanceAmount>
    <ReservedInstanceId>ri-xxxx</ReservedInstanceId>
    <InstanceType>ecs.g5.large</InstanceType>
    <OfferingType>All Upfront</OfferingType>
```



```
< RegionId > cn - hangzhou </ RegionId >
< ReservedIn stanceName > riZ0xzhex2 ulpzfxxxxx x </ ReservedIn
stanceName >
< Scope > region </ Scope >
< StartTime > 2018 - 12 - 10T12 : 00Z </ StartTime >
< Status > active </ Status >
  </ ReservedIn stance >
  < PageNumber > 1 </ PageNumber >
  < PageSize > 50 </ PageSize >
  < Total > 2 </ Total >
</ DescribeRe servedInst ancesRespo nse >
```

### JSON format

```
{
  " code ":" 200 ",
  " data ":{
    " data ":[
      {
        " CreationTi me ":" 2018 - 12 - 10T12 : 07Z ",
        " ExpiredTim e ":" 2019 - 12 - 10T16 : 00Z ",
        " InstanceAm ount ": 1 ,
        " ReservedIn stanceId ":" ri - 0xzhex2ulp  zf53rxme2j
",
        " InstanceTy pe ":" ecs . g5 . large ",
        " OfferingTy pe ":" All Upfront ",
        " RegionId ":" cn - hangzhou - test - 307 ",
        " ReservedIn stanceName ":" riZ0xzhex2 ulpzf53rxm
e2jZ ",
        " Scope ":" region ",
        " StartTime ":" 2018 - 12 - 10T12 : 00Z ",
        " Status ":" active "
      }
    ],
    " PageNumber ": 1 ,
    " PageSize ": 50 ,
    " Total ": 1
  },
  " httpStatus Code ": 200 ,
  " message ":" successful ",
  " requestId ":" E572643C - 6A29 - 49D6 - 9D4E - 6CFA4E063A 3E ",
  " success ": true
}
```

## 10.3 ModifyReservedInstances

You can call `ModifyReservedInstances` to modify Reserved Instances (RIs).

### Precautions

Before you change RIs, note the following:

- The region of an RI cannot be changed. You can only change the zone of an RI, change region-level RIs to zone-level RIs, or change zone-level RIs to region-level RIs.

- The instance type family of an RI cannot be modified. Only the size of an RI can be modified.
- If the RIs to be merged are region-level RIs, they must be in the same region. If the RIs to be merged are zone-level RIs, they must be in the same zone.
- The RIs to be merged must have the same expiration date.
- After an RI is split or multiple RIs are merged, the initial RI or RIs will expire immediately.

#### Request parameters

| Name                 | Type          | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|---------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action               | String        | Yes      | A parameter required by the system.<br>Value: <code>ModifyReservedInstances</code> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| RegionId             | String        | Yes      | ID of the region to which the RI belongs. You can call <a href="#">DescribeRegions</a> to view the latest region list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ReservedInstanceId.N | String        | Yes      | ID of the RI. N is an integer from 1 to 20.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Configuration.N      | Configuration | Yes      | Configuration attribute of the target RI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DryRun               | Boolean       | No       | Specifies whether to check this request only. <ul style="list-style-type: none"> <li>• <code>true</code> : A check request is sent, but no instance is created. The system checks whether the required parameters are set, and also checks the request format, service limits, and available ECS instances. If the request does not pass the check, an error is returned. If the request passes the check, the error code <code>DryRunOperation</code> is returned.</li> <li>• <code>false</code> : A check request is sent, and an instance is created after the request passes the check.</li> </ul> Default value: <code>false</code> . |

The following table describes the parameters of the Configuration data type.

| Name                 | Type    | Required | Description                                                                                                                                                                                                                   |
|----------------------|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ReservedInstanceName | String  | No       | Name of the RI. The name must be a string of 2 to 128 characters in length and can contain letters, numbers, colons (:), underscores (_), and hyphens. It must start with a letter. It cannot start with http:// or https://. |
| InstanceType         | String  | Yes      | Instance type of the RI. For more information, see <a href="#">Instance type families</a> .                                                                                                                                   |
| Scope                | String  | Yes      | Scope of the RI. Optional values: <ul style="list-style-type: none"><li>• Region : region-level</li><li>• Zone : zone-level</li></ul> Default value: Region .                                                                 |
| ZoneId               | String  | No       | ID of the zone to which the RI belongs. When Scope is set to Zone , this parameter is required. For information about the zone list, see <a href="#">DescribeZones</a> .                                                      |
| InstanceAmount       | Integer | Yes      | Number of instances allocated to an RI (An RI is a coupon that includes one or more allocated instances.)                                                                                                                     |

## Response parameters

| Name                   | Type   | Description                                                                      |
|------------------------|--------|----------------------------------------------------------------------------------|
| RequestId              | String | Request ID                                                                       |
| ReservedInstanceIdSets | List   | List of RI IDs. The IDs in the list are the unique identities to access the RIs. |

# 11 Images

---

## 11.1 CreateImage

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

### Description

When you call this interface, note the following:

- You can use a custom image only when its status is `Available`.
- If the specified ECS instance is `locked`, the `OperationLocks` of the ECS instance cannot indicate "LockReason": "security".

You can create a custom image using one of three methods according to your requirements. When you create a custom image, the priority of request parameters is InstanceId, then DiskDeviceMapping, then SnapshotId. If your request contains more than one of the preceding parameters, the parameter with a higher priority is used for creating the custom image by default.

- Method 1: If you want to create a template from an ECS instance, you can specify the instance ID (InstanceId) to create a custom image. You must make sure that the status of the specified instance is Running or Stopped. After a successful invocation, each disk of the specified instance has a new snapshot created.
- Method 2: If you want to create a custom image based on the system disk of your ECS instance, you can specify one of the system disk snapshots (SnapshotId) to create a custom image. However, the specified snapshot cannot be created on or before July 15, 2013.
- Method 3: If you want to combine snapshots of multiple disks into an image template, you can specify DiskDeviceMapping to create a custom image.

If you use method 3 (specify DiskDeviceMapping) you must note the following:

- You can only specify one system disk snapshot. The device name of the system disk must be `/dev/xvda`.

- You can specify multiple data disk snapshots. The device names of the data disks are allocated sequentially from /dev/xvdb to /dev/xvdz, without duplicates.
- SnapshotId is not required. If you do not specify the SnapshotId, an empty disk of the specified size is created. However, if you specify SnapshotId, the corresponding snapshot cannot have been created on or before July 15, 2013.

## Debug

Use [API Explorer](#) to perform debug operations and generate SDK code examples.

## Request parameters

| Name         | Type   | Required? | Example value | Description                                                                                                                                                                                                                                             |
|--------------|--------|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action       | String | No        | CreateImage   | The name of this action. Value: CreateImage.                                                                                                                                                                                                            |
| RegionId     | String | Yes       | cn-hangzhou   | The ID of the region to which the image belongs. For more information, call <a href="#">DescribeRegions</a> to obtain the latest region list.                                                                                                           |
| Architecture | String | No        | x86_64        | Specifies the architecture of the system disk after you specify a data disk snapshot as the data source of the system disk for creating an image. Valid values: <ul style="list-style-type: none"><li>• i386</li><li>• x86_64 (default value)</li></ul> |

| Name                         | Type   | Required? | Example value                        | Description                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|--------|-----------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken                  | String | No        | 123e4567-e89b-12d3-a456-426655440000 | Guarantees the idempotence of the request. The value is generated by your client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see <a href="#">How to ensure idempotence</a> .                                                                                           |
| Description                  | String | No        | FinanceDeptjoshua                    | The description of the image. It must be 2 to 256 characters in length and must not start with http:// or https://. Default value : null.                                                                                                                                                                                                                         |
| DiskDeviceMapping.N.Device   | String | No        | /dev/xvda                            | Specifies the name of a disk in the combined custom image. Value range: /dev/xvda to /dev/xvdz.                                                                                                                                                                                                                                                                   |
| DiskDeviceMapping.N.DiskType | String | No        | system                               | Specifies the type of a disk in the combined custom image. If you specify this parameter, you can use a data disk snapshot as the data source of a system disk for creating an image. If it is not specified, the disk type is determined by the corresponding snapshot. Valid values: <ul style="list-style-type: none"> <li>· system</li> <li>· data</li> </ul> |

| Name                           | Type    | Required? | Example value           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------|---------|-----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DiskDeviceMapping.N.Size       | Integer | No        | 2000                    | <p>Specifies the size of a disk in the combined custom image, in GiB. Value range: 5 to 2000.</p> <ul style="list-style-type: none"> <li>• If the disk size is not specified, it is equal to the snapshot size (DiskDeviceMapping.N.SnapshotId) by default.</li> <li>• If the snapshot (DiskDeviceMapping.N.SnapshotId) is not specified, the disk size is 5 GiB by default.</li> <li>• If the disk size is specified, it must be at least the size of the corresponding snapshot (DiskDeviceMapping.N.SnapshotId).</li> </ul> |
| DiskDeviceMapping.N.SnapshotId | String  | No        | s-snapshotid1           | Specifies a snapshot that is used to create a combined custom image.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ImageName                      | String  | No        | FinanceDeptJoshuaCentOS | The image name. It must be 2 to 128 characters in length, and must begin with a letter or Chinese character (beginning with http:// or https:// is not allowed). It can contain digits, colons (:), underscores (_), or hyphens (-). Default value: null.                                                                                                                                                                                                                                                                      |
| InstanceId                     | String  | No        | i-instanceid            | The instance ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Name            | Type   | Required? | Example value       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|--------|-----------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Platform        | String | No        | CentOS              | <p>Specifies the operating system platform of the system disk after you specify a data disk snapshot as the data source of the system disk for creating an image. Valid values:</p> <ul style="list-style-type: none"> <li>• CentOS</li> <li>• Ubuntu</li> <li>• SUSE</li> <li>• OpenSUSE</li> <li>• RedHat</li> <li>• Debian</li> <li>• CoreOS</li> <li>• Aliyun Linux</li> <li>• Windows Server 2003</li> <li>• Windows Server 2008</li> <li>• Windows Server 2012</li> <li>• Windows 7</li> <li>• Others Linux (default value)</li> <li>• Customized Linux</li> </ul> |
| ResourceGroupId | String | No        | rg-resourcegroupid1 | The ID of the enterprise resource group to which a custom image belongs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| SnapshotId      | String | No        | s-snapshotid        | Specifies a snapshot that is used to create a custom image.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



| Name            | Type   | Required? | Example value     | Description                                                                                                                                                                                                                                      |
|-----------------|--------|-----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . Key   | String | No        | FinanceDept       | The tag key of an image. The value of N ranges from 1 to 20. You cannot specify a null string for this parameter. It can contain a maximum of 64 characters, and must not start with aliyun or acs:. It must not contain http:// or https://.    |
| Tag . N . Value | String | No        | FinanceDeptJoshua | The tag value of an image. The value of N ranges from 1 to 20. You cannot specify a null string for this parameter. It can contain a maximum of 128 characters, and must not start with aliyun or acs:. It must not contain http:// or https://. |
| Tag . N . key   | String | No        | FinanceDept       | The tag key of an image.<br> <b>Note:</b><br>This parameter will be obsolete soon. We recommend that you use Tag.N.Key for better compatibility.             |
| Tag . N . value | String | No        | FinanceDeptJoshua | The tag value of an image.<br> <b>Note:</b><br>This parameter will be obsolete soon. We recommend that you use Tag.N.Value for better compatibility.         |

**Response parameters**

| Name      | Type   | Example value                        | Description     |
|-----------|--------|--------------------------------------|-----------------|
| ImageId   | String | m-63DFD5FB2                          | The image ID.   |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

**Examples****Request example**

```
https://ecs.aliyuncs.com/?Action=CreateImage
&RegionId=cn-hangzhou
&DiskDeviceMapping.1.Size=2000
&DiskDeviceMapping.1.SnapshotId=s-snapshotid-1
&DiskDeviceMapping.1.DiskType=system
&SnapshotId=s-snapshotid
&InstanceId=i-instanceid
&ImageName=FinanceDeptJoshuaCentOS
&ImageVersion=2017011017
&Description=FinanceDeptJoshua
&Platform=CentOS
&Architecture=x86_64
&ClientToken=123e4567-e89b-12d3-a456-426655440000
&Tag.1.value=FinanceDeptJoshua
&Tag.1.key=FinanceDept
&Tag.1.Key=FinanceDept
&Tag.1.Value=FinanceDeptJoshua
&<CommonRequestParameters>
```

**Response example****XML format**

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

**JSON format**

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

## Error codes

| HTTP status code | Error code                    | Message                                                                                                                               | Description                                                                                                                                                                                                                                     |
|------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSnapshotId.NotFound    | The specified SnapshotId does not exist.                                                                                              | The specified snapshot does not exist.                                                                                                                                                                                                          |
| 400              | InvalidImageName.Malformed    | The specified Image name is wrongly formed.                                                                                           | The specified image name is invalid. It should be 2 to 128 characters in length, and start with a letter or Chinese character. It can contain digits, periods (.), underscores (_), or hyphens (-). It must not start with http:// or https://. |
| 400              | InvalidImageName.Duplicated   | The specified Image name has already been used.                                                                                       | The specified image name already exists.                                                                                                                                                                                                        |
| 400              | InvalidDescription.Malformed  | The specified description is wrongly formed.                                                                                          | The specified description is invalid. It should be 2 to 256 characters in length. It must not start with http:// or https://.                                                                                                                   |
| 400              | InvalidImageVersion.Malformed | The specified ImageVersion is wrongly formed.                                                                                         | The specified image version is invalid, or you are not permitted to use this snapshot.                                                                                                                                                          |
| 403              | InvalidSnapshotId.NotReady    | The current status of the DiskDeviceMapping.n.SnapshotId or SnapshotId does not support this operation.                               | The current status of the specified snapshot does not support this operation.                                                                                                                                                                   |
| 403              | InvalidSnapshot.TooOld        | This operation is denied because the specified snapshot by DiskDeviceMapping.n.SnapshotId or SnapshotId is created before 2013-07-15. | This operation is denied because the snapshot specified by DiskDeviceMapping.n.SnapshotId or SnapshotId was created before 2013-07-15.                                                                                                          |

| HTTP status code | Error code                        | Message                                                                                                                          | Description                                                                                          |
|------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 403              | OperationDenied                   | The specified snapshot is not allowed to create image.                                                                           | The specified snapshot cannot be used for creating an image.                                         |
| 403              | QuotaExceed.<br>Image             | The Image Quota exceeds.                                                                                                         | The quota of custom images is exceeded.                                                              |
| 403              | OperationDenied                   | The specified snapshot is not from system disk.                                                                                  | The specified snapshot is not a system disk snapshot .                                               |
| 403              | InvalidParamter.<br>Conflict      | The specified same token is trying to make requests with different parameters.                                                   | The specified token is requesting the handling of two different parameters.                          |
| 404              | InvalidInstanceId.<br>NotFound    | The specified InstanceId does not exist.                                                                                         | The specified instance does not exist. Please check your instance ID.                                |
| 400              | IncorrectInstanceStatus           | The current status of the instance does not support this operation.                                                              | The current status of the specified instance does not support this operation .                       |
| 400              | InstanceLockedForSecurity         | The specified operation is denied as your instance is locked for security reasons.                                               | The specified operation is denied because your instance is locked for security reasons.              |
| 400              | InvalidDevice.<br>Malformed       | The specified parameter DiskDeviceMapping.n.Device is not valid.                                                                 | The specified value of the parameter DiskDeviceMapping.n.Device is invalid.                          |
| 400              | MissingParameter                  | The input parameter SnapshotId or InstanceId or DiskDeviceMapping that is mandatory for processing this request is not supplied. | The specified values of the parameters SnapshotId, InstanceId, and DiskDeviceMapping cannot be null. |
| 400              | InvalidSize.<br>ValueNotSupported | The specified parameter DiskDeviceMapping.n.Size beyond the permitted range.                                                     | The specified value of the parameter DiskDeviceMapping.n.Size is outside the valid range.            |

| HTTP status code | Error code                                      | Message                                                                                            | Description                                                                                                  |
|------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 400              | InvalidDevice.InUse                             | The specified parameter DiskDeviceMapping.n.Device has been occupied.                              | The specified parameter DiskDeviceMapping.n.Device is already being used.                                    |
| 400              | OperationDenied                                 | The specified parameter DiskDeviceMapping.n.SnapshotId does not contain system disk snapshot.      | The specified value of the parameter DiskDeviceMapping.n.SnapshotId does not contain a system disk snapshot. |
| 400              | OperationDenied                                 | The specified parameter DiskDeviceMapping.n.SnapshotId contains two or more system disk snapshots. | The specified value of the parameter DiskDeviceMapping.n.SnapshotId already contains a system disk snapshot. |
| 400              | InvalidDiskCategory.CreateImage                 | The specified diskCategory is not allowed to create image.                                         | The specified disk category is not allowed for creating an image.                                            |
| 403              | InvalidAccountStatus.NotEnoughBalance           | Your account does not have enough balance.                                                         | Your account balance is insufficient for the operation.                                                      |
| 403              | InvalidAccountStatus.SnapshotServiceUnavailable | Snapshot service has not been opened yet.                                                          | The operation is denied because the snapshot service is not enabled.                                         |
| 403              | UserNotInTheWhiteList                           | The user is not in the white list of create image by data disk snapshot.                           | You do not have the permission to create an image from data disk snapshots.                                  |
| 400              | InvalidArchitecture.Malformed                   | The specified Architecture is wrongly formed.                                                      | The specified value of the parameter Architecture is invalid.                                                |
| 400              | InvalidPlatform.Malformed                       | The specified Platform is wrongly formed.                                                          | The specified operating system platform is invalid.                                                          |

| HTTP status code | Error code                              | Message                                                                            | Description                                                                                                                                                      |
|------------------|-----------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | OperationDenied                         | Not support creating system image from an encrypted snapshot/disk.                 | An encrypted snapshot or disk cannot be used for creating a custom image.                                                                                        |
| 400              | InvalidParameter.AllEmpty               | %s                                                                                 | The required parameter is missing.                                                                                                                               |
| 403              | IncorrectDiskStatus.Invalid             | Device status is invalid, please restart instance and try again.                   | The device status is invalid. Please restart your instance and try again.                                                                                        |
| 403              | OperationDenied.InvalidSnapshotCategory | %s                                                                                 | The snapshot type is invalid.                                                                                                                                    |
| 403              | QuotaExceed.Snapshot                    | The snapshot quota exceeds.                                                        | The snapshot quota is exceeded. Please delete old snapshots as needed before you store new ones .                                                                |
| 403              | IncorrectDiskStatus.Transferring        | The specified device is transferring, you can retry after the process is finished. | The specified disk is being migrated. Please try again after the process is finished.                                                                            |
| 403              | IncorrectDiskStatus                     | The current disk status does not support this operation.                           | The current status of the specified disk does not support this operation. Please make sure the disk is in a normal status and whether you have overdue payments. |
| 403              | InvalidSystemSnapshot.Missing           | %s                                                                                 | The source snapshot for creating this system disk has been deleted.                                                                                              |
| 403              | IncorrectDiskStatus.CreatingSnapshot    | A previous snapshot creation is in process.                                        | A snapshot is being created for the current disk. Please try again after the creation is finished.                                                               |

| HTTP status code | Error code                    | Message                                                                | Description                                  |
|------------------|-------------------------------|------------------------------------------------------------------------|----------------------------------------------|
| 404              | InvalidResourceGroup.NotFound | The ResourceGroup provided does not exist in our records.              | The specified resource group does not exist. |
| 500              | InternalError                 | The process of creating snapshot has failed due to some unknown error. | Unknown errors occurred .                    |

For a list of error codes, visit the [API Error Center](#).

## 11.2 ImportImage

Imports an on-premises image to Alibaba Cloud ECS and use it as a custom image within its region.

### Methods

You can use the imported image to create an ECS instance (RunInstances) or replace the system disk of an instance (ReplaceSystemDisk). When you call this operation, note that:

- You must [upload the image file to OSS](#) before you can import the image.
- You can only import an image to the same region as the OSS bucket that the image file is uploaded to.
- Valid values of `n` in the `DiskDeviceMapping.n` parameter: 1 to 17. When `n` is 1, the disk is a system disk. When `n` is 2 to 17, the disk is a data disk.
- You cannot delete an image that is being imported. However, you can call [CancelTask](#) to cancel the image import task.
- To use [RAM](#) to allow ECS to access OSS for your Alibaba Cloud account, follow these steps:

1. Create a role named `AliyunECSImageImportDefaultRole`. You must use this exact name or else the image will fail to be imported. Refer to the following code to set the policy for the role:

```
{
  "Statement": [
    {
```

```

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

```

2. Attach the permission policy `AliyunECSI mageImport RolePolicy` to the role. This policy is the default policy for ECS image import. For more information, see [RAM](#). You can also create your custom policies with the following permissions:

```

{
  " Version ": " 1 ",
  " Statement ": [
    {
      " Action ": [
        " oss : GetObject ",
        " oss : GetBucketL ocation ",
        " oss : GetBucketI nfo "
      ],
      " Resource ": "*",
      " Effect ": " Allow "
    }
  ]
}

```

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                              |
|----------|--------|----------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region to which the source custom image belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |



| Name                              | Type    | Required | Example           | Description                                                                                                                                                                                                                                                                                        |
|-----------------------------------|---------|----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action                            | String  | No       | ImportImage       | The operation that you want to perform. Set the value to ImportImage.                                                                                                                                                                                                                              |
| Architecture                      | String  | No       | x86_64            | The system architecture. Valid values: <ul style="list-style-type: none"> <li>i386</li> <li>x86_64 (default)</li> </ul>                                                                                                                                                                            |
| Description                       | String  | No       | FinanceDeptJoshua | The description of the image. The description must be 2 to 256 characters in length and cannot start with http:// or https://. Default value: null.                                                                                                                                                |
| DiskDeviceMapping.N.Device        | String  | No       | /dev/xvda         | The name of disk N in the custom image. Valid values: /dev/xvda to /dev/xvdz.                                                                                                                                                                                                                      |
| DiskDeviceMapping.N.DiskImageSize | Integer | No       | 80                | The size of the custom image. <div>  <b>Note:</b><br/> This parameter will be removed in the future. We recommend that you use the DiskDeviceMapping.N.DiskImageSize parameter to ensure compatibility. </div> |

| Name                                   | Type    | Required | Example    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------|---------|----------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DiskDevice Mapping . N . DiskImageSize | Integer | No       | 80         | <p>The size of the image. The space of the system disk must be greater than or equal to the actual used space of file systems. Valid values:</p> <ul style="list-style-type: none"> <li>• 5 to 500 GiB when n is set to 1</li> <li>• 5 to 1000 GiB when n is set to 2 to 17</li> </ul> <p>When you import an image, the system automatically scans and checks the size of the image, and the checking result is used as the default value of this parameter.</p> |
| DiskDevice Mapping . N . Format        | String  | No       | qcow2      | <p>The format of the image. Valid values:</p> <ul style="list-style-type: none"> <li>• RAW</li> <li>• VHD</li> <li>• qcow2</li> </ul> <p>When you import an image, the system automatically scans and checks the format of the image, and the checking result is used as the default value of this parameter.</p>                                                                                                                                                |
| DiskDevice Mapping . N . OSSBucket     | String  | No       | ecsimageos | The OSS bucket where the image file is stored.                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Name                              | Type   | Required | Example           | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------|--------|----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DiskDeviceMapping . N . OSSObject | String | No       | CentOS_5.4_32.raw | The key of the OSS bucket where the image file is to be stored.                                                                                                                                                                                                                                                                                                                              |
| ImageName                         | String | No       | FinanceJoshua     | The name of the image.<br>The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). Default value: null.                                                                                                                                          |
| OSType                            | String | No       | linux             | The type of the operating system. Valid values: <ul style="list-style-type: none"> <li>· windows</li> <li>· linux (default)</li> </ul>                                                                                                                                                                                                                                                       |
| Platform                          | String | No       | Other Linux       | The release version of the operating system. Valid values: <ul style="list-style-type: none"> <li>· CentOS</li> <li>· Ubuntu</li> <li>· SUSE</li> <li>· OpenSUSE</li> <li>· Debian</li> <li>· CoreOS</li> <li>· Aliyun</li> <li>· Windows Server 2003</li> <li>· Windows Server 2008</li> <li>· Windows Server 2012</li> <li>· Others Linux (default)</li> <li>· Customized Linux</li> </ul> |

## Response parameters

| Name      | Type   | Example                              | Description                     |
|-----------|--------|--------------------------------------|---------------------------------|
| ImageId   | String | m-imageid2                           | The ID of the image.            |
| RegionId  | String | cn-hangzhou                          | The ID of the region.           |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.          |
| TaskId    | String | 123-345-2332-22323                   | The ID of an image import task. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ImportImage
&RegionId=cn-hangzhou
&DiskDeviceMapping.1.Format=qcow2
&DiskDeviceMapping.1.OSSBucket=ecsimageos
&DiskDeviceMapping.1.OSSObject=CentOS_5.4_32.raw
&DiskDeviceMapping.1.DiskImageSize=80
&ImageName=FinanceJoshua
&Description=FinanceDepartmentJoshua
&Architecture=x86_64
&OSType=linux
&Platform=OtherLinux
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code                   | Error message                                                                               | Description                                                                                                                    |
|------------------|------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter             | An input parameter "RegionId" that is mandatory for processing the request is not supplied. | The error message returned when the required RegionId parameter is not specified.                                              |
| 400              | InvalidImageSize             | The specified DiskDeviceMapping.n.DiskImageSize is beyond the permitted range.              | The error message returned when the specified image does not exist.                                                            |
| 400              | InvalidImageFormat.Malformed | The specified ImageFormat is wrongly formed.                                                | The error message returned when the format of the AssociateInstanceType parameter is incorrect.                                |
| 400              | InvalidRegionId.NotFound     | The specified RegionId does not exist.                                                      | The error message returned when the specified Region ID does not exist. Check whether the service is available in this region. |
| 400              | InvalidRegion.NotSupport     | The specified region does not support image import or export.                               | The error message returned when the specified region does not support this operation.                                          |
| 403              | ImageIsImporting             | The specified Image is importing.                                                           | The error message returned when the specified image is being imported and cannot be operated.                                  |
| 403              | QuotaExceeds.Image           | The Image Quota exceeds.                                                                    | The error message returned when the custom image quota has been exhausted.                                                     |

| HTTP status code | Error code                 | Error message                                                    | Description                                                                                                 |
|------------------|----------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 403              | ImportImageFailed          | Importing image is failed , Please contact the administrator.    | The error message returned when the image failed to be imported . Contact a system administrator.           |
| 403              | InvalidParameter.Malformed | The specified parameter DiskDeviceMapping.n.Device is not valid. | The error message returned when the specified value of the DiskDeviceMapping.n.Device parameter is invalid. |
| 400              | InvalidOSSObject.NotFound  | The specified OSS object does not exist in this region.          | The error message returned when the specified OSS object does not exist.                                    |
| 400              | InvalidOSSObject.NotFound  | The specified OSS object cannot be retrieved.                    | The error message returned when the specified OSS object information cannot be read.                        |

[View error codes](#)

## 11.3 CopyImage

Copies a custom image from one region to another. You can use copied images to perform operations in the target region, such as creating instances (RunInstances) and replacing system disks (ReplaceSystemDisk).

### Description

When you call this operation, note that:

- You can only copy the custom image when it is in the Available state.
- You can only copy the image belonging to your Alibaba Cloud account. Images cannot be copied from one account to another.

- If the copying is not completed, you cannot call [DeleteImage](#) to delete the image but you can call [CancelCopyImage](#) to cancel the copying.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name                   | Type   | Required | Example     | Description                                                                                                                                                            |
|------------------------|--------|----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ImageId                | String | Yes      | m-imageid1  | The ID of the source custom image.                                                                                                                                     |
| RegionId               | String | Yes      | cn-hangzhou | The ID of the region to which the source custom image belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.               |
| Action                 | String | No       | CopyImage   | The operation that you want to perform. Set the value to CopyImage.                                                                                                    |
| DestinationDescription | String | No       | FinanceDept | The description of the destination custom image. The description must be 2 to 256 characters in length and cannot start with http:// or https://. Default value: null. |

| Name                 | Type    | Required | Example       | Description                                                                                                                                                                                                                                                           |
|----------------------|---------|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DestinationImageName | String  | No       | FinanceJoshua | The name of the destination custom image. The name must be 2 to 128 characters in length . It must start with a letter and cannot start with http:// or https://. It can contain letters , digits, colons (:), underscores (_), and hyphens (-). Default value: null. |
| DestinationRegionId  | String  | No       | cn-shanghai   | The ID of the region to which the destination custom image belongs.                                                                                                                                                                                                   |
| Encrypted            | Boolean | No       | false         | Indicates whether to encrypt the image.                                                                                                                                                                                                                               |
| Tag . N . Key        | String  | No       | FinanceJoshua | The tag key of the custom image.                                                                                                                                                                                                                                      |
| Tag . N . Value      | String  | No       | FinanceDept   | The tag value of the custom image.                                                                                                                                                                                                                                    |

### Response parameters

| Name      | Type   | Example                              | Description                             |
|-----------|--------|--------------------------------------|-----------------------------------------|
| ImageId   | String | m-imageid2                           | The ID of the destination custom image. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                  |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=CopyImage&ImageId=m-imageid1
```



```
& RegionId = cn - hangzhou
& DestinationImageName = FinanceJos_hua
& DestinationDescription = FinanceDept
& DestinationRegionId = cn - shanghai
& Encrypted = false
&< Common request parameters >
```

## Successful response examples

### XML format

```
< CopyImageResponse >
  < RequestId > C8B26B44 - 0189 - 443E - 9816 - D951F59623_A9 </
  RequestId >
  < ImageId > Img - 231234567 </ ImageId >
</ CopyImageResponse >
```

### JSON format

```
{
  "ImageId ":" Img - 231234567 ",
  "RequestId ":" C8B26B44 - 0189 - 443E - 9816 - D951F59623_A9 "
}
```

## Error codes

| HTTP status code | Error code                       | Error message                                             | Description                                                                                                                                                            |
|------------------|----------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 401              | InvalidAliUid.<br>IsNull         | The aliUid must not be null                               | The error message returned when the required AliUid parameter is not specified.                                                                                        |
| 403              | Forbidden                        | User not authorized to operate on the specified resource. | The error message returned when you are not authorized to access the specified resource.                                                                               |
| 400              | InvalidDescription.<br>Malformed | The specified destination description is wrongly formed.  | The error message returned when the specified description is invalid. The description must be 2 to 256 characters in length and cannot start with http:// or https://. |

| HTTP status code | Error code                   | Error message                                          | Description                                                                                                                                                            |
|------------------|------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidDescription.Malformed | The specified description is wrongly formed.           | The error message returned when the specified description is invalid. The description must be 2 to 256 characters in length and cannot start with http:// or https://. |
| 404              | InvalidImageId.NotFound      | The specified ImageId does not exist.                  | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct.                                          |
| 400              | IncorrectImageStatus         | The image not available.                               | The error message returned when the specified image is unavailable.                                                                                                    |
| 403              | QuotaExceed.Image            | The Image Quota exceeds.                               | The error message returned when the custom image quota has been exhausted.                                                                                             |
| 403              | QuotaExceed.Snapshot         | The snapshot quota exceeds.                            | The error message returned when the snapshot quota has been exhausted. To store new snapshots, you can delete existing snapshots without affecting your business.      |
| 403              | OperationDenied              | The specified snapshot is not allowed to create image. | The error message returned when the specified snapshot cannot be used to create images.                                                                                |

| HTTP status code | Error code                                | Error message                                                                                  | Description                                                                                                                                                                                 |
|------------------|-------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | SizeExceed.<br>Image                      | The image exceeds the maximum size. Please open a ticket to add the account to the white list. | The error message returned when the specified image size has reached the upper limit. If the problem persists, please submit a ticket to contact Alibaba Cloud technical support personnel. |
| 403              | OperationDeined<br>.EncryptedS<br>napshot | The image contains encrypted snapshots, which do not support copying.                          | The error message returned when the specified image contains encrypted snapshots and cannot be copied.                                                                                      |
| 403              | OperationDenied<br>.SameRegion<br>Only    | The image shared from others can not be copied to another region directly.                     | The error message returned when the specified image is shared by other accounts and cannot be copied.                                                                                       |

[View error codes](#)

## 11.4 CancelCopyImage

Cancels an image copy task.

### Description

When you call this operation, note that:

- After you cancel the task, the destination image created in the target region is deleted, and the source image remains unchanged.
- If the image copy process is completed, the CancelCopyImage operation fails and an error will be returned.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name     | Type   | Required | Example         | Description                                                                                                                                |
|----------|--------|----------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| ImageId  | String | Yes      | m-imageid1      | The ID of the image being copied.                                                                                                          |
| RegionId | String | Yes      | cn-hangzhou     | The ID of the region to which the image belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | CancelCopyImage | The operation that you want to perform. Set the value to CancelCopyImage.                                                                  |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=CancelCopyImage
&ImageId=m-imageid1
&RegionId=cn-hangzhou
&<Common request parameters>
```

### Successful response examples

#### XML format

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

```
</ CancelCopy ImageResponse >
```

#### JSON format

```
{
  "RequestId ":" C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9 "
}
```

#### Error codes

| HTTP status code | Error code                   | Error message                                | Description                                                                                                                                                            |
|------------------|------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidRegionId.NotFound     | The specified RegionId does not exist.       | The error message returned when the specified Region ID does not exist. Check whether the service is available in this region.                                         |
| 404              | InvalidImageId.NotFound      | The specified ImageId does not exist.        | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct.                                          |
| 400              | IncorrectImageStatus         | The image is copied finished.                | The error message returned when the specified image has been copied and the copy task cannot be canceled.                                                              |
| 400              | InvalidDescription.Malformed | The specified description is wrongly formed. | The error message returned when the specified description is invalid. The description must be 2 to 256 characters in length and cannot start with http:// or https://. |
| 400              | IncorrectImageStatus         | The specified snapshot is not coping.        | The error message returned when the specified snapshot is not being copied.                                                                                            |

| HTTP status code | Error code           | Error message                                     | Description                                                                                               |
|------------------|----------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 400              | IncorrectImageStatus | The specified image is not coping.                | The error message returned when the specified image is not being copied.                                  |
| 400              | IncorrectImageStatus | The image has completed copy.                     | The error message returned when the specified image has been copied and the copy task cannot be canceled. |
| 400              | IncorrectImageStatus | The Image copy has been failed.                   | The error message returned when the specified image failed to be copied.                                  |
| 400              | CancelNotSupported   | The specified image copying can not be cancelled. | The error message returned when the specified copy task cannot be canceled.                               |

[View error codes](#)

## 11.5 ExportImage

Exports a custom image to an OSS bucket in the same region as the custom image.

### Description

- This operation cannot export custom images that were created from the system disk snapshots of images available in Marketplace.
- A custom disk cannot be exported if it contains more than four data disk snapshots or if any of the data disks exceed 500 GB in size.
- You must use RAM to authorize a RAM role for ECS to write data to OSS. Refer to the following section to create and authorize the RAM role:
  1. Create a role named `AliyunECSImageExportDefaultRole`. Any other role names are invalid. Refer to the following code to configure the policy for the role:

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

2. In the role `AliyunECSI mageExport DefaultRole`, add the following default system permission policy: `AliyunECSI mageExport RolePolicy`. This policy is the default policy for ECS to export images. For more information, see [RAM](#). You can also create your custom policies with the following permissions:

```
{
  "Version": " 1 ",
  "Statement": [
    {
      "Action": [
        "oss : GetObject ",
        "oss : PutObject ",
        "oss : DeleteObject ",
        "oss : GetBucketLocation ",
        "oss : GetBucketInfo ",
        "oss : AbortMulti partUpload ",
        "oss : ListMulti partUploads ",
        "oss : ListParts "
      ],
      "Resource": "*",
      "Effect": "Allow "
    }
  ]
}
```

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name    | Type   | Required | Example    | Description                 |
|---------|--------|----------|------------|-----------------------------|
| ImageId | String | Yes      | m-imageid1 | The ID of the custom image. |

| Name      | Type   | Required | Example             | Description                                                                                                                                          |
|-----------|--------|----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| OSSBucket | String | Yes      | testexport<br>Image | The OSS bucket to which the image is to be exported.                                                                                                 |
| RegionId  | String | Yes      | cn-hangzhou         | The ID of the region to which the custom image belongs.<br>You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action    | String | No       | ExportImage         | The operation that you want to perform. Set the value to ExportImage.                                                                                |
| OSSPrefix | String | No       | EcsExport           | The prefix of your OSS object.<br>It must be 1 to 30 characters in length and can contain digits and letters.                                        |

### Response parameters

| Name      | Type   | Example                              | Description                      |
|-----------|--------|--------------------------------------|----------------------------------|
| RegionId  | String | cn-hangzhou                          | The ID of the region.            |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.           |
| TaskId    | String | tsk-231234567                        | The ID of the image export task. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ExportImage  
&ImageId=m-imageid1  
&OSSBucket=testexportImage  
&RegionId=cn-hangzhou  
&OSSPrefix=EcsExport
```



&< Common request parameters >

## Successful response examples

### XML format

```
< ExportImageResponse >
  < RequestId > C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9 </
  RequestId >
  < ExportTask Id > tsk - 231234567 </ ExportTask Id >
  < RegionId > cn - hangzhou </ RegionId >
</ ExportImageResponse >
```

### JSON format

```
{
  " RegionId ":" cn - hangzhou ",
  " RequestId ":" C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9 ",
  " ExportTask Id ":" tsk - 231234567 "
}
```

## Error codes

| HTTP status code | Error code               | Error message                                                                               | Description                                                                                                                    |
|------------------|--------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter         | An input parameter "RegionId" that is mandatory for processing the request is not supplied. | The error message returned when the required RegionId parameter is not specified.                                              |
| 400              | MissingParameter         | An input parameter ImageId that is mandatory for processing the request is not supplied.    | The error message returned when the required ImageId parameter is not specified.                                               |
| 400              | InvalidRegionId.NotFound | The specified RegionId does not exist.                                                      | The error message returned when the specified Region ID does not exist. Check whether the service is available in this region. |
| 400              | InvalidRegion.NotSupport | The specified region does not support image import or export.                               | The error message returned when the specified region does not support this operation.                                          |

| HTTP status code | Error code                    | Error message                                                            | Description                                                                                                                   |
|------------------|-------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidImageId.NotFound       | The specified ImageId does not exist.                                    | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct. |
| 400              | IncorrectImageStatus          | The specified Image is not available.                                    | The error message returned when the specified source image is in a state that does not support the current operation.         |
| 403              | ImageNotSupported             | The specified image from the image market, do not support export image.  | The error message returned when you are trying to export images from Marketplace.                                             |
| 400              | InvalidImageFormat.Malformed  | The specified Image Format is wrongly formed.                            | The error message returned when the format of the AssociateInstanceType parameter is incorrect.                               |
| 403              | ExportImageFailed             | Exporting image is failed , Please contact the administrator.            | The error message returned when the image failed to be exported . Contact a system administrator.                             |
| 400              | InvalidImage.DiskAmountOrSize | The diskSize or diskAmount of the image exceeds the limitation.          | The error message returned when the disk size or number of disks has reached the upper limit for image export.                |
| 400              | ImageNotSupported             | The specified Image contains encrypted snapshots, do not support export. | The error message returned when the specified image contains encrypted snapshots and cannot be exported.                      |

| HTTP status code | Error code        | Error message                                       | Description                                                                       |
|------------------|-------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------|
| 400              | ImageNotSupported | Image from image market does not support exporting. | The error message returned when you are trying to export images from Marketplace. |

[View error codes](#)

## 11.6 DescribeImages

Queries available images.

### Description

- You can query your own custom images, public images provided by Alibaba Cloud , available images from Marketplace, and shared images from other Alibaba Cloud users.
- This operation supports paged query. The response contains the total number of available images and the images on the current page. Ten entries are displayed on each page by default.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                   |
|----------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region to which the instance belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name         | Type    | Required | Example        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|---------|----------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action       | String  | No       | DescribeImages | The operation that you want to perform. Set the value to DescribeImages.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ActionType   | String  | No       | *              | <p>The operations that the image is used for. Valid values:</p> <ul style="list-style-type: none"> <li>· *</li> <li>· CreateEcs</li> <li>· ChangeOS</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Architecture | String  | No       | i386           | <p>The image architecture. Valid values:</p> <ul style="list-style-type: none"> <li>· i386</li> <li>· x86_64</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DryRun       | Boolean | No       | false          | <p>Indicates whether the system performs a permission check only.</p> <ul style="list-style-type: none"> <li>· true: Sends a permission check request, without querying resource status. The system checks whether your AccessKey is valid, whether RAM users are authorized, and whether the required parameters are set. For a failed check, corresponding error message is returned. For a successful check, the DryRunOperation error code is returned.</li> <li>· false: Sends a normal request, returns the 2XX HTTP status code after the check, and queries the resource status directly.</li> </ul> <p>Default value: false.</p> |

| Name               | Type    | Required | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|---------|----------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter . N . Key   | String  | No       | CreationStartTime    | The key of the filtering condition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Filter . N . Value | String  | No       | 2017-12-05T22:40:00Z | The value of the filtering condition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ImageId            | String  | No       | m-imageid1           | The ID of the image.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ImageName          | String  | No       | FinanceJoshua        | The name of the image.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ImageOwnerAlias    | String  | No       | Self                 | <p>The source of the image. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>system:</b> public images provided by Alibaba Cloud.</li> <li>• <b>self:</b> your custom images.</li> <li>• <b>others:</b> shared images from other Alibaba Cloud users.</li> <li>• <b>marketplace:</b> available images from Marketplace. If images from Marketplace are returned in the result, you can directly use these images without prior subscription. You must pay attention to the billing details of images from Marketplace.</li> </ul> <p>Default value: null, indicating that the results matching system, self, and others are returned.</p> |
| InstanceType       | String  | No       | ecs.g5.large         | The instance type of the images to be queried.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| IsSupportCloudInit | Boolean | No       | true                 | Indicates whether queried images supports cloud-init.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Name                 | Type    | Required | Example             | Description                                                                                                                                                                                                                                                                                     |
|----------------------|---------|----------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IsSupportIoOptimized | Boolean | No       | true                | Indicates whether queried images can be used for I/O optimized instances.                                                                                                                                                                                                                       |
| OSType               | String  | No       | linux               | The operating system type of images to be queried. Valid values: <ul style="list-style-type: none"> <li>· windows</li> <li>· linux</li> </ul>                                                                                                                                                   |
| OwnerAccount         | String  | No       | 155780923770        | The logon name of a RAM user.                                                                                                                                                                                                                                                                   |
| PageNumber           | Integer | No       | 1                   | The page number that you query in the image list. Starting value: 1.<br>Default value: 1.                                                                                                                                                                                                       |
| PageSize             | Integer | No       | 10                  | The number of entries per page. Maximum value: 100.<br>Default value: 10.                                                                                                                                                                                                                       |
| ResourceGroupId      | String  | No       | rg-resourcegroupid1 | The ID of the resource group to which the queried custom images belong.                                                                                                                                                                                                                         |
| ShowExpired          | Boolean | No       | false               | Indicates whether the subscription of a image has expired. <div>  <b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. </div> |

| Name            | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|--------|----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SnapshotId      | String | No       | s-snapshotid1 | The ID of the snapshot used to create the images to be queried.                                                                                                                                                                                                                                                                                                                                                                                      |
| Status          | String | No       | Available     | <p>The status of the image to be queried. Valid values:</p> <ul style="list-style-type: none"> <li>· Creating: The image is being created.</li> <li>· Waiting: Multiple images are waiting to be processed.</li> <li>· Available (default): The image is available.</li> <li>· UnAvailable: The image is unavailable.</li> <li>· CreateFailed: The image failed to be created.</li> </ul> <p>Separate multiple parameter values with commas (,).</p> |
| Tag . N . Key   | String | No       | FinanceJoshua | The tag key of the image. Valid values of N: 1 to 20. It cannot be a null string. It can be a maximum of 64 characters in length. It cannot start with aliyun, acs:, http://, or https://.                                                                                                                                                                                                                                                           |
| Tag . N . Value | String | No       | FinanceDept   | The tag value of the image. Valid values of N: 1 to 20. It can be a null string. It can be a maximum of 128 characters in length. It cannot start with aliyun, acs:, http://, or https://.                                                                                                                                                                                                                                                           |

| Name            | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                       |
|-----------------|--------|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . key   | String | No       | FinanceJoshua | <p>The tag key of the image.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use the Tag.N.Key parameter to ensure compatibility.         </div>     |
| Tag . N . value | String | No       | FinanceDept   | <p>The tag value of the image.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use the Tag.N.Value parameter to ensure compatibility.         </div> |
| Usage           | String | No       | instance      | <p>Queries whether the specified image is running on an ECS instance or not. Valid values:</p> <ul style="list-style-type: none"> <li>· instance: The image is running on an ECS instance.</li> <li>· none: The image is not in use.</li> </ul>                                                   |

### Response parameters

| Name          | Type   | Example | Description                                                                                                              |
|---------------|--------|---------|--------------------------------------------------------------------------------------------------------------------------|
| Images        |        |         | The image information. It is a set of ImageType data.                                                                    |
| └Architecture | String | x86_64  | <p>The system architecture. Valid values:</p> <ul style="list-style-type: none"> <li>· i386</li> <li>· x86_64</li> </ul> |



| Name                            | Type    | Example              | Description                                                    |
|---------------------------------|---------|----------------------|----------------------------------------------------------------|
| <code>CreationTime</code>       | String  | 2018-01-10T01:01:10Z | The creation time of the image.                                |
| <code>Description</code>        | String  | FinanceDept          | The description of the image.                                  |
| <code>DiskDeviceMappings</code> |         |                      | The description of disks and snapshots related to the image.   |
| <code>Device</code>             | String  | /dev/xvdb            | The device information of the created disk, such as /dev/xvdb. |
| <code>Format</code>             | String  | qcow2                | The format of the image.                                       |
| <code>ImportOSSBucket</code>    | String  | testEcsImport        | The OSS bucket where an imported image is stored.              |
| <code>ImportOSSObject</code>    | String  | imageImport          | The OSS object corresponding to an imported image file.        |
| <code>Progress</code>           | String  | 32%                  | The progress of an image copy task.                            |
| <code>RemainTime</code>         | Integer | 213                  | The remaining time in seconds for an image copy task.          |
| <code>Size</code>               | String  | 80                   | The size of the created disk.                                  |
| <code>SnapshotId</code>         | String  | s-snapshotid1        | The ID of the snapshot.                                        |
| <code>Type</code>               | String  | custom               | The type of the image.                                         |
| <code>ImageId</code>            | String  | m-imageid1           | The ID of the image.                                           |
| <code>ImageName</code>          | String  | Joshua-Finance       | The name of the image.                                         |

| Name                              | Type    | Example           | Description                                                                                                                                                                                                                                                                                                      |
|-----------------------------------|---------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <sup>⌞</sup> ImageOwnerAlias      | String  | self              | The source of the image. Valid values: <ul style="list-style-type: none"> <li>· system: public images provided by Alibaba Cloud.</li> <li>· self: your own custom images.</li> <li>· others: shared images from other Alibaba Cloud users.</li> <li>· marketplace: available images from Marketplace.</li> </ul> |
| <sup>⌞</sup> ImageVersion         | String  | 2                 | The version of the image.                                                                                                                                                                                                                                                                                        |
| <sup>⌞</sup> IsCopied             | Boolean | false             | Indicates whether the image is a copy of another image.                                                                                                                                                                                                                                                          |
| <sup>⌞</sup> IsSelfShared         | String  | true              | Indicates whether the image is shared to other Alibaba Cloud accounts.                                                                                                                                                                                                                                           |
| <sup>⌞</sup> IsSubscribed         | Boolean | false             | Indicates whether the user has subscribed to the image corresponding to the ProductCode. Valid values: <ul style="list-style-type: none"> <li>· true: The user has subscribed to the image.</li> <li>· false: The user has not subscribed to the image.</li> </ul>                                               |
| <sup>⌞</sup> IsSupportCloudinit   | Boolean | true              | Indicates whether the image supports cloud-init.                                                                                                                                                                                                                                                                 |
| <sup>⌞</sup> IsSupportIoOptimized | Boolean | true              | Indicates whether the image can be used for I/O optimized instances.                                                                                                                                                                                                                                             |
| <sup>⌞</sup> OSName               | String  | Aliyun Linux 17.1 | The name of the operating system.                                                                                                                                                                                                                                                                                |

| Name                          | Type    | Example             | Description                                                                                                                                                                |
|-------------------------------|---------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└OSType</code>          | String  | Linux               | The type of the operating system.<br>Valid values:<br><ul style="list-style-type: none"> <li>· windows</li> <li>· linux</li> </ul>                                         |
| <code>└Platform</code>        | String  | Aliyun Linux        | The release version of the operating system.                                                                                                                               |
| <code>└ProductCode</code>     | String  | jxsc000204          | The product code of the image from Marketplace.                                                                                                                            |
| <code>└Progress</code>        | String  | 100                 | The progress of image creation.<br>Unit: percent (%).                                                                                                                      |
| <code>└ResourceGroupId</code> | String  | rg-resourcegroup-id | The ID of the resource group to which the image belongs.                                                                                                                   |
| <code>└Size</code>            | Integer | 80                  | The size of the image.                                                                                                                                                     |
| <code>└Status</code>          | String  | Available           | The status of the image. Valid values:<br><ul style="list-style-type: none"> <li>· UnAvailable</li> <li>· Available</li> <li>· Creating</li> <li>· CreateFailed</li> </ul> |
| <code>└Tags</code>            |         |                     | The tag pair information of the image.                                                                                                                                     |
| <code>└TagKey</code>          | String  | FinanceDept         | The tag key of the image.                                                                                                                                                  |
| <code>└TagValue</code>        | String  | FinanceJoshua       | The tag value of the image.                                                                                                                                                |
| <code>└Usage</code>           | String  | none                | The referenced resource type. Valid values:<br><ul style="list-style-type: none"> <li>· instance</li> <li>· none</li> </ul>                                                |

| Name       | Type    | Example                              | Description                                      |
|------------|---------|--------------------------------------|--------------------------------------------------|
| PageNumber | Integer | 1                                    | The current page number.                         |
| PageSize   | Integer | 10                                   | The number of entries on the current page.       |
| RegionId   | String  | cn-hangzhou                          | The ID of the region to which the image belongs. |
| RequestId  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                           |
| TotalCount | Integer | 24                                   | The total number of available images.            |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeImages
&RegionId=cn-hangzhou
&Usage=instance
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeImagesResponse>
  <Images>
    <Image>
      <Architecture>i386</Architecture>
      <CreationTime>2014-07-22T09:53:44Z</CreationTime>
      <Description/>
      <DiskDeviceMappings>
        <DiskDeviceMapping>
          <Device>/dev/xvda</Device>
          <Size>20</Size>
          <SnapshotId/>
        </DiskDeviceMapping>
      </DiskDeviceMappings>
      <ImageId>suse11sp3_64_20G_ali_aegis_2015_0428.vhd</ImageId>
      <ImageName>suse11sp3_64_20G_ali_aegis_2015_0428.vhd</ImageName>
      <ImageOwnerAlias>system</ImageOwnerAlias>
      <ImageVersion>1.0</ImageVersion>
      <IsCopied>>false</IsCopied>
      <IsSubscribed>>false</IsSubscribed>
```

```

    < OSName > SUSE    Linux    Enterprise    Server    11    SP3    64 -
bit </ OSName >
    < ProductCode />
    < OSType > linux </ OSType >
    < Platform > SUSE </ Platform >
    < Progress > 100 </ Progress >
    < Size > 20 </ Size >
    < Status > Available </ Status >
    < Usage > instance </ Usage >
  </ Image >
</ Images >
< PageNumber > 1 </ PageNumber >
< PageSize > 2 </ PageSize >
< RegionId > cn - hangzhou </ RegionId >
< TotalCount > 24 </ TotalCount >
< RequestId > 7871BB26 - 3002 - 4950 - B2E6 - 98D333077E A5 </
RequestId >
</ DescribeImagesResponse >

```

### JSON format

```

{
  "PageNumber": 1,
  "TotalCount": 24,
  "PageSize": 1,
  "RequestId": "49CBCED4 - C9B9 - 4851 - BEB5 - 8FB5E5169E 30",
  "RegionId": "cn - hangzhou",
  "Images": {
    "Image": [
      {
        "ImageId": "suse11sp3_64_20G_ali_aegis_2015_0428.vhd",
        "OSType": "linux",
        "Architecture": "x86_64",
        "OSName": "SUSE    Linux    Enterprise    Server    11    SP3    64 -
bit",
        "DiskDeviceMappings": {
          "DiskDeviceMapping": [
            {
              "Device": "/dev/xvda",
              "Size": 20
            }
          ]
        },
        "ImageOwnerAlias": "system",
        "Progress": 100,
        "Usage": "instance",
        "CreationTime": "2015 - 05 - 06T09 : 01 : 32Z",
        "Status": "Available",
        "ImageVersion": 1,
        "ImageName": "suse11sp3_64_20G_ali_aegis_2015_0428.vhd",
        "IsCopied": false,
        "IsSubscribed": false,
        "Platform": "SUSE",
        "Size": 20
      }
    ]
  }
}

```

## Error codes

| HTTP status code | Error code                            | Error message                                                            | Description                                                                                                                   |
|------------------|---------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidFilterKey.NotFound             |                                                                          | The error message returned when the specified start time or end time is invalid.                                              |
| 404              | InvalidFilterValue                    |                                                                          | The error message returned when the format of the specified time is invalid.                                                  |
| 404              | InvalidUsage                          | The specified Usage is not valid                                         | The error message returned when the specified referenced resource type (image, disk, image_disk, or none) is invalid.         |
| 400              | InvalidTagMismatch                    | The specified Tag.n.Key and Tag.n.Value are not match.                   | The error message returned when the specified Tag.n.Key parameter does not correspond to the specified Tag.n.Value parameter. |
| 400              | InvalidTagCount                       | The specified tags are beyond the permitted range.                       | The error message returned when the number of specified tags has reached the upper limit.                                     |
| 400              | InvalidInstanceType.ValueNotSupported | The specified InstanceType does not exist or beyond the permitted range. | The error message returned when the specified instance type is not supported                                                  |
| 404              | InvalidOSType                         | The specified OSType is not valid                                        | The error message returned when the specified operating system is not supported.                                              |

[View error codes](#)

## 11.7 DeleteImage

Deletes a custom image.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                          |
|----------|--------|----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| ImageId  | String | Yes      | m-imageid1  | The ID of the custom image.<br>If the specified custom image does not exist, the request will be ignored.                                            |
| RegionId | String | Yes      | cn-hangzhou | The ID of the region to which the custom image belongs.<br>You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | DeleteImage | The operation that you want to perform. Set the value to DeleteImage.                                                                                |

| Name  | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                              |
|-------|---------|----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Force | Boolean | No       | false   | Indicates whether to force delete the custom image. Valid values: <ul style="list-style-type: none"><li>· true: Force deletes the custom image, regardless of whether the image is currently being used by other instances.</li><li>· false: Verifies that the image is not currently in use by any other instances before deleting the image.</li></ul> |

#### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

#### Examples

##### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteImage
&ImageId=m-imageid1
&RegionId=cn-hangzhou
&Force=false
&<Common request parameters>
```

##### Successful response examples

###### XML format

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

###### JSON format

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



```
}
```

### Error codes

| HTTP status code | Error code           | Error message                                          | Description                                                                                                       |
|------------------|----------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | ImageUsingByInstance | The specified image has been used to create instances. | The error message returned when the specified image is currently in use by other instances and cannot be deleted. |
| 403              | ImageIsCreating      | The specified image is being created.                  | The error message returned when the specified image is being created.                                             |
| 403              | ImageIsImporting     | The specified Image is importing.                      | The error message returned when the specified image is being imported and cannot be deleted.                      |

[View error codes](#)

## 11.8 DescribeImageSharePermission

Queries the accounts to which a custom image is shared. The response can be displayed over several pages. Ten entries are displayed on each page by default.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name    | Type   | Required | Example    | Description                 |
|---------|--------|----------|------------|-----------------------------|
| ImageId | String | Yes      | m-imageid1 | The ID of the custom image. |

| Name       | Type    | Required | Example                      | Description                                                                                                                                       |
|------------|---------|----------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId   | String  | Yes      | cn-hangzhou                  | The ID of the region to which the custom image belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action     | String  | No       | DescribeImageSharePermission | The operation that you want to perform. Set the value to DescribeImageSharePermission.                                                            |
| PageNumber | Integer | No       | 1                            | The page number that you query in the account list. Starting value: 1. Default value : 1.                                                         |
| PageSize   | Integer | No       | 10                           | The number of entries on each page. Maximum value: 50. Default value: 10.                                                                         |

#### Response parameters

| Name                  | Type    | Example      | Description                                         |
|-----------------------|---------|--------------|-----------------------------------------------------|
| Accounts              |         |              | The type of an Alibaba Cloud account.               |
| <sup>Ⓙ</sup> AliyunId | String  | 155780923770 | The ID of an Alibaba Cloud account .                |
| ImageId               | String  | m-imageid2   | The ID of the custom image.                         |
| PageNumber            | Integer | 1            | The page number that you query in the account list. |

| Name        | Type    | Example                              | Description                                                                                          |
|-------------|---------|--------------------------------------|------------------------------------------------------------------------------------------------------|
| PageSize    | Integer | 10                                   | The number of entries on each page.                                                                  |
| RegionId    | String  | cn-hangzhou                          | The ID of the region to which the image belongs.                                                     |
| RequestId   | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. This parameter is returned regardless of whether the operation is successful. |
| ShareGroups |         |                                      | The type of the shared group.                                                                        |
| └Group      | String  | all                                  | The shared group.                                                                                    |
| TotalCount  | Integer | 1                                    | The total number of entries.                                                                         |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeImageSharePermissions
&ImageId=m-282dzntc7
&RegionId=cn-qingdao
&PageNumber=1
&PageSize=10
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeImageSharePermissionsResponse>
  <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 > 1557809237 70 </ AliyunId >
  </ Account >
</ Accounts >
</ DescribeImageSharePermissionsResponse >

```

### JSON format

```

{
  "Accounts":{
    "Account":[
      {
        "AliyunId":"1557809237 70"
      }
    ]
  },
  "PageNumber":1,
  "ImageId":"m-282dzntc7",
  "TotalCount":1,
  "PageSize":10,
  "RequestId":"9AD96F49-0BE5-4868-A66A-224352549CEC",
  "RegionId":"cn-qingdao",
  "ShareGroups":{
    "ShareGroup":[
      {
        "Group":"all"
      }
    ]
  }
}

```

### Error codes

| HTTP status code | Error code       | Error message                                                                               | Description                                                                       |
|------------------|------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 400              | MissingParameter | The input parameter RegionId that is mandatory for processing this request is not supplied. | The error message returned when the required RegionId parameter is not specified. |
| 400              | MissingParameter | The input parameter ImageId that is mandatory for processing this request is not supplied.  | The error message returned when the required ImageId parameter is not specified.  |

| HTTP status code | Error code              | Error message                       | Description                                                                                                                   |
|------------------|-------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidImageId.NotFound | The specified image does not exist. | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct. |

[View error codes](#)

## 11.9 ModifyImageAttribute

Modifies the name and description of a custom image.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example              | Description                                                                                                                                          |
|----------|--------|----------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| ImageId  | String | Yes      | m-imageid1           | The ID of the custom image.                                                                                                                          |
| RegionId | String | Yes      | cn-hangzhou          | The ID of the region to which the custom image belongs.<br>You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | ModifyImageAttribute | The operation that you want to perform. Set the value to <code>ModifyImageAttribute</code> .                                                         |

| Name        | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                              |
|-------------|--------|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | String | No       | FinanceDept   | The description of the custom image. <ul style="list-style-type: none"><li>• The description must be 0 to 256 characters in length.</li><li>• It cannot start with http:// or https://.</li><li>• If not specified, this parameter is null. Default value: null.</li></ul>                               |
| ImageName   | String | No       | FinanceJoshua | The name of the custom image. <ul style="list-style-type: none"><li>• The name must be 2 to 128 characters in length.</li><li>• It must start with a letter and can contain letters, digits, colons (:), underscores (_), and hyphens (-).</li><li>• It cannot start with http:// or https://.</li></ul> |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyImageAttribute
&ImageId=m-imageid1
&RegionId=cn-hangzhou
&ImageName=FinanceJoshua
&Description=FinanceDept
&<Common request parameters>
```

#### Successful response examples

##### XML format

```
<ModifyImageAttributeResponse>
```

```
< RequestId > C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9 </
  RequestId >
</ ModifyImageAttribute Response >
```

#### JSON format

```
{
  "RequestId ":" C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9 "
}
```

#### Error codes

| HTTP status code | Error code                       | Error message                                                                               | Description                                                                                                                                                            |
|------------------|----------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter                 | The input parameter RegionId that is mandatory for processing this request is not supplied. | The error message returned when the required RegionId parameter is not specified .                                                                                     |
| 400              | InvalidImageName.<br>Duplicated  | The specified Image name has already been used.                                             | The error message returned when the specified image name is already in use.                                                                                            |
| 400              | InvalidDescription.<br>Malformed | The specified description is wrongly formed.                                                | The error message returned when the specified description is invalid. The description must be 2 to 256 characters in length and cannot start with http:// or https://. |
| 404              | InvalidImageId.<br>NotFound      | The specified ImageId does not exist.                                                       | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct.                                          |

[View error codes](#)

## 11.10 ModifyImageSharePermission

Manages which accounts a custom image is shared to. After you share a custom image to other Alibaba Cloud accounts, these accounts can use the shared image to create ECS instances ([RunInstances](#)) and replace system disks ([ReplaceSystemDisk](#)).

### Description

When you call this operation, note that:

- You can share only your own custom images to other Alibaba Cloud accounts.
- A single request can contain a maximum of 10 accounts to share a custom image to. You can specify a maximum of 10 values for the `AddAccount.n` or `RemoveAccount.n` parameter at a time. If you specify more than 10 values, the parameter will be ignored.
- One image can be shared to a maximum of 50 Alibaba Cloud accounts. You can [submit a ticket](#) to increase the number of users that you can share an image with.
- If an instance is created ([RunInstances](#)) by using a shared image, after the image owner stops sharing or deletes the custom image ([DeleteImage](#)), the specified instance cannot be reinitialized ([ReInitDisk](#)).

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                          |
|----------|--------|----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| ImageId  | String | Yes      | m-imageid1  | The ID of the custom image to be shared.                                                                                                             |
| RegionId | String | Yes      | cn-hangzhou | The ID of the region to which the custom image belongs.<br>You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |



| Name              | Type       | Required | Example                    | Description                                                                                                                                                                           |
|-------------------|------------|----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String     | No       | ModifyImageSharePermission | The operation that you want to perform. Set the value to ModifyImageSharePermission.                                                                                                  |
| AddAccount . N    | RepeatList | No       | 155780923771               | The IDs of the Alibaba Cloud accounts to which the image is shared. Valid values of N: 1 to 10. If the value of N is greater than 10, this parameter will be ignored.                 |
| RemoveAccount . N | RepeatList | No       | 155780923772               | The IDs of the Alibaba Cloud accounts to which the image is no longer to be shared. Valid values of N: 1 to 10. If the value of N is greater than 10, this parameter will be ignored. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyImageSharePermission
&ImageId=m-imageid1
&RegionId=cn-hangzhou
&AddAccount.1=155780923771
&RemoveAccount.1=155780923772
&<Common request parameters>
```

#### Successful response examples

**XML format**

```
< ModifyImageSharePermissionResponse >
  < RequestId > C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9 </
    RequestId >
</ ModifyImageSharePermissionResponse >
```

**JSON format**

```
{
  "RequestId": "C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9"
}
```

**Error codes**

| HTTP status code | Error code                 | Error message                                                                               | Description                                                                                                                   |
|------------------|----------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter           | The input parameter RegionId that is mandatory for processing this request is not supplied. | The error message returned when the required RegionId parameter is not specified.                                             |
| 404              | InvalidImageId.NotFound    | The specified ImageId does not exist.                                                       | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct. |
| 404              | InvalidAccount.Forbidden   | The specified Account does not exist.                                                       | The error message returned when you are trying to share the image to your own account.                                        |
| 403              | QuotaExceed.ShareImageUser | The shared Image user Quota exceeds.                                                        | The error message returned when the number of accounts to which one image can be shared has reached the upper limit.          |
| 400              | InvalidGroup.Malformed     | The specified Group is wrongly formed.                                                      | The error message returned when the specified group does not exist.                                                           |

| HTTP status code | Error code                        | Error message                                                       | Description                                                                       |
|------------------|-----------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 403              | OperationDenied.EncryptedSnapshot | The image contains encrypted snapshots, which do not support share. | The error message returned when the specified image contains encrypted snapshots. |

[View error codes](#)

## 11.11 DescribeImageSupportInstanceTypes

Queries the instance types supported by the specified image.

Debug

Use [OpenAPI Explorer](#) to perform debug operations and generate SDK code examples.

Request parameters

| Name     | Type   | Required? | Example value                     | Description                                                                                                                                  |
|----------|--------|-----------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes       | cn-hangzhou                       | The ID of the region to which the instance belongs. To view the latest list of Alibaba Cloud regions, call <a href="#">DescribeRegions</a> . |
| Action   | String | No        | DescribeImageSupportInstanceTypes | The name of this action.<br>Value: DescribeImageSupportInstanceTypes                                                                         |

| Name               | Type   | Required ? | Example value        | Description                                                                                                                                                                                                                                                                                                                    |
|--------------------|--------|------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ActionType         | String | No         | *                    | The scenario where the instance type is used. Valid values: <ul style="list-style-type: none"> <li>• CreateEcs (default): creates an instance.</li> <li>• Upgrade: upgrades an instance type.</li> <li>• Downgrade: downgrades an instance type.</li> <li>• RenewDowngrade: renews and downgrades an instance type.</li> </ul> |
| Filter . N . Key   | String | No         | CreationStartTime    | Specifies the filtering condition Key.                                                                                                                                                                                                                                                                                         |
| Filter . N . Value | String | No         | 2017-12-05T22:40:00Z | Specifies the filtering condition Value.                                                                                                                                                                                                                                                                                       |
| ImageId            | String | No         | m-imageid1           | The image ID.                                                                                                                                                                                                                                                                                                                  |

### Response parameters

| Name                 | Type    | Example value | Description                                              |
|----------------------|---------|---------------|----------------------------------------------------------|
| ImageId              | String  | m-imageid2    | The ID of the image to be queried.                       |
| InstanceTypes        | -       | -             | The instance type set that consists of InstanceItemType. |
| └ CpuCoreCount       | Integer | 1             | The number of vCPU kernels of the instance type.         |
| └ InstanceTypeFamily | String  | ecs.t1        | The instance type family.                                |
| └ InstanceTypeId     | String  | ecs.t1.xsmall | The ID of the instance type supported by the image.      |
| └ MemorySize         | Float   | 1024          | The memory size of the instance type.<br>Unit: GiB       |

| Name      | Type   | Example value                        | Description                                      |
|-----------|--------|--------------------------------------|--------------------------------------------------|
| RegionId  | String | cn-hangzhou                          | The ID of the region to which the image belongs. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID.                                  |

## Example

### Request example

```
https://ecs.aliyuncs.com/?Action=DescribeImageSupport
InstanceType=pe
&RegionId=cn-hangzhou
&ImageId=m-imageid1
&<CommonRequestParameters>
```

### Response example

#### XML format

```
<DescribeImageSupportInstanceTypepesResponse>
  <RequestId>CF661E2D-4AFE-4BCD-959A-A65E14416B44</RequestId>
  <RegionId>cn-hangzhou</RegionId>
  <ImageId>ubuntu_16_0402_64_20_G_alibase_20180409.vhd</ImageId>
  <InstanceTypepes>
    <InstanceTypepe>
      <InstanceTypepeId>ecs.t1.xsmall</InstanceTypepeId>
      <CpuCoreCount>1</CpuCoreCount>
      <MemorySize>0.5</MemorySize>
      <InstanceTypepeFamily>ecs.t1</InstanceTypepeFamily>
    </InstanceTypepe>
    <InstanceTypepe>
      <InstanceTypepeId>ecs.t1.small</InstanceTypepeId>
      <CpuCoreCount>1</CpuCoreCount>
      <MemorySize>1</MemorySize>
      <InstanceTypepeFamily>ecs.t1</InstanceTypepeFamily>
    </InstanceTypepe>
  </InstanceTypepes>
</DescribeImageSupportInstanceTypepesResponse>
```

#### JSON format

```
{
  "ImageId": "ubuntu_16_0402_64_20_G_alibase_20180409.vhd",
  "InstanceTypepes": {
    "InstanceTypepe": [
      {
```

```

    " CpuCoreCou  nt ": 1 ,
    " InstanceTy  peFamily ":" ecs . t1 ",
    " InstanceTy  peId ":" ecs . t1 . xsmall ",
    " MemorySize  ": 0 . 5
  },
  {
    " CpuCoreCou  nt ": 1 ,
    " InstanceTy  peFamily ":" ecs . t1 ",
    " InstanceTy  peId ":" ecs . t1 . small ",
    " MemorySize  ": 1
  }
]
},
" RegionId ":" cn - hangzhou ",
" RequestId ":" CF661E2D - 4AFE - 4BCD - 959A - A65E14416B 44 "
}

```

## Errors

| HTTP status code | Error code                                | Error message                                                            | Meaning                                                                                       |
|------------------|-------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 400              | InvalidParamter                           | Invalid Parameter                                                        | The specified parameter is invalid.                                                           |
| 404              | InvalidUsage                              | The specified Usage is not valid                                         | The specified resource type (image, disk, image_disk, or none) that is referenced is invalid. |
| 400              | InvalidInstanceType.<br>ValueNotSupported | The specified InstanceType does not exist or beyond the permitted range. | The specified instance type is not supported.                                                 |

For a list of error codes, visit the [API Error Center](#).

## 12 Snapshots

---

### 12.1 CreateSnapshot

You can call this operation to create a snapshot for a disk.

#### Description

- A maximum of 256 snapshots can be created for a single disk.
- The instance to which the disk is attached must be in the stopped ( `Stopped` ) or running ( `Running` ) state. Otherwise, the snapshot cannot be created.
- The disk for which you want to create a snapshot must be attached to an instance.
- If the instance to which a specified disk is attached has never been started, the snapshot cannot be created.
- If an ECS instance is locked for [security control](#) (the `OperationLocks` parameter is " `LockReason` " : " `security` "), no snapshots can be created for its attached disks.
- If you have called the [RunInstances](#), [ReplaceSystemDisk](#), or [CreateDisk](#) operation and data has not yet been loaded to the disk, no snapshots can be created. You can create a snapshot about one hour after you create an ECS instance or replace the system disk. The time to wait after you add a data disk before you can create a snapshot depends on the size of the disk data.
- If a snapshot is still being created, you cannot create another snapshot for the same disk.
- If a snapshot is still being created, this snapshot cannot be used to create a custom image ([CreateImage](#)).
- It is allowed to create snapshots for an expired ( `Expired` ) subscription cloud disk. Note that if you are creating snapshots while the cloud disk is being deleted, the snapshots that are in the creating ( `Creating` ) state are also deleted.

#### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter    | Type   | Required | Example        | Description                                                                                                                                                                                                                                                                                                                                                     |
|--------------|--------|----------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DiskId       | String | Yes      | d-diskid1      | The ID of the cloud disk for which a snapshot is to be created.                                                                                                                                                                                                                                                                                                 |
| Action       | String | No       | CreateSnapshot | The operation that you want to perform. Set the value to CreateSnapshot. If the request HTTP or HTTPS URL contains different parameters, <code>Action</code> is required.                                                                                                                                                                                       |
| SnapshotName | String | No       | FinanceJoshua  | The name of the snapshot to be created. The name must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).<br><br>It cannot start with auto, because snapshot names starting with auto are recognized as automatic snapshots. |
| Description  | String | No       | FinanceDepet   | The description of the snapshot to be created. The description must be 2 to 256 characters in length and cannot start with http:// or https://.<br><br>Default value: null                                                                                                                                                                                      |



| Parameter     | Type    | Required | Example                | Description                                                                                                                                                                                                                                                                                                         |
|---------------|---------|----------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RetentionDays | Integer | No       | 30                     | <p>The retention period of the snapshot to be created. Valid values: 1 to 65,536. Unit: day. The snapshot will be automatically released when the retention period expires.</p> <p>Default value: null, indicating that the snapshot will not be released automatically.</p>                                        |
| Tag.N.Value   | String  | No       | FinanceDept.<br>Joshua | <p>The tag value of the snapshot to be created.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use the Tag.N.Value parameter to ensure compatibility.         </div> |
| Tag.N.Key     | String  | No       | FinanceDept            | <p>The tag key of the snapshot to be created.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use the Tag.N.Key parameter to ensure compatibility.         </div>    |

| Parameter       | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . Key   | String | No       | FinanceDept                          | The tag key of the snapshot to be created. Valid values of N: 1 to 20. It cannot be an empty string. It can be up to 64 characters in length and cannot start with aliyun or acs :. It cannot contain http:// or https://.                                                                                                                                           |
| Tag . N . Value | String | No       | FinanceDept.<br>Joshua               | The tag value of the snapshot to be created. Valid values of N : 1 to 20. The tag value can be an empty string. It can be up to 128 characters in length and cannot start with aliyun or acs :. It cannot contain http:// or https://.                                                                                                                               |
| ClientToken     | String | No       | 123e4567-e89b-12d3-a456-426655440000 | The client token that is used to ensure the idempotence of the request. You can use the client to generate this value, but you must ensure that it is unique among different requests. The ClientToken parameter can contain only ASCII characters, and cannot exceed 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a> . |

**Response parameters**

| Parameter  | Type   | Example                              | Description                     |
|------------|--------|--------------------------------------|---------------------------------|
| RequestId  | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.          |
| SnapshotId | String | s-snapshotid1                        | The ID of the snapshot created. |

**Examples****Sample requests**

```
https://ecs.aliyuncs.com/?Action=CreateSnapshot
&DiskId=d-diskid1
&SnapshotName=FinanceJoshua
&Description=FinanceDepartment
&ClientToken=123e4567-e89b-12d3-a456-426655440000
&Tag.1.Key=FinanceDepartment
&Tag.1.Value=FinanceDepartment.Joshua
&<Common request parameters>
```

**Sample success responses****XML format**

```
<CreateSnapshotResponse>
  <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
  <SnapshotId>s-923FE2B**</SnapshotId>
</CreateSnapshotResponse>
```

**JSON format**

```
{
  "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
  "SnapshotId": "s-923FE2B**"
}
```

## Error codes

| HTTP status code | Error code                    | Error message                                                       | Description                                                                                                                                                                                                                                                                                            |
|------------------|-------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidDiskId.NotFound        | The specified DiskId does not exist.                                | The error message returned because the specified DiskId parameter does not exist. Check whether the DiskId parameter is correct.                                                                                                                                                                       |
| 400              | InvalidSnapshotName.Malformed | The specified SnapshotName is wrongly formed.                       | The error message returned because the format of the specified SnapshotName parameter is invalid. The name must be 2 to 128 characters in length. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter and cannot start with http:// or https://. |
| 404              | InvalidDescription.Malformed  | The specified description is wrongly formed.                        | The error message returned because the format of the specified Description parameter is invalid. The description must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                                      |
| 400              | IncorrectInstanceState        | The current status of the resource does not support this operation. | The error message returned because the operation is not supported while the resource is in the current state.                                                                                                                                                                                          |

| HTTP status code | Error code                               | Error message                                               | Description                                                                                                                                                               |
|------------------|------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectDiskStatus.<br>CreatingSnapshot | A previous snapshot creation is in process.                 | The error message returned because another snapshot is being created. Wait until the snapshot is created and try again.                                                   |
| 403              | InstanceLockedForSecurity                | The disk attached instance is locked due to security.       | The error message returned because the instance to which the disk is attached is locked to ensure security.                                                               |
| 403              | IncorrectDiskStatus.<br>NeverAttached    | The specified disk has never been attached to any instance. | The error message returned because the specified disk has not been attached to any instances and its content remains unchanged.                                           |
| 403              | QuotaExceeded.<br>Snapshot               | The snapshot quota exceeds.                                 | The error message returned because the maximum number of snapshots is reached. To create new snapshots, delete any unnecessary snapshots without affecting your business. |
| 403              | IncorrectDiskStatus.<br>NeverUsed        | The specified disk has never been used after creating.      | The error message returned because the disk has not been used after being created and its content remains unchanged.                                                      |
| 403              | CreateSnapshot.<br>Failed                | The process of creating snapshot is failed.                 | The error message returned because the snapshot has failed to be created.                                                                                                 |
| 403              | DiskInArrears                            | The specified operation is denied as your disk has expired. | The error message returned because the disk has expired due to overdue payment.                                                                                           |

| HTTP status code | Error code                                      | Error message                                                                 | Description                                                                                                                                                              |
|------------------|-------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 500              | InternalServerError                             | The request processing has failed due to some unknown error.                  | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket.                                           |
| 403              | DiskId.ValueNotSupported                        | The specified parameter diskid is not supported.                              | The error message returned because the operation is not supported by the current disk type.                                                                              |
| 400              | DiskCategory.OperationNotSupported              | The operation is not supported to the specified disk due to its disk category | The error message returned because the operation is not supported by the specified disk type.                                                                            |
| 403              | IncorrectDiskStatus                             | The current disk status does not support this operation.                      | The error message returned because the operation is not supported while the disk is in the current state. Ensure that the disk is available and has no overdue payments. |
| 403              | InvalidAccountStatus.NotEnoughBalance           | Your account does not have enough balance.                                    | The error message returned because your account balance is insufficient. Top up your account and try again.                                                              |
| 403              | InvalidAccountStatus.SnapshotServiceUnavailable | Snapshot service has not been opened yet.                                     | The error message returned because the operation is not supported while the snapshot service is not enabled.                                                             |
| 404              | InvalidInstanceId.NotFound                      | The specified InstanceId does not exist.                                      | The error message returned because the specified InstanceId parameter does not exist.                                                                                    |

| HTTP status code | Error code                                | Error message                                                                      | Description                                                                                                                      |
|------------------|-------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 403              | IncorrectVolumeStatus                     | The current volume status does not support this operation.                         | The error message returned because the operation is not supported while the shared block storage device is in the current state. |
| 404              | InvalidVolumeId.NotFound                  | The specified volume does not exist.                                               | The error message returned because the specified VolumeId parameter does not exist.                                              |
| 403              | IdempotentParameterMismatch               | The specified clientToken is used.                                                 | The error message returned because the specified token is in use.                                                                |
| 403              | IncorrectDiskStatus.Invalid               | The specified device status invalid, restart instance and try again.               | The error message returned because the specified disk status is invalid. Restart the instance and try again.                     |
| 403              | IncorrectDiskType.NotSupport              | The specified device type is not supported.                                        | The error message returned because the operation is not supported by the specified disk type.                                    |
| 403              | IncorrectDiskStatus.Transferring          | The specified device is transferring, you can retry after the process is finished. | The error message returned because the specified disk is being migrated. Wait until the disk is migrated and try again.          |
| 403              | InvalidParameter.KMSKeyId.KMSUnauthorized | ECS service have no right to access your KMS.                                      | The error message returned because ECS is not authorized to access your KMS resources.                                           |
| 500              | InternalServerError                       | The request processing has failed due to some unknown error, exception or failure. | The error message returned because an internal error has occurred.                                                               |

| HTTP status code | Error code                | Error message                                           | Description                                                                              |
|------------------|---------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------|
| 400              | Duplicate.TagKey          | The Tag.N.Key contain duplicate key.                    | The error message returned because the specified tag key is not unique.                  |
| 400              | InvalidTagKey.Malformed   | The specified Tag.n.Key is not valid.                   | The error message returned because the specified Tag.N.Key parameter is invalid.         |
| 400              | InvalidTagValue.Malformed | The specified Tag.n.Value is not valid.                 | The error message returned because the specified Tag.N.Value parameter is invalid.       |
| 403              | Idempotent Processing     | The previous idempotent request(s) is still processing. | The error message returned because the previous idempotence request is being processed . |

[View error codes](#)

## 12.2 DeleteSnapshot

Deletes a snapshot. Snapshots that are currently being created can also be deleted by calling this operation.

### Description

When you call this operation, note that:

- If the specified snapshot does not exist, the request will be ignored.
- A snapshot that has already been used to create custom images cannot be deleted. A snapshot can be deleted only after the created custom images have been deleted ([DeleteImage](#)).



## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type    | Required | Example        | Description                                                                                                                                                                                                                                                  |
|------------|---------|----------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SnapshotId | String  | Yes      | s-snapshotid1  | The ID of the snapshot.                                                                                                                                                                                                                                      |
| Action     | String  | No       | DeleteSnapshot | The operation that you want to perform. Set the value to DeleteSnapshot.                                                                                                                                                                                     |
| Force      | Boolean | No       | false          | Indicates whether to force delete snapshots associated with the disk.<br><br> <b>Note:</b><br>A disk cannot be reinitialized after its associated snapshots are deleted. |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteSnapshot
&SnapshotId=s-snapshotid1
&<Common request parameters>
```

### Successful response examples

XML format

```
<DeleteSnapshotResponse>
```

```
< RequestId > CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 </
RequestId >
</ DeleteSnapshotResponse >
```

#### JSON format

```
{
  "RequestId": " CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 "
}
```

#### Error codes

| HTTP status code | Error code                 | Error message                                                                                 | Description                                                                                                                                                                                                                                                          |
|------------------|----------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | SnapshotCreatedImage       | The snapshot has been used to create user defined image(s).                                   | The error message returned when the specified snapshot has been used to create custom images. You must delete the associated images before deleting the snapshot. If you force delete the snapshot, the images associated with the snapshot will become unavailable. |
| 403              | SnapshotCreatedDisk        | The snapshot has been used to create disk(s).                                                 | The error message returned when the specified snapshot has been used to create disks.                                                                                                                                                                                |
| 400              | MissingParameter           | The input parameter SnapshotId that is mandatory for processing this request is not supplied. | The error message returned when the required SnapshotId parameter is not specified .                                                                                                                                                                                 |
| 404              | InvalidSnapshotId.NotFound | The specified snapshot is not found                                                           | The error message returned when the specified snapshot does not exist.                                                                                                                                                                                               |

| HTTP status code | Error code         | Error message                                                | Description                                                                            |
|------------------|--------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 403              | Operation.Conflict | The operation may conflicts with others, please retry later. | The error message returned when the current operation conflicts with other operations. |

[View error codes](#)

## 12.3 DescribeSnapshots

Queries all the snapshots of an ECS instance or a disk. Request parameters such as InstanceId, DiskId, and SnapshotIds act as filtering conditions and have a Boolean AND relationship.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example           | Description                                                                                                                               |
|----------|--------|----------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou       | The ID of the region to which the disk belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | DescribeSnapshots | The operation that you want to perform. Set the value to DescribeSnapshots.                                                               |
| DiskId   | String | No       | d-diskid1         | The ID of the disk.                                                                                                                       |

| Name             | Type    | Required | Example           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------|---------|----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DryRun           | Boolean | No       | false             | <p>Indicates whether the system performs a permission check only.</p> <ul style="list-style-type: none"> <li>· <b>true:</b> Sends a permission check request, without querying resource status. The system checks whether your AccessKey is valid, whether RAM users are authorized, and whether the required parameters are set. For a failed check, the corresponding error message is returned. For a successful check, the DryRunOperation error code is returned.</li> <li>· <b>False (default):</b> Sends a normal request, returns the 2XX HTTP status code after the check and queries the resource status directly.</li> </ul> |
| Encrypted        | Boolean | No       | false             | Indicates whether to filter an encrypted snapshot. Default value: false.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Filter . 1 . Key | String  | No       | CreationStartTime | <p>The filter key used to query resources. The parameter value must be the start time when the resource was created (CreationStartTime).</p> <div>  <b>Note:</b><br/> This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility. </div>                                                                                                                                                                                                                                                      |

| Name                  | Type   | Required | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|--------|----------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter . 1<br>. Value | String | No       | 2017-12-05T22:40:00Z | <p>The filter value used to query resources. The parameter value must be the start time when the resource was created (CreationStartTime).</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |
| Filter . 2<br>. Key   | String | No       | CreationEndTime      | <p>The filter key used to query resources. The parameter value must be the end time when the resource was created (CreationEndTime).</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div>     |
| Filter . 2<br>. Value | String | No       | 2017-12-06T22:40:00Z | <p>The filter value used to query resources. The parameter value must be the end time when the resource was created (CreationEndTime).</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div>   |

| Name            | Type    | Required | Example                                        | Description                                                                                                                                                                                                 |
|-----------------|---------|----------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId      | String  | No       | i-instanceid1                                  | The ID of the instance.                                                                                                                                                                                     |
| KMSKeyId        | String  | No       | 0e478b7a-4262-4802-b8cb-00d3fb40826X           | The ID of the KMS key corresponding to the data disk.                                                                                                                                                       |
| PageNumber      | Integer | No       | 1                                              | The page number that you query in the snapshot list.<br>Starting value: 1.<br>Default value: 1.                                                                                                             |
| PageSize        | Integer | No       | 10                                             | The number of entries per page.<br>Maximum value: 100.<br>Default value: 10.                                                                                                                                |
| ResourceGroupId | String  | No       | rg-resourcegroup                               | The ID of the resource group.                                                                                                                                                                               |
| SnapshotIds     | String  | No       | ["s-xxxxxxxx", "s-yyyyyyyy", ... "s-zzzzzzzz"] | The IDs of the snapshots. The parameter value is an array of snapshot IDs separated with commas (.). You can specify a maximum of 100 IDs.                                                                  |
| SnapshotLinkId  | String  | No       | d-25okbh2pj                                    | The ID of the snapshot chain.                                                                                                                                                                               |
| SnapshotName    | String  | No       | FinanceJoshua                                  | The name of the snapshot.                                                                                                                                                                                   |
| SnapshotType    | String  | No       | all                                            | The type of the snapshot. Valid values:<br><ul style="list-style-type: none"><li>· auto: automatic snapshot</li><li>· user: manually created snapshot</li><li>· all (default): all snapshot types</li></ul> |

| Name               | Type   | Required | Example               | Description                                                                                                                                                                                                                                                                                             |
|--------------------|--------|----------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourceDisk<br>Type | String | No       | Data                  | The type of the source disk.<br>Valid values:<br><ul style="list-style-type: none"> <li>• System: The snapshot is created for a system disk.</li> <li>• Data: The snapshot is created for a data disk.</li> </ul>                                                                                       |
| Status             | String | No       | all                   | The status of the snapshot.<br>Valid values:<br><ul style="list-style-type: none"> <li>• progressing: The snapshot is being created.</li> <li>• accomplished: The snapshot is created.</li> <li>• failed: The snapshot failed to be created.</li> <li>• all (default): all snapshot statuses</li> </ul> |
| Tag . N .<br>Key   | String | No       | FinanceDept           | The tag key of the snapshot.<br>Valid values of N: 1 to 20. It cannot be a null string. It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.                                                                                     |
| Tag . N .<br>Value | String | No       | FinanceDep<br>tJoshua | The tag value of the snapshot . Valid values of N: 1 to 20. It can be a null string. It can be a maximum of 128 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.                                                                                       |

| Name            | Type   | Required | Example           | Description                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|--------|----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . key   | String | No       | FinanceDept       | The tag key of the snapshot.<br><div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use the Tag.N.Key parameter to ensure compatibility.         </div>                                                                                                       |
| Tag . N . value | String | No       | FinanceDeptJoshua | The tag value of the snapshot.<br><div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use the Tag.N.Key parameter to ensure compatibility.         </div>                                                                                                     |
| Usage           | String | No       | none              | The referenced resource type.<br>Valid values: <ul style="list-style-type: none"> <li>image: The snapshot is used to <a href="#">create custom images</a>.</li> <li>disk: The snapshot is used to <a href="#">create disks</a>.</li> <li>image_disk: The snapshot is used to create custom images and data disks.</li> <li>none: The snapshot is not referenced by any other resources.</li> </ul> |

### Response parameters

| Name       | Type    | Example | Description                                          |
|------------|---------|---------|------------------------------------------------------|
| PageNumber | Integer | 1       | The page number that you query in the snapshot list. |
| PageSize   | Integer | 10      | The number of entries per page.                      |



| Name              | Type    | Example                              | Description                                                                                                                                   |
|-------------------|---------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId         | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                        |
| Snapshots         |         |                                      | The snapshot details.                                                                                                                         |
| └ CreationTime    | String  | 2014-07-24T13:00:52Z                 | The creation time of the snapshot. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddThh:mmZ. |
| └ Description     | String  | FinanceDept                          | The description of the snapshot.                                                                                                              |
| └ Encrypted       | Boolean | false                                | Indicates whether the snapshot is encrypted.                                                                                                  |
| └ KMSKeyId        | String  | 0e478b7a-4262-4802-b8cb-00d3fb40826X | The ID of the KMS key corresponding to the data disk.                                                                                         |
| └ ProductCode     | String  | jxsc000204                           | The product code in the image marketplace.                                                                                                    |
| └ Progress        | String  | 100                                  | The progress of snapshot creation. Unit: percent (%).                                                                                         |
| └ RemainTime      | Integer | 38                                   | The time remaining for a snapshot creation task before it is completed. Unit: second.                                                         |
| └ ResourceGroupId | String  | rg-resourcegroup                     | The ID of the resource group.                                                                                                                 |
| └ RetentionDays   | Integer | 30                                   | The number of days that an automatic snapshot retains in the console for your instance.                                                       |
| └ SnapshotId      | String  | s-snapshotid1                        | The ID of the snapshot.                                                                                                                       |

| Name                | Type   | Example       | Description                                                                                                                                                                                                                                                                                |
|---------------------|--------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ↳ SnapshotName      | String | FinanceJoshua | The name of the snapshot. This parameter is returned only if a snapshot name was specified during creation.                                                                                                                                                                                |
| ↳ SourceDiskId      | String | d-diskid1     | The ID of the source disk. It is retained after the source disk of the snapshot is deleted.                                                                                                                                                                                                |
| ↳ SourceDiskSize    | String | 2000          | The size of the source disk. Unit: GB.                                                                                                                                                                                                                                                     |
| ↳ SourceDiskType    | String | Data          | The type of the source disk. Valid values: System   Data.                                                                                                                                                                                                                                  |
| ↳ SourceStorageType | String | disk          | <p>The type of the source disk.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |
| ↳ Status            | String | accomplished  | <p>The status of the snapshot. Valid values:</p> <ul style="list-style-type: none"> <li>· progressing</li> <li>· accomplished</li> <li>· failed</li> </ul>                                                                                                                                 |
| ↳ Tags              |        |               | The tags.                                                                                                                                                                                                                                                                                  |
| ↳ TagKey            | String | test          | The tag key of the snapshot.                                                                                                                                                                                                                                                               |
| ↳ TagValue          | String | api           | The tag value of the snapshot.                                                                                                                                                                                                                                                             |

| Name       | Type    | Example | Description                                                                                                                                         |
|------------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Usage      | String  | none    | The referenced resource type. Valid values: <ul style="list-style-type: none"> <li>image</li> <li>disk</li> <li>image_disk</li> <li>none</li> </ul> |
| TotalCount | Integer | 36      | The total number of snapshots                                                                                                                       |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeSnapshots
&RegionId=cn-hangzhou
&InstanceId=i-instanceid-1
&DiskId=d-diskid1
&SnapshotIds=["s-xxxxxxxx", "s-yyyyyyyy", ... "s-zzzzzzzz"]
&PageNumber=1
&PageSize=10
&SnapshotName=FinanceJoshua
&Status=all
&SnapshotType=all
&Usage=none
&SourceDiskType=Data
&Tag.1.Key=FinanceDept
&Tag.1.Value=FinanceDeptJoshua
&Encrypted=false
&DryRun=false
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeSnapshotsResponse>
  <Snapshots>
    <Snapshot>
      <CreationTime>2014-07-24T13:00:52Z</CreationTime>
      <Description>
      <SourceDiskId>d-23x0r79qy</SourceDiskId>
      <SourceDiskType>DATA</SourceDiskType>
      <ProductCode>
      <SnapshotName>auto_20140724_2</SnapshotName>
      <Progress>100%</Progress>
      <SourceDiskSize>50</SourceDiskSize>
      <Status>accomplished</Status>
      <SnapshotId>s-23f2i9s4t</SnapshotId>
      <Usage>none</Usage>
    </Snapshot>
```

```

    < Snapshot >
      < CreationTime > 2014 - 07 - 24T13 : 00 : 42Z </ CreationTime >
    </ Snapshot >
  </ Snapshots >
  < PageNumber > 1 </ PageNumber >
  < PageSize > 2 </ PageSize >
  < TotalCount > 36 </ TotalCount >
  < RequestId > 2F409D67 - 329A - 4405 - B924 - 2FC28566B3 66 </
  RequestId >
</ DescribeSnapshotsResponse >

```

### JSON format

```

{
  "PageNumber": 1,
  "TotalCount": 36,
  "PageSize": 2,
  "RequestId": "659F91C6 - 1949 - 43B0 - 90C4 - B6342CA757 D5",
  "Snapshots": [
    {
      "CreationTime": "2015 - 07 - 30T05 : 00 : 14Z",
      "Status": "accomplished",
      "SnapshotName": "auto_20150_730_3",
      "SourceDiskType": "system",
      "SourceDiskId": "d - 944qyqjfa",
      "SnapshotId": "s - 943ypfgic",
      "SourceDiskSize": 20,
      "Progress": "100%",
      "Usage": "none"
    },
    {
      "CreationTime": "2015 - 07 - 30T05 : 00 : 14Z",
      "Status": "accomplished",
      "SnapshotName": "auto_20150_730_3",
      "SourceDiskType": "system",
      "SourceDiskId": "d - 94j355jsq",
      "SnapshotId": "s - 94osg320e",
      "SourceDiskSize": 20,
      "Progress": "100%",
      "Usage": "none"
    }
  ]
}

```

## Error codes

| HTTP status code | Error code                       | Error message                                           | Description                                                                                                                   |
|------------------|----------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidSnapshotIds.<br>Malformed | The amount of specified snapshot Ids exceeds the limit. | The error message returned when the specified value of the SnapshotIds parameter is invalid.                                  |
| 404              | InvalidFilterKey.<br>NotFound    |                                                         | The error message returned when the specified start time or end time is incorrect.                                            |
| 404              | InvalidFilterValue               |                                                         | The error message returned when the format of the specified time is invalid.                                                  |
| 404              | InvalidUsage                     | The specified Usage is not valid                        | The error message returned when the specified referenced resource type (image, disk , image_disk, or none) is invalid.        |
| 404              | InvalidStatus.<br>NotFound       | The specified Status is not found                       | The error message returned when the specified resource status does not exist.                                                 |
| 404              | InvalidSnapshotType.<br>NotFound | The specified SnapshotType is not found                 | The error message returned when the specified snapshot type does not exist.                                                   |
| 400              | InvalidTag.<br>Mismatch          | The specified Tag.n.Key and Tag.n.Value are not match.  | The error message returned when the specified Tag.n.Key parameter does not correspond to the specified Tag.n.Value parameter. |

| HTTP status code | Error code                     | Error message                                      | Description                                                                               |
|------------------|--------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------|
| 400              | InvalidTagCount                | The specified tags are beyond the permitted range. | The error message returned when the number of specified tags has reached the upper limit. |
| 404              | InvalidSnapshotLinkId.NotFound | The specified snapshot link is not found.          | The error message returned when the specified snapshot chain does not exist.              |

[View error codes](#)

## 12.4 DescribeSnapshotsUsage

Queries the number of snapshots stored in a region as well as their total size. If you want to view the snapshot usage information for each disk in a region, we recommend that you call the DescribeSnapshotLinks operation to query snapshot chain information.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                   |
|----------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region to which the snapshot belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name   | Type   | Required | Example                | Description                                                                      |
|--------|--------|----------|------------------------|----------------------------------------------------------------------------------|
| Action | String | No       | DescribeSnapshotsUsage | The operation that you want to perform. Set the value to DescribeSnapshotsUsage. |

### Response parameters

| Name          | Type    | Example                              | Description                                                           |
|---------------|---------|--------------------------------------|-----------------------------------------------------------------------|
| RequestId     | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                |
| SnapshotCount | Integer | 5                                    | The number of snapshots stored in the current region.                 |
| SnapshotSize  | Long    | 122                                  | The total size of snapshots stored in the current region. Unit: Byte. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeSnapshotsUsage
&RegionId=cn-hangzhou
<Common request parameters>
```

#### Successful response examples

##### XML format

```
<DescribeSnapshotsUsageResponse>
  <SnapshotCount>5</SnapshotCount>
  <SnapshotSize>122</SnapshotSize>
  <RequestId>ED5CF6DD-71CA-462C-9C94-A61A78A01479</RequestId>
</DescribeSnapshotsUsageResponse>
```

##### JSON format

```
{
  "SnapshotSize": 122,
  "RequestId": "ACD9BBB0-A9D1-46D7-9630-B7A69889E110",
  "SnapshotCount": 5
}
```

```
}
```

#### Error codes

| HTTP status code | Error code            | Error message                        | Description                                                          |
|------------------|-----------------------|--------------------------------------|----------------------------------------------------------------------|
| 403              | InvalidParam.RegionId | The specified region does not exist. | The error message returned when the specified region does not exist. |

[View error codes](#)

## 12.5 DescribeSnapshotLinks

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

#### Description

When you call this operation, note that:

- Request parameters such as RegionId, DiskIds, and InstanceId act as filtering conditions and have a Boolean AND relationship.
- If no parameters are specified, no filtering conditions are applied. If the DiskIds and SnapshotLinkIds parameters are empty JSON arrays ([]), the filtering conditions are regarded as effective and a blank result will be returned.

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.



## Request parameters

| Name       | Type    | Required | Example                                           | Description                                                                                                                                                     |
|------------|---------|----------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId   | String  | Yes      | cn-hangzhou                                       | The ID of the region to which the disk belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                       |
| Action     | String  | No       | DescribeSnapshotLinks                             | The operation that you want to perform. Set the value to DescribeSnapshotLinks.                                                                                 |
| DiskIds    | String  | No       | ["d-xxxxxxxxx", "d-yyyyyyyyy", ... "d-zzzzzzzzz"] | The IDs of the disks to be queried. You can specify a maximum of 100 disk IDs at a time. The parameter value is an array of disk IDs separated with commas (,). |
| InstanceId | String  | No       | i-instanceid1                                     | The ID of the instance.                                                                                                                                         |
| PageNumber | Integer | No       | 1                                                 | The page number that you query in the disk status list.<br>Starting value: 1.<br>Default value: 1.                                                              |
| PageSize   | Integer | No       | 10                                                | The number of entries per page.<br>. Valid values: 1 to 50.<br>Default value: 10.                                                                               |

| Name          | Type   | Required | Example                                           | Description                                                                                                                                                                                   |
|---------------|--------|----------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SnapshotLinks | String | No       | ["p-xxxxxxxxx", "p-yyyyyyyyy", ... "p-zzzzzzzzz"] | The IDs of the snapshot chains to be queried. You can specify a maximum of 100 snapshot chain IDs at a time. The parameter value is an array of snapshot chain IDs separated with commas (,). |

### Response parameters

| Name             | Type    | Example                              | Description                                                                  |
|------------------|---------|--------------------------------------|------------------------------------------------------------------------------|
| PageNumber       | Integer | 1                                    | The page number that you query in the snapshot chain list.                   |
| PageSize         | Integer | 10                                   | The number of entries per page.                                              |
| RequestId        | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                       |
| SnapshotLinks    |         |                                      | A set of snapshot chains.                                                    |
| └ InstanceId     | String  | i-instanceid1                        | The ID of the instance.                                                      |
| └ InstanceName   | String  | FinanceJoshua                        | The name of the instance.                                                    |
| └ RegionId       | String  | cn-hangzhou                          | The ID of the region to which the source disk of the snapshot chain belongs. |
| └ SnapshotLinkId | String  | p-2ze0y1jwzpb1geqxxkroq              | The ID of the snapshot chain.                                                |

| Name             | Type    | Example       | Description                                                                                                                                                                                                                              |
|------------------|---------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| └ SourceDiskId   | String  | d-diskid1     | The ID of the source disk. This parameter is retained even after the source disk of the snapshot is deleted.                                                                                                                             |
| └ SourceDiskName | String  | FinanceJoshua | The name of the source disk.                                                                                                                                                                                                             |
| └ SourceDiskSize | Integer | 40            | The size of the source disk. Unit: GiB.                                                                                                                                                                                                  |
| └ SourceDiskType | String  | cloud_ssd     | The type of the source disk. Valid values: <ul style="list-style-type: none"> <li>cloud: basic disk</li> <li>cloud_efficiency: ultra disk</li> <li>cloud_ssd: SSD</li> <li>ephemeral_ssd: local SSD</li> <li>cloud_essd: ESSD</li> </ul> |
| └ TotalCount     | Integer | 1             | The total number of snapshots.                                                                                                                                                                                                           |
| └ TotalSize      | Integer | 2097152       | The size of all snapshots in a snapshot chain. Unit: Byte.                                                                                                                                                                               |
| TotalCount       | Integer | 9             | The total number of snapshot chains.                                                                                                                                                                                                     |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeSnapshots
&RegionId=cn-hangzhou
&InstanceId=i-instanceid-1
&DiskIds=["d-xxxxxxxx", "d-yyyyyyyy", ... "d-zzzzzzzz"]
&SnapshotLinkIds=["p-xxxxxxxx", "p-yyyyyyyy", ... "p-zzzzzzzz"]
&PageNumber=1
&PageSize=10
<Common request parameters>
```

### Successful response examples

**XML format**

```
< DescribeSnapshotsResponse >
  < Snapshots >
    < Snapshot >
      < SnapshotId > d-25okbh2pj </ SnapshotId >
      < SourceDiskId > d-25okbh2pj </ SourceDiskId >
      < SourceDiskType > data </ SourceDiskType >
      < SourceDiskSize > 20 </ SourceDiskSize >
      < RegionId > cn-beijing-btc-a01 </ RegionId >
      < TotalCount > 1 </ TotalCount >
      < TotalSize > 2097152 </ TotalSize >
    </ Snapshot >
    < Snapshot >
      < SnapshotId > d-2ze0y1jwzp-blgeqzkroq </ SnapshotId >
      < SourceDiskId > d-2ze0y1jwzp-blgeqzkroq </ SourceDiskId >
      < SourceDiskType > system </ SourceDiskType >
      < SourceDiskSize > 40 </ SourceDiskSize >
      < RegionId > cn-beijing-btc-a01 </ RegionId >
      < TotalCount > 1 </ TotalCount >
      < TotalSize > 2097152 </ TotalSize >
    </ Snapshot >
  </ Snapshots >
  < PageNumber > 1 </ PageNumber >
  < PageSize > 2 </ PageSize >
  < TotalCount > 9 </ TotalCount >
  < RequestId > ED5CF6DD-71CA-462C-9C94-A61A78A01479 </ RequestId >
</ DescribeSnapshotsResponse >
```

**JSON format**

```
{
  "PageNumber": 1,
  "TotalCount": 9,
  "PageSize": 2,
  "RequestId": "ED5CF6DD-71CA-462C-9C94-A61A78A01479",
  "Snapshots": {
    "Snapshot": [
      {
        "TotalCount": 1,
        "SourceDiskType": "data",
        "SourceDiskId": "d-25okbh2pj",
        "RegionId": "cn-beijing-btc-a01",
        "SourceDiskSize": 20,
        "SnapshotId": "d-25okbh2pj",
        "TotalSize": 2097152
      },
      {
        "TotalCount": 1,
        "SourceDiskType": "system",
        "SourceDiskId": "d-2ze0y1jwzp-blgeqzkroq",
        "RegionId": "cn-beijing-btc-a01",
        "SourceDiskSize": 40,
        "SnapshotId": "d-2ze0y1jwzp-blgeqzkroq",
        "TotalSize": 2097152
      }
    ]
  }
}
```

```
}
```

### Error codes

| HTTP status code | Error code     | Error message                     | Description                                                                              |
|------------------|----------------|-----------------------------------|------------------------------------------------------------------------------------------|
| 400              | InvalidDiskIds | The specified diskIds is invalid. | The error message returned when the specified value of the DiskIds parameter is invalid. |

[View error codes](#)

## 12.6 ModifySnapshotAttribute

You can call the ModifySnapshotAttribute operation to modify the name or description of a snapshot.

### Debugging

[Alibaba Cloud provides OpenAPI Explorer to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.](#)

### Request parameters

| Parameter  | Type   | Required | Example                 | Description                                                                                                                                                                              |
|------------|--------|----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SnapshotId | String | Yes      | s-923FE2B**             | The ID of the snapshot to be modified.                                                                                                                                                   |
| Action     | String | No       | ModifySnapshotAttribute | The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set this parameter to <code>ModifySnapshotAttribute</code> . |

| Parameter    | Type   | Required | Example                             | Description                                                                                                                                                                                                                                                                                                                                          |
|--------------|--------|----------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description  | String | No       | NewSnapshotDescription-EcsGuideTest | The description of the snapshot . It must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                                                                                                                                                                |
| SnapshotName | String | No       | NewSnapshotName-EcsGuideTest        | The name of the snapshot. It must be 2 to 128 characters in length. It must start with a letter but cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).<br><br>It cannot start with auto because a name that starts with auto may conflict with the name of an automatic snapshot . |

### Response parameters

| Parameter | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample request

```
https :// ecs . aliyuncs . com /? Action = ModifySnapshotAttribute
& SnapshotName = NewSnapshotName - EcsGuideTest
& Description = NewSnapshotDescription - EcsGuideTest
&< Common request parameters >
```

#### Sample success response

**XML format**

```
< ModifySnap  shotAttrib  uteRespons  e >
  < RequestId > C8B26B44 - 0189 - 443E - 9816 - D951F59623
    A9 </ RequestId >
</ ModifySnap  shotAttrib  uteRespons  e >
```

**JSON format**

```
{
  " RequestId ":" C8B26B44 - 0189 - 443E - 9816 - D951F59623  A9 "
}
```

**Error codes**

| HTTP status code | Error code                     | Error message                                 | Description                                                                                                                                                                                                                                                                  |
|------------------|--------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidDescription. Malformed  | The specified description is wrongly formed.  | The error message returned because the specified resource description is invalid. The description must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                           |
| 400              | InvalidSnapshotName. Malformed | The specified SnapshotName is wrongly formed. | The error message returned because the specified snapshot name is invalid. The name must be 2 to 128 characters in length and contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter but cannot start with http:// or https://. |
| 400              | NoAttributeToModify            | No attribute to be modified in this request.  | The error message returned because no properties of the specified snapshot are modified.                                                                                                                                                                                     |

| HTTP status code | Error code                 | Error message                            | Description                                                                                                         |
|------------------|----------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSnapshotId.NotFound | The specified SnapshotId does not exist. | The error message returned because the specified snapshot does not exist. Check whether the snapshot ID is correct. |

For more information, see [Error codes](#).

## 12.7 CreateAutoSnapshotPolicy

Creates an automatic snapshot policy. After you create an automatic snapshot policy, you can call `ApplyAutoSnapshotPolicy` to apply it to any disks. You can call `ModifyAutoSnapshotPolicyEx` to modify a created automatic snapshot policy as required.

### Description

When you call this operation, note that:

- You can create up to 100 automatic snapshot policies in each region.
- If a disk contains a large volume of data, the amount of time it takes to create a snapshot can take longer than the interval between scheduled automatic snapshots. In these cases, the second scheduled snapshot will not be taken. Assume that you set the automatic snapshot time points at 09:00, 10:00, 11:00, and 12:00. If the first automatic snapshot taken at 09:00 took 80 minutes to complete and ended at 10:20, the task scheduled for 10:00 will be skipped. A snapshot for 11:00 will be taken as scheduled.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.



## Request parameters

| Name           | Type   | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|--------|----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| regionId       | String | Yes      | cn-hangzhou | The ID of the region to which the automatic snapshot policy belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                                                                                                                                                                                                                             |
| repeatWeekdays | String | Yes      | "1"         | <p>The repeat date for the automatic snapshot. This parameter specifies on which day of the week that the automatic snapshot is created. Valid values: 1 to 7, corresponding to the days of a week, where 1 indicates Monday. To schedule multiple automatic snapshot tasks for a disk in a week, you can set the RepeatWeekdays parameter to an array.</p> <ul style="list-style-type: none"><li>• You can specify a maximum of seven dates.</li><li>• You must specify the parameter in a JSON-formatted array: ["1", "2", ... "7"]. Separate multiple values with commas (,).</li></ul> |

| Name          | Type    | Required | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|---------|----------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| retentionDays | Integer | Yes      | 30                       | <p>The retention period of the automatic snapshot. Unit: day. Valid values:</p> <ul style="list-style-type: none"> <li>· -1: The automatic snapshot is retained permanently.</li> <li>· 1-65536: The automatic snapshot is retained for the specified number of days.</li> </ul> <p>Default value: -1.</p>                                                                     |
| timePoints    | String  | Yes      | ["0", "1", ... "23"]     | <p>The point in time at which the automatic snapshot is created. Unit: hour. Valid values: 0 to 23, corresponding to the 24 hours within the range of 00:00 to 23:00. For example, 1 indicates 01:00. To schedule multiple automatic snapshot tasks for a disk in a day, you can set the TimePoints parameter to an array. You can specify a maximum of 24 points in time.</p> |
| Action        | String  | No       | CreateAutoSnapshotPolicy | <p>The operation that you want to perform. Set the value to CreateAutoSnapshotPolicy.</p>                                                                                                                                                                                                                                                                                      |

| Name                   | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|--------|----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| autoSnapshotPolicyName | String | No       | FinanceJoshua | <p>The name of the automatic snapshot policy.</p> <ul style="list-style-type: none"> <li>• The name must be 2 to 128 characters in length.</li> <li>• It must start with a letter and can contain letters, digits, colons (:), underscores (_), and hyphens (-).</li> <li>• It cannot start with http:// or https://.</li> </ul> <p>Default value: null.</p> |

### Response parameters

| Name                 | Type   | Example                              | Description                              |
|----------------------|--------|--------------------------------------|------------------------------------------|
| AutoSnapshotPolicyId | String | p-233e6ylv0                          | The ID of the automatic snapshot policy. |
| RequestId            | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                   |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=CreateAutoSnapshotPolicy
&regionId=cn-hangzhou
&repeatWeekdays=["1"]
&retentionDays=30
&timePoints=["0","19"]
&autoSnapshotPolicyName=FinanceJoshua
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

```
</ CreateAuto SnapshotPolicyResponse >
```

#### JSON format

```
{
  "RequestId ":" F3CD6886 - D8D0 - 4FEE - B93E - 1B73239673 DE ",
  "AutoSnapshotPolicyId ":" p - 233e6ylv0 "
}
```

#### Error codes

| HTTP status code | Error code                                | Error message                                      | Description                                                                                                           |
|------------------|-------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 403              | ParameterInvalid                          | The specified RegionId parameter is invalid.       | The error message returned when the specified value of the RegionId parameter is invalid.                             |
| 403              | ParameterInvalid                          | The specified RepeatWeekDays parameter is invalid. | The error message returned when the specified value of the RepeatWeekDays parameter is invalid.                       |
| 403              | ParameterInvalid                          | The specified TimePoints parameter is invalid.     | The error message returned when the specified value of the TimePoints parameter is invalid.                           |
| 403              | ParameterInvalid                          | The specified RetentionDays parameter is invalid.  | The error message returned when the specified value of the RetentionDays parameter is invalid.                        |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance | Your account does not have enough balance.         | The error message returned when your account balance is insufficient. You must top up your account before proceeding. |

[View error codes](#)

## 12.8 ApplyAutoSnapshotPolicy

Applies an automatic snapshot policy to one or more disks. If you apply an automatic snapshot policy to a disk that already has an automatic snapshot policy, the new policy will take effect on the disk and replace the original policy.

### Description

When you call this operation, note that:

- A disk can have only one automatic snapshot policy.
- A single automatic snapshot policy can be applied to multiple disks.
- If many automatic snapshot tasks are in progress at the same point in time, the tasks are queued for zero to three minutes for execution. These tasks may not be executed concurrently.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name                 | Type   | Required | Example                                           | Description                                                                                                                                                  |
|----------------------|--------|----------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| autoSnapshotPolicyId | String | Yes      | p-233e6ylv0                                       | The ID of the automatic snapshot policy.                                                                                                                     |
| diskIds              | String | Yes      | "d-233e6ylv0",<br>"d-23vbpbi03",<br>"d-23vasz3ds" | The IDs of the disks. To apply an automatic snapshot policy to multiple disks, you can set this parameter to an array of disk IDs separated with commas (,). |

| Name     | Type   | Required | Example                 | Description                                                                                                                                                                |
|----------|--------|----------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| regionId | String | Yes      | cn-hangzhou             | The ID of the region to which the automatic snapshot policy and the disk belong. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | ApplyAutoSnapshotPolicy | The operation that you want to perform. Set the value to ApplyAutoSnapshotPolicy.                                                                                          |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ApplyAutoSnapshotPolicy
&autoSnapshotPolicyId=p-233e6ylv0
&diskIds=["d-233e6ylv0","d-23vbpbi03","d-23vasz3ds"]
&regionId=cn-hangzhou
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

}

## Error codes

| HTTP status code | Error code             | Error message                                                 | Description                                                                                                                  |
|------------------|------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 404              | ParameterInvalid       | The specified automatic snapshot policy does not exist.       | The error message returned when the specified automatic snapshot policy does not exist. Check whether the policy is correct. |
| 404              | ParameterInvalid       | The specified automatic snapshot policy does not exist in the | The error message returned when the specified automatic snapshot policy does not exist. Check whether the policy is correct. |
| 404              | InvalidDiskId.NotFound | The specified disk does not exist in the region.              | The error message returned when the specified disk does not exist in the current region .                                    |
| 403              | ParameterInvalid       | The specified RegionId parameter is invalid.                  | The error message returned when the specified value of the RegionId parameter is invalid.                                    |
| 403              | ParameterInvalid       | The specified AutoSnapshotPolicyId parameter is invalid.      | The error message returned when the specified value of the AutoSnapshotPolicyId parameter is invalid.                        |
| 403              | ParameterInvalid       | The specified DiskIds are invalid.                            | The error message returned when the specified value of the DiskIds parameter is invalid.                                     |

| HTTP status code | Error code                                   | Error message                                                               | Description                                                                                                           |
|------------------|----------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 400              | PartofDiskCategory.<br>OperationNotSupported | The types of some disks in the disk list do not support creating snapshots. | The error message returned when some of the specified disks does not support this operation .                         |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance    | Your account does not have enough balance.                                  | The error message returned when your account balance is insufficient. You must top up your account before proceeding. |

[View error codes](#)

## 12.9 CancelAutoSnapshotPolicy

Cancels the automatic snapshot policies of one or more disks.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name    | Type   | Required | Example                                       | Description                                                                                                                                                                                                                   |
|---------|--------|----------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| diskIds | String | Yes      | ["d-233e6ylv0", "d-23vbpbi03", "d-23vasz3ds"] | The IDs of the disks. To cancel the automatic snapshot policy for multiple disks, you can set this parameter to a JSON-formatted array: ["dxxxxxxxx", "dyyyyyyyyy", ... "dzzzzzzzzz"]. Separate multiple IDs with commas (,). |



| Name     | Type   | Required | Example                  | Description                                                                                                                                                                   |
|----------|--------|----------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| regionId | String | Yes      | cn-hangzhou              | The ID of the region to which the automatic snapshot policies and the disks belong. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | CancelAutoSnapshotPolicy | The operation that you want to perform. Set the value to CancelAutoSnapshotPolicy.                                                                                            |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=CancelAutoSnapshotPolicy
&diskIds=["d-233e6ylv0","d-23vbpbi03","d-23vasz3ds"]
&regionId=cn-hangzhou
&<Common request parameters>
```

#### Successful response examples

##### XML format

```
<CancelAutoSnapshotPolicyResponse>
  <RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673-DE</RequestId>
</CancelAutoSnapshotPolicyResponse>
```

##### JSON format

```
{
  "RequestId": "F3CD6886-D8D0-4FEE-B93E-1B73239673-DE"
```

```
}
```

### Error codes

| HTTP status code | Error code             | Error message                                | Description                                                                               |
|------------------|------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------|
| 403              | ParameterInvalid       | The specified RegionId parameter is invalid. | The error message returned when the specified value of the RegionId parameter is invalid. |
| 403              | ParameterInvalid       | The specified DiskIds are invalid.           | The error message returned when the specified value of the DiskIds parameter is invalid.  |
| 404              | InvalidDiskId.NotFound | The specified DiskIds are not found.         | The error message returned when the specified disk IDs do not exist.                      |

[View error codes](#)

## 12.10 DeleteAutoSnapshotPolicy

Deletes an automatic snapshot policy. After you delete an automatic snapshot policy, the policy will no longer be applied to the disks that it previously took effect on.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name                 | Type   | Required | Example                  | Description                                                                                                                                             |
|----------------------|--------|----------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| autoSnapshotPolicyId | String | Yes      | p-233e6ylv0              | The ID of the automatic snapshot policy. You can call <a href="#">DescribeAutoSnapshotPolicyEx</a> to view the available automatic snapshot policies.   |
| regionId             | String | Yes      | cn-hangzhou              | The ID of the region to which the automatic snapshot belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action               | String | No       | DeleteAutoSnapshotPolicy | The operation that you want to perform. Set the value to DeleteAutoSnapshotPolicy.                                                                      |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

## Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteAutoSnapshotPolicy
&autoSnapshotPolicyId=p-233e6ylv0
&regionId=cn-hangzhou
&<Common request parameters>
```

## Successful response examples

## XML format

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

```
</ DeleteAuto SnapshotPo licyRespon se >
```

JSON format

```
{  
  "RequestId ":" F3CD6886 - D8D0 - 4FEE - B93E - 1B73239673 DE "  
}
```

#### Error codes

| HTTP status code | Error code       | Error message                                                         | Description                                                                                                                     |
|------------------|------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 404              | ParameterInvalid | The specified automatic snapshot policy does not exist.               | The error message returned when the specified automatic snapshot policy does not exist. Check whether the policy ID is correct. |
| 404              | ParameterInvalid | The specified automatic snapshot policy does not exist in the region. | The error message returned when the specified automatic snapshot policy does not exist. Check whether the policy ID is correct. |

[View error codes](#)

## 12.11 DescribeAutoSnapshotPolicyEX

Queries available automatic snapshot policies.

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name                 | Type    | Required | Example                      | Description                                                                                                                                                     |
|----------------------|---------|----------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action               | String  | No       | DescribeAutoSnapshotPolicyEx | The operation that you want to perform. Set the value to DescribeAutoSnapshotPolicyEx.                                                                          |
| AutoSnapshotPolicyId | String  | No       | p-233e6ylv0                  | The ID of the automatic snapshot policy.                                                                                                                        |
| PageNumber           | Integer | No       | 1                            | The page number that you query in the automatic snapshot policy list. Starting value: 1.<br>Default value: 1.                                                   |
| PageSize             | Integer | No       | 10                           | The number of entries per page. Maximum Value: 50<br>Default value: 10.                                                                                         |
| RegionId             | String  | No       | cn-hangzhou                  | The ID of the region to which the automatic snapshot policies belong. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

## Response parameters

| Name                 | Type   | Example       | Description                                                                        |
|----------------------|--------|---------------|------------------------------------------------------------------------------------|
| AutoSnapshotPolicies |        |               | The automatic snapshot policy details. It is a set of AutoSnapshotPolicyType data. |
| AutoSnapshotPolicyId | String | FinanceJoshua | The ID of the automatic snapshot policy.                                           |

| Name                     | Type    | Example              | Description                                                                                                                                                                                                                                               |
|--------------------------|---------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| └ AutoSnapshotPolicyName | String  | p-23f2i9s4t          | The name of the automatic snapshot policy.                                                                                                                                                                                                                |
| └ CreationTime           | String  | 2014-04-21T12:08:52Z | The creation time of the automatic snapshot policy. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.                                                                                         |
| └ DiskNums               | Integer | 2                    | The number of disks to which the automatic snapshot policy is applied.                                                                                                                                                                                    |
| └ RegionId               | String  | cn-hangzhou          | The ID of the region to which the automatic snapshot policy belongs.                                                                                                                                                                                      |
| └ RepeatWeekdays         | String  | ["6"]                | The repeat date for the automatic snapshot. This parameter specifies which days of the week that automatic snapshots are created on. Valid values: 1 to 7, corresponding to the days of a week, where 1 indicates Monday. You can specify multiple dates. |
| Specified RetentionDays  | Integer | 30                   | The retention period of the automatic snapshot. Unit: day. <ul style="list-style-type: none"> <li>-1: The automatic snapshot is retained permanently.</li> <li>1-65536: The automatic snapshot is retained for the specified number of days.</li> </ul>   |

| Name         | Type    | Example                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|---------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| └─Status     | String  | Available                            | The status of the automatic snapshot policy. Valid values: <ul style="list-style-type: none"> <li>· Creating</li> <li>· Available</li> </ul>                                                                                                                                                                                                                                                                               |
| └─TimePoints | String  | ["4", "19"]                          | The point in time at which the automatic snapshot is created. The smallest interval that snapshots can be taken at is one hour. Valid values: 0 to 23, corresponding to 24 hours in the range of 00:00 to 23:00. You can specify multiple points in time. The parameter is a JSON-formatted array: ["0", "1", ... "23"]. You can specify a maximum of 24 points in time. Separate multiple points in time with commas (,). |
| └─VolumeNums | Integer | 2                                    | The number of disks on which this policy is enabled.                                                                                                                                                                                                                                                                                                                                                                       |
| PageNumber   | Integer | 1                                    | The page number that you query in the automatic snapshot policy list.                                                                                                                                                                                                                                                                                                                                                      |
| PageSize     | Integer | 10                                   | The number of entries per page.                                                                                                                                                                                                                                                                                                                                                                                            |
| RequestId    | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                                                                                                                                                                                                                                                                                                     |
| TotalCount   | Integer | 2                                    | The total number of automatic snapshot policies.                                                                                                                                                                                                                                                                                                                                                                           |

## Examples

### Sample requests

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

```
& RegionId = cn - hangzhou
& AutoSnapsh otPolicyId = p - 233e6ylv0
& PageNumber = 1
& PageSize = 10
&< Common request parameters >
```

## Successful response examples

### XML format

```
< DescribeAutoSnapshotPolicyResponse >
  < AutoSnapshotPolicies >
    < 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 >
  </ AutoSnapshotPolicies >
  < PageNumber > 1 </ PageNumber >
  < PageSize > 2 </ PageSize >
  < TotalCount > 2 </ TotalCount >
  < RequestId > F3CD6886 - D8D0 - 4FEE - B93E - 1B73239673 DE </ RequestId >
</ DescribeAutoSnapshotPolicyResponse >
```

### JSON format

```
{
  "PageNumber": 1,
  "TotalCount": 2,
  "AutoSnapshotPolicies": [
    {
      "AutoSnapshotPolicy": {
        "CreationTime": "2014 - 07 - 24T13 : 00 : 52Z",
        "SettingRepeatWeekdays": [" 1 ", " 7 "],
        "RetentionDays": 30,
        "AutoSnapshotPolicyId": "p - 23f2i9s4t",
        "SettingTimePoints": [" 0 ", " 1 "]
      }
    },
    {
      "CreationTime": "2014 - 04 - 21T12 : 08 : 52Z",
      "SettingRepeatWeekdays": [" 3 ", " 4 ", " 5 ", " 7 "],
      "RetentionDays": - 1,
      "AutoSnapshotPolicyId": "p - a1fd3g5s1",
      "SettingTimePoints": [" 2 ", " 9 "]
    }
  ]
}
```



```
]
},
" PageSize ": 2 ,
" RequestId ":" 659F91C6 - 1949 - 43B0 - 90C4 - B6342CA757 D5 "
}
```

## Error codes

[View error codes](#)

## 12.12 ModifyAutoSnapshotPolicyEx

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

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name                 | Type   | Required | Example                    | Description                                                                                                                                                      |
|----------------------|--------|----------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| autoSnapshotPolicyId | String | Yes      | p-autopolicyid1            | The ID of the automatic snapshot policy to be modified. You can call <a href="#">DescribeAutoSnapshotPolicyEx</a> to view available automatic snapshot policies. |
| regionId             | String | Yes      | cn-hangzhou                | The ID of the region to which the automatic snapshot policy belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.   |
| Action               | String | No       | ModifyAutoSnapshotPolicyEx | The operation that you want to perform. Set the value to ModifyAutoSnapshotPolicyEx.                                                                             |

| Name                   | Type    | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|---------|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| autoSnapshotPolicyName | String  | No       | FinanceJoshua | The name of the automatic snapshot policy. If this parameter is not specified, the policy name is not modified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| repeatWeekdays         | String  | No       | ["1", "7"]    | <p>The repeat date for the automatic snapshot. This parameter specifies which day of the week that the automatic snapshot is created on. Valid values: 1 to 7, corresponding to the days of a week, where 1 indicates Monday. To schedule multiple automatic snapshot tasks for a disk in a week, you can set the RepeatWeekdays parameter to an array.</p> <ul style="list-style-type: none"> <li>• You can specify a maximum of seven dates.</li> <li>• You must specify the parameter in a JSON-formatted array: ["1", "2", ... "7"]. Separate multiple values with commas (,).</li> </ul> |
| retentionDays          | Integer | No       | 30            | <p>The retention period of the automatic snapshot. Unit: days.</p> <p>. Valid values:</p> <ul style="list-style-type: none"> <li>• -1 (default): The automatic snapshot is retained permanently.</li> <li>• 1-65536: The automatic snapshot is retained for the specified number of days.</li> </ul>                                                                                                                                                                                                                                                                                          |

| Name       | Type   | Required | Example    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|--------|----------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| timePoints | String | No       | ["0", "1"] | <p>The point in time at which automatic snapshots are created. Valid values: 0 to 23, corresponding to the 24 hours within the range of 00:00 to 23:00. For example, 1 indicates 01:00. To schedule multiple automatic snapshot tasks for a disk in a day, you can set the TimePoints parameter to an array.</p> <ul style="list-style-type: none"><li>• You can specify a maximum of 24 points in time.</li><li>• You must specify the parameter in a JSON-formatted array: ["0", "1", ... "23"]. Separate multiple values with commas (,).</li></ul> |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyAutoSnapshotPolicyEx
&autoSnapshotPolicyId=p-autopolicy-id1
&regionId=cn-hangzhou
&<CommonRequestParameters>
```

#### Successful response examples

##### XML format

```
<ModifyAutoSnapshotPolicyResponse>
```

```
< RequestId > F3CD6886 - D8D0 - 4FEE - B93E - 1B73239673 DE </
RequestId >
</ ModifyAuto SnapshotPo licyRespon se >
```

#### JSON format

```
{
  " RequestId ":" F3CD6886 - D8D0 - 4FEE - B93E - 1B73239673 DE "
}
```

#### Error codes

| HTTP status code | Error code       | Error message                                                         | Description                                                                                                                     |
|------------------|------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 404              | ParameterInvalid | The specified automatic snapshot policy does not exist.               | The error message returned when the specified automatic snapshot policy does not exist. Check whether the policy ID is correct. |
| 404              | ParameterInvalid | The specified automatic snapshot policy does not exist in the region. | The error message returned when the specified automatic snapshot policy does not exist. Check whether the policy ID is correct. |
| 403              | ParameterInvalid | The specified RegionId parameter is invalid.                          | The error message returned when the specified value of the RegionId parameter is invalid.                                       |
| 403              | ParameterInvalid | The specified RepeatWeekDays parameter is invalid.                    | The error message returned when the specified value of the RepeatWeekDays parameter is invalid.                                 |
| 403              | ParameterInvalid | The specified TimePoints parameter is invalid.                        | The error message returned when the specified value of the TimePoints parameter is invalid.                                     |

| HTTP status code | Error code       | Error message                                     | Description                                                                                           |
|------------------|------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 403              | ParameterInvalid | The specified AutoSnapshotPolicyId is invalid.    | The error message returned when the specified value of the AutoSnapshotPolicyId parameter is invalid. |
| 403              | ParameterInvalid | The specified RetentionDays parameter is invalid. | The error message returned when the specified value of the RetentionDays parameter is invalid.        |

[View error codes](#)

## 13 Security groups

---

### 13.1 CreateSecurityGroup

You can call the `CreateSecurityGroup` action to create a security group. Only instances within the security group are granted access permissions by default. If you want to allow requests from the Internet or requests from instances in other security groups, you can call `AuthorizeSecurityGroup` to grant access permissions to these instances or groups.

#### Description

When you call this operation, note that:

- You can create up to 100 security groups in a region.
- `VpcId` must be specified when you create a VPC-type security group.

#### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

#### Request parameters

| Parameter | Type   | Required | Example             | Description                                                                                                                      |
|-----------|--------|----------|---------------------|----------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes      | cn-hangzhou-b       | The region ID of the security group. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list. |
| Action    | String | No       | CreateSecurityGroup | The operation that you want to perform. Set this value to <code>CreateSecurityGroup</code> .                                     |

| Parameter         | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                            |
|-------------------|--------|----------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken       | String | No       | 123e4567-e89b-12d3-a456-426655440000 | The client token that is used to ensure the idempotence of the request. You can use the client to generate this value, but you must ensure that it is unique among different requests. ClientToken can contain only ASCII characters, and cannot exceed 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a> . |
| Description       | String | No       | FinanceDept                          | The description of the security group. It must be 2 to 256 characters in length and cannot start with http:// or https://. Default value: null                                                                                                                                                                                                         |
| ResourceGroupId   | String | No       | rg-resourcegroup-id                  | The ID of the resource group to which the security group belongs.                                                                                                                                                                                                                                                                                      |
| SecurityGroupName | String | No       | FinanceJoshua                        | The name of the security group. It must be 2 to 128 characters in length. It must start with a letter but cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). Default value: null                                                                                                     |

| Parameter         | Type   | Required | Example           | Description                                                                                                                                                                                                                                                                 |
|-------------------|--------|----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SecurityGroupType | String | No       | enterprise        | The type of the security group.<br>Valid values:<br><ul style="list-style-type: none"> <li>normal: basic security group</li> <li>enterprise: advanced security group</li> </ul> For more information, see <a href="#">Advanced security group overview</a> .                |
| Tag.N.Key         | String | No       | FinanceDept       | The tag key of the security group. Valid values of N: 1 to 20. The tag key cannot be an empty string. It can be up to 64 characters in length and cannot start with aliyun or acs:.. It cannot contain http:// or https://.                                                 |
| Tag.N.Value       | String | No       | FinanceDeptJoshua | The tag value of the security group. Valid values of N: 1 to 20. The tag value can be an empty string. It can be up to 128 characters in length and cannot start with aliyun or acs:.. It cannot contain http:// or https://.                                               |
| Tag.N.Key         | String | No       | FinanceDept       | The tag key of the security group.<br><div>  <b>Note:</b><br/> This parameter will be removed in the future. We recommend that you use Tag.N.Key to ensure future compatibility. </div> |



| Parameter       | Type   | Required | Example           | Description                                                                                                                                                                                                                                                        |
|-----------------|--------|----------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . value | String | No       | FinanceDeptJoshua | The tag value of the security group.<br><br> <b>Note:</b><br>This parameter will be removed in the future. We recommend that you use Tag.N.Value to ensure future compatibility. |
| VpcId           | String | No       | vpc-vpcid1        | The ID of the VPC to which the security group belongs.                                                                                                                                                                                                             |

### Response parameters

| Parameter       | Type   | Example                              | Description                   |
|-----------------|--------|--------------------------------------|-------------------------------|
| RequestId       | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.        |
| SecurityGroupId | String | sg-F876FF7BA                         | The ID of the security group. |

### Examples

#### Sample requests

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

#### Sample success responses

##### XML format

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

##### JSON format

```
{
```

```

" SecurityGroupId ":" sg - securitygroupid ",
" RequestId ":" CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 "
}

```

## Error codes

| HTTP status code | Error code                         | Error message                                       | Description                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidDescription.Malformed       | The specified parameter "Description" is not valid. | The error message returned because the specified description is invalid. It must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                                                                                                                                                        |
| 403              | QuotaExceed.SecurityGroup          | The maximum number of security groups is reached .  | The error message returned because the maximum number of security groups is reached . Submit a ticket to apply for a whitelist.                                                                                                                                                                                                                                                     |
| 404              | InvalidVpcId.NotFound              | Specified VPC does not exist.                       | The error message returned because the specified VPC ID does not exist.                                                                                                                                                                                                                                                                                                             |
| 400              | InvalidSecurityGroupName.Malformed | Specified security group name is not valid.         | The error message returned because the specified security group name is invalid. The name is displayed in the console . By default, no name is specified for a security group. The name must be 2 to 128 characters in length. It must start with a letter and can contain letters, digits, colons (:), underscores (_), and hyphens (-). It cannot start with http:// or https://. |

| HTTP status code | Error code                                | Error message                                                | Description                                                                                                                    |
|------------------|-------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidSecurityGroupDiscription.Malformed | Specified security group description is not valid.           | The error message returned because the specified description is invalid.                                                       |
| 500              | InternalError                             | The request processing has failed due to some unknown error. | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket. |
| 403              | InvalidVpcId.NotFound                     | vpc id must not empty when only support vpc vm .             | The error message returned because the specified VPC ID is empty.                                                              |
| 400              | IncorrectVpcStatus                        | Current VPC status does not support this operation .         | The error message returned because the operation is not supported while the VPC is in the current state.                       |
| 400              | InvalidTagKey.Malformed                   | Specified key is not valid.                                  | The error message returned because the specified tag key is invalid .                                                          |
| 400              | InvalidTagValue.Malformed                 | Specified end time is not valid.                             | The error message returned because the specified tag value is invalid.                                                         |
| 404              | InvalidResourceGroup.NotFound             | The ResourceGroup provided does not exist in our records.    | The error message returned because the resource group does not exist in the records.                                           |
| 400              | Duplicate.TagKey                          | The Tag.N.Key contain duplicate key.                         | The error message returned because the specified tag key is repeated.                                                          |

| HTTP status code | Error code                | Error message                                           | Description                                                                              |
|------------------|---------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------|
| 400              | InvalidTagKey.Malformed   | The specified Tag.N.Key is not valid.                   | The error message returned because the specified Tag.N.Value is invalid.                 |
| 400              | InvalidTagValue.Malformed | The specified Tag.N.Value is not valid.                 | The error message returned because the specified Tag.N.Value is invalid.                 |
| 403              | Idempotent Processing     | The previous idempotent request(s) is still processing. | The error message returned because the previous idempotence request is being processed . |

[View error codes](#)

## 13.2 AuthorizeSecurityGroup

Sets an inbound rule for a security group. This operation permits or declines the inbound traffic from other devices to instances in the security group.

### Description

Inbound traffic describes the traffic received at the destination security group sent from some other source security group.

When you call this operation, note that:

- A maximum of 100 inbound rules can be configured for one security group.
- You can set the security group rule to either accept or drop.
- The priority of a security group rule ranges from 1 to 100. A smaller value indicates a higher priority.
- When two or more security group rules have the same priority, drop rules will take precedence over accept rules.
- The source device can belong to a specified range of IP addresses (SourceCidrIp) or another security group (SourceGroupId).

- You can determine an inbound rule by specifying one of the following sets of parameters. You cannot determine a security group rule by specifying only one parameter. The AuthorizeSecurityGroup operation fails if the rule being created matches an existing rule.
- Grant access permissions to a specified range of IP addresses For a security group of the classic network type, you can set the NicType parameter to Internet or intranet. For a security group of the VPC type, you can only set the NicType parameter to intranet. You can specify the following set of parameters: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp, and SourceCidrIp (optional).

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroup
&SecurityGroupId=sg-F876FF7BA
&SourceCidrIp=0.0.0.0/0
&IpProtocol=tcp
&PortRange=1/65535
&NicType=intranet
&Policy=allow
&<Common request parameters>
```

- Grants access permissions to other security groups within the same region. In this case, you must set the NicType parameter to intranet. For mutual access between security groups of the classic network type, you can set the permission for another security group in the same region to access your security group. The security group granted access can belong to your own Alibaba Cloud account, or can belong to another Alibaba Cloud account specified by the SourceGroupOwnerAccount parameter. For mutual access between security groups of the VPC type, you can set the permission for another security group in the same VPC to access your security group. You can specify the following set of parameters: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp (optional), SourceGroupOwnerAccount, and SourceGroupId.

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroup
&SecurityGroupId=sg-F876FF7BA
&SourceGroupId=sg-1651FBB64
&SourceGroupOwnerAccount=test@aliyun.com
&IpProtocol=tcp
&PortRange=1/65535
&NicType=intranet
&Policy=Drop
```

&< Common request parameters >

- For more information about how to set a security group rule, see [Scenarios](#), [Typical use cases](#), and [Quintet rules](#).

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example | Description                                                                                                                                                                                                                 |
|------------|--------|----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IpProtocol | String | Yes      | all     | The transport layer protocol . This parameter is case-sensitive. Valid values: <ul style="list-style-type: none"><li>· tcp</li><li>· udp</li><li>· icmp</li><li>· gre</li><li>· all: All protocols are supported.</li></ul> |

| Name            | Type   | Required | Example                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|--------|----------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PortRange       | String | Yes      | 1/200                  | <p>The range of destination port numbers relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>When IpProtocol is set to tcp or udp, the port number range is 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>When IpProtocol is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to gre, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to all, the port number range is -1/-1, indicating that all values are valid.</li> </ul> |
| RegionId        | String | Yes      | cn-hangzhou            | The ID of the region to which the source security group belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SecurityGroupId | String | Yes      | sg-securitygroupid1    | The ID of the destination security group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Action          | String | No       | AuthorizeSecurityGroup | The operation that you want to perform. Set the value to AuthorizeSecurityGroup.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Name           | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                          |
|----------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken    | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotency</a> . |
| Description    | String | No       | FinanceJoshua                        | The description of the security group rule. The description can be up to 1 to 512 characters in length.                                                                                                                                                                                                              |
| DestCidrIp     | String | No       | 0.0.0.0/0                            | The destination CIDR block or IPv4 address. Default value: null.                                                                                                                                                                                                                                                     |
| Ipv6DestCidrIp | String | No       | 2001:db8:1234:1a00::XXX              | <p>The destination CIDR block or IPv6 address.</p> <div>  <b>Note:</b><br/> Only IP addresses of the VPC type can be specified. </div> <p>Default value: null.</p>                                                               |



| Name             | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|--------|----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ipv6SourceCidrIp | String | No       | 2001:db8:1234:1a00::XXX | <p>The source CIDR block or IPv6 address.</p> <div>  <b>Note:</b><br/> Only IP addresses of the VPC type can be specified. </div> <p>Default value: null.</p>                                                                                                                                          |
| NicType          | String | No       | intranet                | <p>The NIC type. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>internet:</b> Internet NIC</li> <li>· <b>intranet:</b> intranet NIC</li> </ul> <p>This parameter must be set to <b>intranet</b> for mutual security group access where the <b>SourceGroupId</b> parameter is specified and the <b>SourceCidrIp</b> parameter is not. Default value : <b>internet</b>.</p> |
| Policy           | String | No       | accept                  | <p>The access control policy. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>accept (default):</b> grants access.</li> <li>· <b>drop:</b> denies access without returning a rejection response.</li> </ul>                                                                                                                                                                |
| Priority         | String | No       | 1                       | <p>The priority of the security group rule. Valid values: 1 to 100. Default value: 1.</p>                                                                                                                                                                                                                                                                                                |
| SourceCidrIp     | String | No       | 0.0.0.0/0               | <p>The source CIDR block or IPv4 address. Default value: null.</p>                                                                                                                                                                                                                                                                                                                       |

| Name                    | Type   | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------|--------|----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourceGroupId           | String | No       | sg-securitygroupid2 | <p>The ID of the source security group for which you want to set access permissions. Either the SourceGroupId parameter or the SourceCidrIp parameter must be specified.</p> <p>If the SourceGroupId parameter is specified, but the SourceCidrIp parameter is not, the NicType parameter must be set to intranet.</p> <p>If both the SourceGroupId and SourceCidrIp parameters are set, the SourceCidrIp parameter will take precedence.</p>              |
| SourceGroupOwnerAccount | String | No       | test@aliyun.com     | <p>The Alibaba Cloud account of the source security group when you set security group rules for different accounts.</p> <ul style="list-style-type: none"> <li>· If neither the SourceGroupOwnerAccount parameter nor the SourceGroupOwnerId parameter is specified, the access permissions are granted to other security groups.</li> <li>· If the SourceCidrIp parameter is specified, the SourceGroupOwnerAccount parameter will be ignored.</li> </ul> |

| Name               | Type | Required | Example      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------|------|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourceGroupOwnerId | Long | No       | 155780923770 | <p>The ID of the Alibaba account that owns the source security group. This parameter is used to grant access for the current security group to receive traffic from other Alibaba Cloud accounts.</p> <ul style="list-style-type: none"><li>· If neither the SourceGroupOwnerId parameter nor the SourceGroupOwnerAccount parameter is specified, the access permissions are granted to other security groups.</li><li>· If the SourceCidrIp parameter is specified, the SourceGroupOwnerId parameter will be ignored.</li></ul> |

| Name             | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|--------|----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourcePort Range | String | No       | 1/200   | <p>The range of source port numbers relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>When IpProtocol is set to tcp or udp, the port number range is 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1 /200. Incorrect example: 200 /1.</li> <li>When IpProtocol is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to gre , the port number range is -1 /-1, indicating that all values are valid.</li> <li>When IpProtocol is set to all , the port number range is -1 /-1, indicating that all values are valid.</li> </ul> |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroup
&SecurityGroupId=sg-F876FF7BA
&SourceCidrIp=0.0.0.0/0
&IpProtocol=tcp
&PortRange=1/65535
&NicType=intranet
```

```
& Policy = accept
&< Common request parameters >
```

### Successful response examples

#### XML format

```
< AuthorizeSecurityGroupResponse >
  < RequestId > CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 </
    RequestId >
</ AuthorizeSecurityGroupResponse >
```

#### JSON format

```
{
  "RequestId ":" CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 "
}
```

### Error codes

| HTTP status code | Error code                      | Error message                                                                     | Description                                                                                                                                     |
|------------------|---------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound | The specified SecurityGroupId does not exist.                                     | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |
| 400              | OperationDenied                 | The specified IpProtocol does not exist or IpProtocol and PortRange do not match. | The error message returned when the specified IP protocol does not exist or does not match the port range.                                      |
| 400              | InvalidIpProtocol.Malformed     | The specified parameter PortRange is not valid.                                   | The error message returned when the specified value of the IpProtocol parameter is invalid.                                                     |

| HTTP status code | Error code                        | Error message                                                                                           | Description                                                                                                                  |
|------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 403              | MissingParameter                  | The input parameter SourceGroupId or SourceCidrIp cannot be both blank.                                 | The error message returned when neither the SourceGroupId parameter nor the SourceCidrIp parameter is specified.             |
| 400              | InvalidPolicy.Malformed           | The specified parameter Policy is not valid.                                                            | The error message returned when the specified value of the Policy parameter is invalid.                                      |
| 400              | InvalidNicType.Mismatch           | Specified nic type conflicts with the authorization record.                                             | The error message returned when the specified NIC type does not exist.                                                       |
| 403              | InvalidParamter.Conflict          | The specified SecurityGroupId should be different from the SourceGroupId.                               | The error message returned when the specified security group is the same as the source security group.                       |
| 400              | InvalidPriority.Malformed         | The parameter Priority is invalid.                                                                      | The error message returned when the specified value of the Priority parameter is invalid.                                    |
| 400              | InvalidPriority.ValueNotSupported | The parameter Priority is invalid.                                                                      | The error message returned when the specified value of the Priority parameter is invalid.                                    |
| 403              | InvalidNetworkType.Conflict       | The specified SecurityGroup network type should be same with SourceGroup network type (vpc or classic). | The error message returned when the network type of the specified security group is different from that of the source group. |

| HTTP status code | Error code                                | Error message                                                                                                                                                                  | Description                                                                                                                      |
|------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidSecurityGroupDiscription.Malformed | The specified security group rule description is not valid.                                                                                                                    | The error message returned when the description of the specified security group is invalid.                                      |
| 400              | InvalidSecurityGroup.InvalidNetworkType   | The specified security group network type is not support this operation, please check the security group network types. For VPC security groups , ClassicLink must be enabled. | The error message returned when the network types of the source security group and the destination security group are different. |
| 400              | MissingParameter.Source                   | Either SourceCidrIp or SourceGroupId must be specified.                                                                                                                        | The error message returned when neither the SourceGroupId parameter nor the SourceCidrIp parameter is specified.                 |
| 400              | InvalidParam.PortRange                    | Please specify the PortRange or SourcePort Range in integer, less than 65535, and separate the range with ? /?.                                                                | The error message returned when the specified value of the PortRange or SourcePort Range parameter is invalid.                   |
| 400              | InvalidIpProtocol.ValueNotSupported       | The parameter IpProtocol must be specified with case insensitive TCP, UDP , ICMP, GRE or All.                                                                                  | The error message returned when the IpProtocol parameter is not set to tcp, udp, icmp, gre, or all.                              |
| 400              | InvalidParam.SourceIp                     | %s                                                                                                                                                                             | The error message returned when the specified source IP address is invalid.                                                      |
| 400              | InvalidParam.DestIp                       | %s                                                                                                                                                                             | The error message returned when the specified destination IP address is invalid.                                                 |

| HTTP status code | Error code                                       | Error message | Description                                                                  |
|------------------|--------------------------------------------------|---------------|------------------------------------------------------------------------------|
| 400              | InvalidParam.Ipv6DestCidrIp                      | %s            | The error message returned when the destination IPv6 address is invalid.     |
| 400              | InvalidParam.Ipv6SourceCidrIp                    | %s            | The error message returned when the source IPv6 address is invalid.          |
| 400              | InvalidParam.Ipv4ProtocolConflictWithIpv6Address | %s            | The error message returned when IPv4 addresses conflict with IPv6 addresses. |
| 400              | InvalidParam.Ipv6ProtocolConflictWithIpv4Address | %s            | The error message returned when IPv6 addresses conflict with IPv4 addresses. |
| 400              | ILLEGAL_IP_V6_CIDR                               | %s            | The error message returned when the specified IPv6 CIDR block is invalid.    |

[View error codes](#)

## 13.3 AuthorizeSecurityGroupEgress

Sets an outbound rule for a security group. This operation allows or blocks the outbound traffic from the instances in the security group to other devices.

### Description

Outbound traffic describes the traffic sent by a source security group to some other destination security group.

When you call this operation, note that:

- A maximum of 100 outbound rules can be configured for a single security group.
- You can set the security group rule to either accept or drop.
- The priority of a security group rule ranges from 1 to 100. A smaller value indicates a higher priority.



- When two or more security group rules have the same priority, drop rules will take precedence over accept rules.
- The destination device can belong to a specified range of IP addresses (DestCidrIp) or another security group (DestGroupId).
- You can determine an outbound rule by specifying one of the following sets of parameters. The AuthorizeSecurityGroupEgress operation fails if the rule being created matches an existing rule.
  - Grant access permissions to a specified range of IP addresses. For a security group of the classic network type, you can set the NicType parameter to either Internet or intranet. For a security group of the VPC type, you can set the NicType parameter only to intranet. You can specify the following set of parameters: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp, and SourceCidrIp (optional).

```
https :// ecs . aliyuncs . com /? Action = AuthorizeS
ecurityGro upEgress
& SecurityGr oupId = sg - 94n63e80l
& IpProtocol = icmp
& DestCidrIp = 10 . 0 . 0 . 0 / 8
& PortRange =- 1 /- 1
& NicType = intranet
& Policy = Allow
&< Common request parameters >
```

- Grants access permissions to other security groups in the same region. For this configuration, the NicType parameter must be set to intranet. To allow mutual access between classic network-type security groups, you can grant permission to one security group in the same region to access the other security group. The security group granted access can belong to your own Alibaba Cloud account, or can belong to another Alibaba Cloud account specified by the DestGroupOwnerAccount parameter. To allow mutual access between VPC-type security groups, you can grant permission to one security group in the same VPC to access the other security group. You can specify the following set of parameters: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp (optional), DestGroupOwnerAccount, and DestGroupId.

```
https :// ecs . aliyuncs . com /? Action = AuthorizeS
ecurityGro upEgress
& SecurityGr oupId = sg - F876FF7BA
& DestGroupI d = sg - 1651FBB64
& DestGroupO wnerAccoun t = test @ aliyun . com
& IpProtocol = tcp
& PortRange = 22 / 22
& NicType = intranet
```

```
& Policy = Drop
&< Common    request    parameters >
```

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example | Description                                                                                                                                                                                                                 |
|------------|--------|----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IpProtocol | String | Yes      | all     | The transport layer protocol . This parameter is case-sensitive. Valid values: <ul style="list-style-type: none"><li>· icmp</li><li>· gre</li><li>· tcp</li><li>· udp</li><li>· all: All protocols are supported.</li></ul> |

| Name            | Type   | Required | Example                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|--------|----------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PortRange       | String | Yes      | 1/200                        | <p>The range of destination port numbers relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>When IpProtocol is set to tcp or udp, the port number range is 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>When IpProtocol is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to gre, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to all, the port number range is -1/-1, indicating that all values are valid.</li> </ul> |
| RegionId        | String | Yes      | cn-hangzhou                  | The ID of the region to which the source security group belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| SecurityGroupId | String | Yes      | sg-securitygroupid1          | The ID of the source security group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Action          | String | No       | AuthorizeSecurityGroupEgress | The operation that you want to perform. Set the value to AuthorizeSecurityGroupEgress.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Name        | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                                        |
|-------------|--------|----------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotency</a> .                                               |
| Description | String | No       | FinanceJoshua                        | The description of the security group rule. The description can be up to 1 to 512 characters in length.                                                                                                                                                                                                                                                            |
| DestCidrIp  | String | No       | 0.0.0.0/0                            | The destination CIDR block or IPv4 address. Default value: null.                                                                                                                                                                                                                                                                                                   |
| DestGroupId | String | No       | sg-securitygroupid2                  | The ID of the destination security group. Either the DestGroupId parameter or the DestCidrIp parameter must be specified. If the DestGroupId parameter is specified, but the DestCidrIp parameter is not, the NicType parameter must be set to intranet. If both the DestGroupId and DestCidrIp parameters are set, the DestCidrIp parameter will take precedence. |

| Name                  | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|--------|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DestGroupOwnerAccount | String | No       | FinanceJoshua | <p>The Alibaba Cloud account of the destination security group when you set security group rules for different accounts.</p> <ul style="list-style-type: none"> <li>· If neither the DestGroupOwnerAccount parameter nor the DestGroupOwnerId parameter is specified, the access permissions are granted to other security groups.</li> <li>· If the DestCidrIp parameter is specified, the DestGroupOwnerAccount parameter will be ignored.</li> </ul>                                                                               |
| DestGroupOwnerId      | Long   | No       | 155780923770  | <p>The ID of the Alibaba account that owns the destination security group. This parameter is used to grant access for the current security group to send traffic to other Alibaba Cloud accounts.</p> <ul style="list-style-type: none"> <li>· If neither the DestGroupOwnerAccount parameter nor the DestGroupOwnerId parameter is specified, access permissions are only granted to your own other security groups.</li> <li>· If the DestCidrIp parameter is specified, the DestGroupOwnerId parameter will be ignored.</li> </ul> |

| Name             | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                |
|------------------|--------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ipv6DestCidrIp   | String | No       | 2001:db8:1234:1a00::XXX | <p>The destination CIDR block or IPv6 address.</p> <p>Default value: null.</p> <div>  <b>Note:</b><br/> Only IP addresses of the VPC type can be specified. </div>                                                                                       |
| Ipv6SourceCidrIp | String | No       | 2001:db8:1234:1a00::XXX | <p>The source CIDR block or IPv6 address.</p> <p>Default value: null.</p> <div>  <b>Note:</b><br/> Only IP addresses of the VPC type can be specified. </div>                                                                                            |
| NicType          | String | No       | intranet                | <p>The NIC type. Valid values:</p> <ul style="list-style-type: none"> <li>· internet: Internet NIC</li> <li>· intranet: intranet NIC</li> </ul> <p>This parameter must be set to intranet for mutual security group access where the DestGroupId parameter is specified and the DestCidrIp parameter is not. Default value : internet.</p> |
| Policy           | String | No       | accept                  | <p>The access control policy. Valid values:</p> <ul style="list-style-type: none"> <li>· accept: grants access.</li> <li>· drop: denies access without returning a rejection response.</li> </ul> <p>Default value: accept.</p>                                                                                                            |

| Name            | Type   | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|--------|----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Priority        | String | No       | 1         | The priority of the security group rule. Valid values: 1 to 100.<br><br>Default value: 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| SourceCidrIp    | String | No       | 0.0.0.0/0 | The source CIDR block or IPv4 address. Default value: null.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| SourcePortRange | String | No       | 80/80     | The range of source port numbers relevant to the transport layer protocol. Valid values:<br><br><ul style="list-style-type: none"> <li>When IpProtocol is set to tcp or udp, the port number range is 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>When IpProtocol is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to gre, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to all, the port number range is -1/-1, indicating that all values are valid.</li> </ul> |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

## Sample requests

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroupEgress
&SecurityGroupId=sg-F876FF7BA
&DestGroupId=sg-1651FBB64
&DestGroupOwnerAccount=test@aliyun.com
&IpProtocol=tcp
&PortRange=22/22
&NicType=intranet
&Policy=Drop
&<Common request parameters>
```

## Successful response examples

## XML format

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

## JSON format

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

## Error codes

| HTTP status code | Error code                      | Error message                                 | Description                                                                                                                                     |
|------------------|---------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound | The specified SecurityGroupId does not exist. | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |



| HTTP status code | Error code                  | Error message                                                                     | Description                                                                                                |
|------------------|-----------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 404              | InvalidDestGroupId.NotFound | The DestGroupId provided does not exist in our records.                           | The error message returned when the specified destination security group does not exist.                   |
| 400              | OperationDenied             | The specified IpProtocol does not exist or IpProtocol and PortRange do not match. | The error message returned when the specified IP protocol does not exist or does not match the port range. |
| 400              | InvalidIpProtocol.Malformed | The specified parameter PortRange is not valid.                                   | The error message returned when the specified value of the IpProtocol parameter is invalid.                |
| 400              | InvalidDestCidrIp.Malformed | The specified parameter DestCidrIp is not valid.                                  | The error message returned when the specified value of the DestCidrIp parameter is invalid.                |
| 400              | InvalidPolicy.Malformed     | The specified parameter Policy is not valid.                                      | The error message returned when the specified value of the Policy parameter is invalid.                    |
| 400              | InvalidNicType.Mismatch     | Specified nic type conflicts with the authorization record.                       | The error message returned when the specified NIC type does not exist.                                     |
| 403              | InvalidParamter.Conflict    | The specified SecurityGroupId should be different from the SourceGroupId.         | The error message returned when the specified security group is the same as the source security group.     |

| HTTP status code | Error code                        | Error message                                                                                           | Description                                                                                                                  |
|------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidDestGroup.NotFound         | Specified destination security group does not exist.                                                    | The error message returned when the specified destination security group does not exist.                                     |
| 400              | InvalidPriority.Malformed         | The parameter Priority is invalid.                                                                      | The error message returned when the specified value of the Priority parameter is invalid.                                    |
| 400              | InvalidPriority.ValueNotSupported | The parameter Priority is invalid.                                                                      | The error message returned when the specified value of the Priority parameter is invalid.                                    |
| 400              | InvalidDestCidrIp.Malformed       | The specified parameter DestCidrIp is not valid.                                                        | The error message returned when the specified value of the DestCidrIp parameter is invalid.                                  |
| 403              | InvalidNetworkType.Conflict       | The specified SecurityGroup network type should be same with SourceGroup network type (vpc or classic). | The error message returned when the network type of the specified security group is different from that of the source group. |
| 400              | InvalidDestCidrIp.Malformed       | The parameter DestCidrIp is not valid.                                                                  | The error message returned when the specified value of the DestCidrIp parameter is invalid.                                  |
| 403              | InvalidNetworkType.Conflict       | The specified SecurityGroup network type should be same with                                            | The error message returned when the network type of the specified security group is different from that of the source group. |

| HTTP status code | Error code                                | Error message                                                                                                                                                                  | Description                                                                                                                      |
|------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidNicType.ValueNotSupported          | The parameter NicType is not valid.                                                                                                                                            | The error message returned when the specified value of the NicType parameter is invalid.                                         |
| 400              | InvalidSecurityGroupDiscription.Malformed | The specified security group rule description is not valid.                                                                                                                    | The error message returned when the description of the specified security group is invalid.                                      |
| 400              | InvalidSecurityGroup.InvalidNetworkType   | The specified security group network type is not support this operation, please check the security group network types. For VPC security groups , ClassicLink must be enabled. | The error message returned when the network types of the source security group and the destination security group are different. |
| 400              | MissingParameter.Dest                     | Either DestCidrIp or DestGroupId must be specified.                                                                                                                            | The error message returned when neither the DestCidrIp parameter nor the DestGroupId parameter is specified.                     |
| 400              | InvalidParam.PortRange                    | Please specify the PortRange or SourcePort Range in integer, less than 65535, and separate the range with ? /?.                                                                | The error message returned when the specified value of the PortRange or SourcePort Range parameter is invalid.                   |
| 400              | InvalidIpProtocol.ValueNotSupported       | The parameter IpProtocol must be specified with case insensitive TCP, UDP , ICMP, GRE or All.                                                                                  | The error message returned when the IpProtocol parameter is not set to tcp, udp, icmp, gre, or all.                              |
| 400              | InvalidParam.SourceIp                     | %s                                                                                                                                                                             | The error message returned when the specified source IP address is invalid.                                                      |

| HTTP status code | Error code                                                   | Error message | Description                                                                      |
|------------------|--------------------------------------------------------------|---------------|----------------------------------------------------------------------------------|
| 400              | InvalidParam.<br>DestIp                                      | %s            | The error message returned when the specified destination IP address is invalid. |
| 400              | InvalidParam.<br>Ipv6DestCidrIp                              | %s            | The error message returned when the destination IPv6 address is invalid.         |
| 400              | InvalidParam<br>.Ipv6Source<br>CidrIp                        | %s            | The error message returned when the source IPv6 address is invalid.              |
| 400              | InvalidParam<br>.Ipv4Protoc<br>olConflict<br>WithIpv6Address | %s            | The error message returned when IPv4 addresses conflict with IPv6 addresses.     |
| 400              | InvalidParam<br>.Ipv6Protoc<br>olConflict<br>WithIpv4Address | %s            | The error message returned when IPv6 addresses conflict with IPv4 addresses.     |
| 400              | ILLEGAL_IP<br>V6_CIDR                                        | %s            | The error message returned when the specified IPv6 CIDR block is invalid.        |

[View error codes](#)

## 13.4 RevokeSecurityGroup

You can call this operation to delete an inbound rule from a security group, revoking the inbound permissions specified by this rule.

### Description

The source is where the packet is coming from and the destination is where the packet is going to.

You can determine an inbound rule by specifying one of the following groups of parameters. You cannot determine a security group rule by specifying only one parameter.

- Parameters used to revoke access permissions from specified IP address segments : IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp, and SourceCidrIp (optional).
- Parameters used to revoke access permissions from other security groups: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp (optional), DestGroupOwnerAccount, and DestGroupId.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Parameter  | Type   | Required | Example | Description                                                                                                                                                                                                       |
|------------|--------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IpProtocol | String | Yes      | all     | The transport layer protocol . This parameter is case-sensitive. Valid values: <ul style="list-style-type: none"><li>icmp</li><li>gre</li><li>tcp</li><li>udp</li><li>all: All protocols are supported.</li></ul> |

| Parameter       | Type   | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|--------|----------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PortRange       | String | Yes      | 1/200               | <p>The range of destination port numbers relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>When the IpProtocol parameter is set to tcp or udp, the port number range is 1 to 65535. Separate the start number and the end number with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>When the IpProtocol parameter is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When the IpProtocol parameter is set to gre, the port number range is -1/-1, indicating that all values are valid.</li> <li>When the IpProtocol parameter is set to all, the port number range is -1/-1, indicating that all values are valid.</li> </ul> |
| RegionId        | String | Yes      | cn-hangzhou         | The ID of the region where the destination security group resides. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| SecurityGroupId | String | Yes      | sg-securitygroupid1 | The ID of the destination security group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Parameter   | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                          |
|-------------|--------|----------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action      | String | No       | RevokeSecurityGroup                  | The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set the value to <code>RevokeSecurityGroup</code> .                                                                                                                                                                      |
| ClientToken | String | No       | 123e4567-e89b-12d3-a456-426655440000 | The client token that is used to ensure the idempotence of the request. You can use the client to generate this value, but you must ensure that it is unique among different requests. The token can contain only ASCII characters, and cannot exceed 64 characters in length. For more information, see <a href="#">How to ensure idempotence</a> . |
| Description | String | No       | FinanceJoshuaTest                    | The description of the security group rule.                                                                                                                                                                                                                                                                                                          |
| DestCidrIp  | String | No       | 10.0.0.0/8                           | The range of destination IP addresses. CIDR blocks and IPv4 addresses are supported. Default value: 0.0.0.0/0.                                                                                                                                                                                                                                       |

| Parameter        | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                          |
|------------------|--------|----------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ipv6DestCidrIp   | String | No       | 2001:db8:1234:1a00::XXX | <p>The destination IPv6 CIDR block. CIDR blocks and IPv6 addresses are supported.</p> <div>  <b>Note:</b><br/>           You can only specify the IP addresses of ECS instances in VPCs.         </div> <p>Default value: null</p> |
| Ipv6SourceCidrIp | String | No       | 2001:db8:1234:1a00::XXX | <p>The source IPv6 CIDR block. CIDR blocks and IPv6 addresses are supported.</p> <div>  <b>Note:</b><br/>           You can only specify the IP addresses of ECS instances in VPCs.         </div> <p>Default value: null</p>     |
| NicType          | String | No       | intranet                | <p>The type of the NIC. Valid values:</p> <ul style="list-style-type: none"> <li>· internet</li> <li>· intranet</li> </ul> <p>If SourceGroupId is specified and SourceCidrIp is not, the value of NicType can only be intranet. Default value: internet.</p>                                                         |



| Parameter     | Type   | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|--------|----------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Policy        | String | No       | accept              | <p>The access control policy. Valid values:</p> <ul style="list-style-type: none"> <li>· <b>accept</b>: grants access.</li> <li>· <b>drop</b>: denies access and returns no responses.</li> </ul> <p>Default value: accept</p>                                                                                                                                                                                                             |
| Priority      | String | No       | 1                   | <p>The priority of the security group rule. Valid values: 1 to 100.</p> <p>Default value: 1</p>                                                                                                                                                                                                                                                                                                                                            |
| SourceCidrIp  | String | No       | 10.0.0.0/8          | <p>The range of source IP addresses. CIDR blocks and IPv4 addresses are supported.</p> <p>Default value: 0.0.0.0/0.</p>                                                                                                                                                                                                                                                                                                                    |
| SourceGroupId | String | No       | sg-securitygroupid2 | <p>The ID of the source security group on which access permissions are to be revoked.</p> <p>Either SourceGroupId or SourceCidrIp must be specified</p> <ul style="list-style-type: none"> <li>·</li> </ul> <p>If SourceGroupId is specified and SourceCidrIp is not, the value of NicType can only be intranet. If both the SourceGroupId and SourceCidrIp parameters are specified, the SourceCidrIp parameter will take precedence.</p> |

| Parameter               | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|--------|----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourceGroupOwnerAccount | String | No       | FinanceJoshua | <p>The Alibaba Cloud account that manages the source security group.</p> <ul style="list-style-type: none"> <li>• If neither SourceGroupOwnerAccount nor SourceGroupOwnerId is specified, access permissions on your other security groups to the destination security group are revoked.</li> <li>• If SourceCidrIp is specified, the SourceGroupOwnerAccount parameter is ignored.</li> </ul>      |
| SourceGroupOwnerId      | Long   | No       | 155780923770  | <p>The ID of the Alibaba Cloud account that manages the source security group.</p> <ul style="list-style-type: none"> <li>• If neither SourceGroupOwnerId nor SourceGroupOwnerAccount is specified, access permissions on your other security groups to the destination security group are revoked.</li> <li>• If SourceCidrIp is specified, the SourceGroupOwnerId parameter is ignored.</li> </ul> |

| Parameter        | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------|--------|----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourcePort Range | String | No       | 1/200   | <p>The range of source port numbers relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>When the IpProtocol parameter is set to tcp or udp, the port number range is 1 to 65535. Separate the start number and the end number with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>When the IpProtocol parameter is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When the IpProtocol parameter is set to gre, the port number range is -1/-1, indicating that all values are valid.</li> <li>When the IpProtocol parameter is set to all, the port number range is -1/-1, indicating that all values are valid.</li> </ul> |

### Response parameters

| Parameter | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=RevokeSecurityGroup&SecurityGroupId=C0003E8B-B930-4F59-ADC0-0E209A9012B0
```

```
& SourceGroupPId = sg - F876FF7BA
& SourceGroupOwnerAccount = test @ aliyun . com
& IpProtocol = tcp
& PortRange = 1 / 65535
& Priority = 1
&< Common request parameters >
```

### Sample success responses

#### XML format

```
< RevokeSecurityGroupResponse >
  < RequestId > CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 </
    RequestId >
</ RevokeSecurityGroupResponse >
```

#### JSON format

```
{
  "RequestId ":" CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 "
}
```

### Error codes

| HTTP status code | Error code                          | Error message                                     | Description                                                                                                                                        |
|------------------|-------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound     | The specified SecurityGroupId does not exist.     | The error message returned because the specified security group does not exist under this account. Check whether the security group ID is correct. |
| 400              | InvalidSecurityGroupId.Malformed    | The specified SecurityGroupId is not valid.       | The error message returned because the specified security group ID is invalid.                                                                     |
| 400              | InvalidIpProtocol.ValueNotSupported | The specified IpProtocol does not exist.          | The error message returned because the specified IpProtocol parameter is invalid.                                                                  |
| 400              | InvalidIpPortRange.Malformed        | The specified parameter "PortRange" is not valid. | The error message returned because the specified range of port numbers is wrong.                                                                   |

| HTTP status code | Error code                       | Error message                                                               | Description                                                                                                                        |
|------------------|----------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSourceGroupId.NotFound    | The SourceGroupId provided does not exist in our records.                   | The error message returned because the specified inbound security group does not exist.                                            |
| 403              | InvalidNicType.Mismatch          | Specified nic type conflicts with the authorization record.                 | The error message returned because the specified NIC type does not exist.                                                          |
| 403              | InvalidGroupAuthItem.NotFound    | Specified group authorized item does not exist in our records.              | The error message returned because the specified authorized security group does not exist.                                         |
| 400              | InvalidSourceCidrIp.Malformed    | The specified parameter "SourceCidrIp" is not valid.                        | The error message returned because the format of the SourceGroupId parameter is invalid.                                           |
| 400              | MissingParameter                 | The input parameter "SourceGroupId" or "SourceCidrIp" cannot be both blank. | The error message returned because neither the SourceGroupId parameter nor the SourceCidrIp parameter is specified.                |
| 400              | InvalidPolicy.Malformed          | The specified parameter "Policy" is not valid.                              | The error message returned because the specified Policy parameter is invalid. Check whether the parameter is correct.              |
| 400              | InvalidNicType.ValueNotSupported | The specified NicType does not exist.                                       | The error message returned because the specified NicType parameter does not exist. Check whether the NicType parameter is correct. |

| HTTP status code | Error code                          | Error message                                                                                                   | Description                                                                                                                                                                                                                                     |
|------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidSourceGroupId.Mismatch       | Specified security group and source group are not in the same VPC.                                              | The error message returned because the specified destination security group and source security group are not in the same VPC.                                                                                                                  |
| 400              | VPCDisabled                         | Can't use the SecurityGroup in VPC.                                                                             | The error message returned because the VPC does not support security groups.                                                                                                                                                                    |
| 500              | InternalError                       | The request processing has failed due to some unknown error.                                                    | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket.                                                                                                                  |
| 400              | MissingParameter.Source             | Either SourceCidrIp or SourceGroupId must be specified.                                                         | The error message returned because neither the SourceGroupId parameter nor the SourceCidrIp parameter is specified.                                                                                                                             |
| 400              | InvalidParam.PortRange              | Please specify the PortRange or SourcePort Range in integer, less than 65535, and separate the range with ? /?. | The error message returned because the range of destination or source port numbers is not specified. The port number must be smaller than 65,535. Use a forward slash (/) to separate the start number and end number of the port number range. |
| 400              | InvalidIpProtocol.ValueNotSupported | The parameter IpProtocol must be specified with case insensitive TCP, UDP , ICMP, GRE or All.                   | The error message returned because the protocol type is not tcp, udp, icmp, gre, or all.                                                                                                                                                        |

| HTTP status code | Error code                                       | Error message                                                             | Description                                                                                               |
|------------------|--------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 400              | InvalidPriority.Malformed                        | The parameter Priority is invalid.                                        | The error message returned because the rule priority is invalid.                                          |
| 400              | InvalidPriority.ValueNotSupported                | The parameter Priority is invalid.                                        | The error message returned because the rule priority is invalid.                                          |
| 400              | InvalidParamter.Conflict                         | The specified SecurityGroupId should be different from the SourceGroupId. | The error message returned because the specified security group is the same as the source security group. |
| 400              | InvalidParam.SourceIp                            | %s                                                                        | The error message returned because the source IP address is invalid.                                      |
| 400              | InvalidParam.DestIp                              | %s                                                                        | The error message returned because the destination IP address is invalid.                                 |
| 400              | InvalidParam.Ipv6DestCidrIp                      | %s                                                                        | The error message returned because the destination IP address is not in IPv6.                             |
| 400              | InvalidParam.Ipv6SourceCidrIp                    | %s                                                                        | The error message returned because the source IP address is not in IPv6.                                  |
| 400              | InvalidParam.Ipv4ProtocolConflictWithIpv6Address | %s                                                                        | The error message returned because IPv4 addresses has conflicted with IPv6 addresses.                     |
| 400              | InvalidParam.Ipv6ProtocolConflictWithIpv4Address | %s                                                                        | The error message returned because IPv4 addresses has conflicted with IPv6 addresses.                     |

| HTTP status code | Error code         | Error message | Description                                                                  |
|------------------|--------------------|---------------|------------------------------------------------------------------------------|
| 400              | ILLEGAL_IP_V6_CIDR | %s            | The error message returned because the specified IPv6 CIDR block is invalid. |

[View error codes](#)

## 13.5 RevokeSecurityGroupEgress

Deletes an outbound rule from a security group and revoke outbound permissions of the security group.

### Description

The source is where the packet is coming from and the destination is where the packet is going to.

- To revoke access permissions on specified IP address segments, you can specify the following request parameters: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp, and SourceCidrIp (optional).

```
https://ecs.aliyuncs.com/?Action=RevokeSecurityGroupEgress
&SecurityGroupId=sg-94n63e80l
&IpProtocol=all
&DestCidrIp=10.0.0.0/8
&PortRange=-1/-1
&NicType=intranet
&Policy=Allow
&<Common request parameters>
```

- To revoke access permissions on other security groups, you can specify the following request parameters: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp (optional), DestGroupOwnerAccount, and DestGroupId (optional).

```
https://ecs.aliyuncs.com/?Action=RevokeSecurityGroupEgress
&SecurityGroupId=sg-F876FF7BA
&DestGroupId=sg-1651FBB64
&DestGroupOwnerAccount=test@aliyun.com
&IpProtocol=tcp
&PortRange=22/22
&NicType=intranet
&Policy=Drop
```



&lt; Common request parameters &gt;

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|--------|----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IpProtocol | String | Yes      | icmp    | The transport layer protocol . The parameter value is case insensitive. Valid values: <ul style="list-style-type: none"><li>· icmp</li><li>· gre</li><li>· tcp</li><li>· udp</li><li>· all: All protocols are supported.</li></ul>                                                                                                                                                                                           |
| PortRange  | String | Yes      | 1/200   | The range of destination ports relevant to the transport layer protocol. Valid values: <ul style="list-style-type: none"><li>· When IpProtocol is set to tcp or udp, the port number range is 1 to 65,535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1 /200. Incorrect example: 200 /1.</li><li>· ICMP: -1/-1.</li><li>· GRE protocol: -1/-1.</li><li>· All:-1/-1.</li></ul> |

| Name            | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                          |
|-----------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId        | String | Yes      | cn-hangzhou                          | The ID of the region where the source security group resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                              |
| SecurityGroupId | String | Yes      | sg-securitygroupid1                  | The ID of the source security group.                                                                                                                                                                                                                                                                                 |
| Action          | String | No       | RevokeSecurityGroupEgress            | The operation that you want to perform. Set the value to RevokeSecurityGroupEgress.                                                                                                                                                                                                                                  |
| ClientToken     | String | No       | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotency</a> . |
| Description     | String | No       | FinanceJoshuaTest                    | The description of the security group rule.                                                                                                                                                                                                                                                                          |
| DestCidrIp      | String | No       | 0.0.0.0/0                            | The range of destination IP addresses. CIDR blocks and IPv4 addresses are supported. Default value: null.                                                                                                                                                                                                            |

| Name                  | Type   | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|--------|----------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DestGroupId           | String | No       | sg-securitygroupid2 | <p>The ID of the destination security group from which you want to revoke access permissions.</p> <p>You must specify either the DestGroupId parameter or the DestCidrIp parameter.</p> <p>If DestGroupId is specified and DestCidrIp is not, the value of NicType can only be intranet . If both the DestGroupId and DestCidrIp parameters are set, the DestCidrIp parameter will take precedence.</p> |
| DestGroupOwnerAccount | String | No       | FinanceJoshua       | <p>The Alibaba Cloud account that manages the destination security group.</p> <ul style="list-style-type: none"> <li>· If neither DestGroupOwnerAccount nor DestGroupOwnerId is specified, permissions of other security groups to access the instance are revoked.</li> <li>· If the DestCidrIp parameter is specified, the DestGroupOwnerAccount parameter will be ignored.</li> </ul>                |

| Name             | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|--------|----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DestGroupOwnerId | Long   | No       | 155780923770            | <p>The Alibaba Cloud account that manages the destination security group.</p> <ul style="list-style-type: none"> <li>· If neither DestGroupOwnerId nor DestGroupOwnerAccount is specified, permissions of other security groups to access the instance are revoked.</li> <li>· If the DestCidrIp parameter is specified, the DestGroupOwnerId parameter will be ignored.</li> </ul> |
| Ipv6DestCidrIp   | String | No       | 2001:db8:1234:1a00::XXX | <p>The destination IPv6 CIDR block. CIDR blocks and IPv6 addresses are supported.</p> <p>Default value: null.</p> <div>  <b>Note:</b><br/>           You can only specify IP addresses for VPC-connected instances.         </div>                                                              |
| Ipv6SourceCidrIp | String | No       | 2001:db8:1234:1a00::XXX | <p>The source IPv6 CIDR block. CIDR blocks and IPv6 addresses are supported.</p> <p>Default value: null.</p> <div>  <b>Note:</b><br/>           You can only specify IP addresses for VPC-connected instances.         </div>                                                                   |

| Name         | Type   | Required | Example   | Description                                                                                                                                                                                                                                      |
|--------------|--------|----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NicType      | String | No       | intranet  | <p>The NIC type. Valid values:</p> <ul style="list-style-type: none"><li>• internet</li><li>• intranet</li></ul> <p>If DestGroupId is specified and DestCidrIp is not, the value of NicType must be intranet.</p> <p>Default value: internet</p> |
| Policy       | String | No       | accept    | <p>The access control policy. Valid values:</p> <ul style="list-style-type: none"><li>• accept: grants access.</li><li>• drop: denies access and returns no responses.</li></ul> <p>Default value: accept</p>                                    |
| Priority     | String | No       | 1         | <p>The priority of security group rules. Valid values: 1 to 100.</p> <p>Default value: 1.</p>                                                                                                                                                    |
| SourceCidrIp | String | No       | 0.0.0.0/0 | <p>The range of source IP addresses. CIDR blocks and IPv4 addresses are supported.</p> <p>Default value: null.</p>                                                                                                                               |

| Name             | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|--------|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourcePort Range | String | No       | 1/200   | <p>The range of source ports relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>When IpProtocol is set to tcp or udp, the port number range is 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1 /200. Incorrect example: 200 /1.</li> <li>When IpProtocol is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to gre , the port number range is -1 /-1, indicating that all values are valid.</li> <li>When IpProtocol is set to all , the port number range is -1 /-1, indicating that all values are valid.</li> </ul> |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=RevokeSecurityGroupEgress
&SecurityGroupId=sg-94n63e80l
&IpProtocol=all
&DestCidrIp=10.0.0.0/8
&PortRange=-1/-1
&NicType=intranet
&Policy=Allow
```

< Common request parameters >

## Successful response examples

### XML format

```
< RevokeSecurityGroupEgressResponse >
  < RequestId > CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 </
    RequestId >
</ RevokeSecurityGroupEgressResponse >
```

### JSON format

```
{
  "RequestId ":" CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 "
}
```

## Error codes

| HTTP status code | Error code                          | Error message                                               | Description                                                                                                                                     |
|------------------|-------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound     | The specified SecurityGroupId does not exist.               | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |
| 400              | InvalidIpProtocol.ValueNotSupported | The specified IpProtocol does not exist.                    | The error message returned when the specified value of the IpProtocol parameter is invalid.                                                     |
| 404              | InvalidDestinationGroupId.NotFound  | The DestGroupId provided does not exist in our records.     | The error message returned when the specified destination security group does not exist.                                                        |
| 403              | InvalidNicType.Mismatch             | Specified nic type conflicts with the authorization record. | The error message returned when the specified NIC type does not exist.                                                                          |

| HTTP status code | Error code                          | Error message                                                                                                   | Description                                                                                                                                                                                                                    |
|------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidGroupAuthItem.NotFound       | Specified group authorized item does not exist in our records.                                                  | The error message returned when the specified group authorization entry does not exist.                                                                                                                                        |
| 400              | InvalidPolicy.Malformed             | The specified parameter "Policy" is not valid.                                                                  | The error message returned when the specified parameter is invalid. Check whether the parameter is correct.                                                                                                                    |
| 400              | InvalidDestCidrIp.Malformed         | The specified parameter "DestCidrIp" is not valid.                                                              | The error message returned when the value of DestCidrIp is invalid. Check whether the parameter is correct.                                                                                                                    |
| 400              | MissingParameter.Dest               | Either DestCidrIp or DestGroupId must be specified.                                                             | The error message returned when values of both DestCidrIp and DestGroupId are not specified.                                                                                                                                   |
| 400              | InvalidParam.PortRange              | Please specify the PortRange or SourcePort Range in integer, less than 65535, and separate the range with ? /?. | The error message returned when the range of destination or source port numbers is not specified. The port numbers must be smaller than 65,535. You must use a forward slash (/) to separate the source and destination ports. |
| 400              | InvalidIpProtocol.ValueNotSupported | The parameter IpProtocol must be specified with case insensitive TCP, UDP, ICMP, GRE or All.                    | The error message returned when the protocol type is not TCP, UDP, ICMP, GRE or All.                                                                                                                                           |
| 400              | InvalidPriority.Malformed           | The parameter Priority is invalid.                                                                              | The error message returned when the rule priority is invalid.                                                                                                                                                                  |



| HTTP status code | Error code                                                   | Error message                      | Description                                                                  |
|------------------|--------------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------|
| 400              | InvalidPriority<br>.ValueNotSupported                        | The parameter Priority is invalid. | The error message returned when the rule priority is invalid.                |
| 400              | InvalidParam.<br>SourceIp                                    | %s                                 | The error message returned when the source IP is invalid.                    |
| 400              | InvalidParam.<br>DestIp                                      | %s                                 | The error message returned when the destination IP is invalid.               |
| 400              | InvalidParam.<br>Ipv6DestCidrIp                              | %s                                 | The error message returned when the destination IP is not in IPv6.           |
| 400              | InvalidParam<br>.Ipv6Source<br>CidrIp                        | %s                                 | The error message returned when the source IP is not in IPv6.                |
| 400              | InvalidParam<br>.Ipv4Protoc<br>olConflict<br>WithIpv6Address | %s                                 | The error message returned when IPv4 addresses conflict with IPv6 addresses. |
| 400              | InvalidParam<br>.Ipv6Protoc<br>olConflict<br>WithIpv4Address | %s                                 | The error message returned when IPv4 addresses conflict with IPv6 addresses. |
| 400              | ILLEGAL_IP<br>V6_CIDR                                        | %s                                 | The error message returned when the specified IPv6 CIDR block is invalid.    |

[View error codes](#)

## 13.6 JoinSecurityGroup

Adds an instance to a specified security group.

### Description

When you call this operation, note that:

- Before you add an instance to a security group, the instance must be in the Stopped or Running state.
- An instance can belong to a maximum of five security groups.
- You can [submit a ticket](#) to add the instance to more security groups. An instance can belong to a maximum of 16 security groups.
- A security group can manage up to 1,000 instances.
- The specified security group and instance must belong to the same region.
- The specified security group and instance must have the same network type. If the network type is [VPC](#), the security group and the instance must be in the same VPC.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name            | Type   | Required | Example             | Description                                                                                                                                            |
|-----------------|--------|----------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId      | String | Yes      | i-instanceid1       | The ID of an instance. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                       |
| SecurityGroupId | String | Yes      | sg-securitygroupid1 | The ID of the security group to which the instance belongs. You can call <a href="#">DescribeSecurityGroups</a> to view the available security groups. |

| Name   | Type   | Required | Example           | Description                                                                 |
|--------|--------|----------|-------------------|-----------------------------------------------------------------------------|
| Action | String | No       | JoinSecurityGroup | The operation that you want to perform. Set the value to JoinSecurityGroup. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=JoinSecurityGroup
&InstanceId=i-instance1
&SecurityGroupId=F876FF7BA9-84
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

## Error codes

| HTTP status code | Error code                         | Error message                                                                | Description                                                                                                                                     |
|------------------|------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound    | The specified SecurityGroupId does not exist.                                | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |
| 400              | InstanceSecurityGroupLimitExceeded | Exceeding the allowed amount of security groups that an instance can be in . | The error message returned when the number of security groups for an instance reaches the upper limit.                                          |
| 403              | IncorrectInstanceState             | The current status of the resource does not support this operation.          | The error message returned when this operation is not supported under the current instance state.                                               |
| 403              | SecurityGroupInstanceLimitExceeded | The maximum number of instances in a security group is exceeded.             | The error message returned when the number of instances in a security group reaches the upper limit.                                            |
| 403              | InvalidInstanceId.AlreadyExists    | The specified instance already exists in the specified security group.       | The error message returned when the specified instance already exists in the security group.                                                    |
| 403              | SecurityGroupInstanceLimitExceeded | %s                                                                           | The error message returned when the number of instances in a security group reaches the upper limit.                                            |
| 403              | AclLimitExceed                     | %s                                                                           | The error message returned when the value of AccessPoint exceeds the upper limit.                                                               |

| HTTP status code | Error code                         | Error message | Description                                                                                            |
|------------------|------------------------------------|---------------|--------------------------------------------------------------------------------------------------------|
| 403              | InstanceSecurityGroupLimitExceeded | %s            | The error message returned when the number of security groups for an instance reaches the upper limit. |

[View error codes](#)

## 13.7 LeaveSecurityGroup

Removes an instance from a specified security group.

### Description

When you call this operation, note that:

- Before you remove an instance from a security group, the instance must be in the Stopped or Running state.
- An instance must belong to at least one security group. You cannot perform the LeaveSecurityGroup operation to remove an instance from the only security group it belongs to.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name            | Type   | Required | Example             | Description                                                 |
|-----------------|--------|----------|---------------------|-------------------------------------------------------------|
| InstanceId      | String | Yes      | i-instanceid1       | The ID of an instance.                                      |
| SecurityGroupId | String | Yes      | sg-securitygroupid1 | The ID of the security group to which the instance belongs. |

| Name   | Type   | Required | Example            | Description                                                                  |
|--------|--------|----------|--------------------|------------------------------------------------------------------------------|
| Action | String | No       | LeaveSecurityGroup | The operation that you want to perform. Set the value to LeaveSecurityGroup. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=LeaveSecurityGroup
&InstanceId=i-instance1
&SecurityGroupId=F876FF7BA9-84
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

## Error codes

| HTTP status code | Error code                      | Error message                                                       | Description                                                                                                                                     |
|------------------|---------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound | The specified SecurityGroupId does not exist.                       | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |
| 403              | IncorrectInstanceState          | The current status of the resource does not support this operation. | The error message returned when this operation is not supported under the current instance state.                                               |
| 504              | RequestTimeout                  | The request encounters an upstream server timeout.                  | The error message returned when the request encounters an upstream server timeout.                                                              |

[View error codes](#)

## 13.8 DeleteSecurityGroup

Deletes a security group. Before deleting a security group, make sure that no instance exists in the security group and that the security group is not referenced by other security groups. Otherwise, the DeleteSecurityGroup request fails.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name            | Type   | Required | Example             | Description                                                                                                                                    |
|-----------------|--------|----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId        | String | Yes      | cn-hangzhou         | The ID of the region where a security group resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| SecurityGroupId | String | Yes      | sg-securitygroupid1 | The ID of the security group.                                                                                                                  |
| Action          | String | No       | DeleteSecurityGroup | The operation that you want to perform. Set the value to DeleteSecurityGroup.                                                                  |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

## Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteSecurityGroup
&RegionId=cn-hangzhou
&SecurityGroupId=sg-F876FF7BA9
&<Common request parameters>
```

## Successful response examples

## XML format

```
<DeleteSecurityGroupResponse>
  <RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA9 84</
  RequestId>
</DeleteSecurityGroupResponse>
```

## JSON format

```
{
  "RequestId": "CEF72CEB-54B6-4AE8-B225-F876FF7BA9 84"
```



```
}
```

## Error codes

[View error codes](#)

## 13.9 DescribeSecurityGroupAttribute

Views the details of a security group.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name            | Type   | Required | Example                        | Description                                                                                                                                          |
|-----------------|--------|----------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId        | String | Yes      | cn-hangzhou                    | The ID of the region to which a security group belongs.<br>You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| SecurityGroupId | String | Yes      | sg-securitygroupid1            | The ID of the security group.                                                                                                                        |
| Action          | String | No       | DescribeSecurityGroupAttribute | The operation that you want to perform. Set the value to DescribeSecurityGroupAttribute.                                                             |

| Name      | Type   | Required | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|--------|----------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Direction | String | No       | all      | <p>The direction in which a security group rule is applied.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>· egress: Outbound traffic is allowed for the security group.</li> <li>· ingress: Inbound traffic is allowed for the security group.</li> <li>· all: Both inbound and outbound traffic is allowed for the security group.</li> </ul> <p>Default value: all.</p> |
| NicType   | String | No       | intranet | <p>The NIC type. Valid values:</p> <ul style="list-style-type: none"> <li>· internet</li> <li>· intranet</li> </ul> <p>Default value: internet.</p>                                                                                                                                                                                                                                         |

## Response parameters

| Name              | Type   | Example     | Description                                                                                                                                                                                                                                                                                         |
|-------------------|--------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description       | String | FinanceDept | The description of the security group.                                                                                                                                                                                                                                                              |
| InnerAccessPolicy | String | accept      | <p>The access control policy within a security group. Valid values:</p> <ul style="list-style-type: none"> <li>· accept: All instances within the security group can communicate with each other.</li> <li>· drop: All instances within the security group are isolated from each other.</li> </ul> |
| Permissions       |        |             | The permission rules of the security group.                                                                                                                                                                                                                                                         |

| Name                                 | Type   | Example                 | Description                                                            |
|--------------------------------------|--------|-------------------------|------------------------------------------------------------------------|
| <code>└─CreateTime</code>            | String | 2018-12-12T07:28:38Z    | The creation time of the security group in UTC.                        |
| <code>└─Description</code>           | String | FinanceDept             | The description of the security group.                                 |
| <code>└─DestCidrIp</code>            | String | 0.0.0.0/0               | The destination IP address segment for outbound authorization.         |
| <code>└─DestGroupId</code>           | String | sg-securitygroup1       | The ID of the destination security group for outbound authorization.   |
| <code>└─DestGroupName</code>         | String | SecurityGuard           | The name of the destination security group.                            |
| <code>└─DestGroupOwnerAccount</code> | String | SecurityGuard           | The Alibaba Cloud account that manages the destination security group. |
| <code>└─Direction</code>             | String | ingress                 | The allowed direction of traffic.                                      |
| <code>└─IpProtocol</code>            | String | TCP                     | The IP protocol that the security group applies to.                    |
| <code>└─Ipv6DestCidrIp</code>        | String | 2001:db8:1234:1a00::XXX | The destination IPv6 address segment.                                  |
| <code>└─Ipv6SourceCidrIp</code>      | String | 2001:db8:1234:1a00::XXX | The source IPv6 address segment.                                       |
| <code>└─NicType</code>               | String | intranet                | The network type.                                                      |
| <code>└─Policy</code>                | String | Accept                  | The authorization policy.                                              |
| <code>└─PortRange</code>             | String | 80/80                   | The port number range.                                                 |
| <code>└─Priority</code>              | String | 1                       | The rule priority.                                                     |

| Name                           | Type   | Example                              | Description                                                                                                                                                                                  |
|--------------------------------|--------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SourceCidrIp</b>            | String | 0.0.0.0/0                            | The source IP address segment for inbound authorization.                                                                                                                                     |
| <b>SourceGroupId</b>           | String | sg-securitygroupid2                  | The source security group for inbound authorization.                                                                                                                                         |
| <b>SourceGroupName</b>         | String | FinanceDeptJoshua                    | The name of the source security group.                                                                                                                                                       |
| <b>SourceGroupOwnerAccount</b> | String | FinanceJoshua                        | The Alibaba Cloud account that manages the source security group.                                                                                                                            |
| <b>SourcePortRange</b>         | String | 80/80                                | The range of the source port.                                                                                                                                                                |
| <b>RegionId</b>                | String | cn-hangzhou                          | The ID of the region where the security group resides.                                                                                                                                       |
| <b>RequestId</b>               | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                                                                       |
| <b>SecurityGroupId</b>         | String | sg-securityid1                       | The ID of the destination security group.                                                                                                                                                    |
| <b>SecurityGroupName</b>       | String | FinanceJoshua                        | The name of the destination security group.                                                                                                                                                  |
| <b>VpcId</b>                   | String | v-vpcid1                             | The ID of the VPC to which the security group belongs. If a VPC ID is returned, the network type of the security group is VPC. Otherwise, the network type of the security group is classic. |

## Examples

### Sample requests

```
http ( s ) : // ecs . aliyuncs . com / ? RegionId = cn - hangzhou
& SecurityGroupUpId = sg - securitygroupid1
& < Common request parameters >
```

### Successful response examples

#### XML format

```
< DescribeSecurityGroupAttributeResponse >
  < SecurityGroupUpId > sg - bplgxw6bnzjjvhu3gtrz </ SecurityGroupUpId >
  < InnerAccessPolicy > Accept </ InnerAccessPolicy >
  < SecurityGroupName > FinanceJoshihua </ SecurityGroupName >
  < Description > FinanceDepartment </ Description >
  < RegionId > cn - hangzhou </ RegionId >
  < RequestId > A72322C1 - 47C0 - 491E - 8088 - 8B17E4EA859F </ RequestId >
  < Permissions >
    < Permission >
      < SourceCidrIp > 0 . 0 . 0 . 0 / 0 </ SourceCidrIp >
      < Description > />
      < DestCidrIp > />
      < NicType > intranet </ NicType >
      < DestGroupName > />
      < PortRange > 22 / 22 </ PortRange >
      < DestGroupId > />
      < Ipv6DestCidrIp > />
      < Direction > ingress </ Direction >
      < Priority > 1 </ Priority >
      < IpProtocol > TCP </ IpProtocol >
      < SourcePortRange > />
      < SourceGroupOwnerAccount > />
      < Policy > Accept </ Policy >
      < CreateTime > 2018 - 12 - 12T07 : 28 : 38Z </ CreateTime >
      < SourceGroupId > />
      < DestGroupOwnerAccount > />
      < Ipv6SourceCidrIp > />
      < SourceGroupName > />
    </ Permission >
    < Permission >
      < SourceCidrIp > 0 . 0 . 0 . 0 / 0 </ SourceCidrIp >
      < Description > />
      < DestCidrIp > />
      < NicType > intranet </ NicType >
      < DestGroupName > />
      < PortRange > 443 / 443 </ PortRange >
      < DestGroupId > />
      < Ipv6DestCidrIp > />
      < Direction > ingress </ Direction >
      < Priority > 1 </ Priority >
      < IpProtocol > TCP </ IpProtocol >
      < SourcePortRange > />
      < SourceGroupOwnerAccount > />
      < Policy > Accept </ Policy >
      < CreateTime > 2018 - 12 - 12T07 : 28 : 38Z </ CreateTime >
      < SourceGroupId > />
      < DestGroupOwnerAccount > />
```

```

    < Ipv6Source CidrIp />
    < SourceGroup pName />
  </ Permission >
  < Permission >
    < SourceCidr Ip > 0 . 0 . 0 . 0 / 0 </ SourceCidr Ip >
    < Descriptio n />
    < DestCidrIp />
    < NicType > intranet </ NicType >
    < DestGroupN ame />
    < PortRange > 80 / 80 </ PortRange >
    < DestGroupI d />
    < Ipv6DestCi drIp />
    < Direction > ingress </ Direction >
    < Priority > 1 </ Priority >
    < IpProtocol > TCP </ IpProtocol >
    < SourcePort Range />
    < SourceGroup pOwnerAcco unt />
    < Policy > Accept </ Policy >
    < CreateTime > 2018 - 12 - 12T07 : 28 : 38Z </ CreateTime >
    < SourceGroup pId />
    < DestGroupO wnerAccoun t />
    < Ipv6Source CidrIp />
    < SourceGroup pName />
  </ Permission >
  < Permission >
    < SourceCidr Ip > 0 . 0 . 0 . 0 / 0 </ SourceCidr Ip >
    < Descriptio n />
    < DestCidrIp />
    < NicType > intranet </ NicType >
    < DestGroupN ame />
    < PortRange > - 1 / - 1 </ PortRange >
    < DestGroupI d />
    < Ipv6DestCi drIp />
    < Direction > ingress </ Direction >
    < Priority > 1 </ Priority >
    < IpProtocol > ICMP </ IpProtocol >
    < SourcePort Range > - 1 / - 1 </ SourcePort Range >
    < SourceGroup pOwnerAcco unt />
    < Policy > Accept </ Policy >
    < CreateTime > 2018 - 12 - 12T07 : 28 : 38Z </ CreateTime >
    < SourceGroup pId />
    < DestGroupO wnerAccoun t />
    < Ipv6Source CidrIp />
    < SourceGroup pName />
  </ Permission >
</ Permission s >
< VpcId > vpc - bp1opxulzk hn00gzv26c Z </ VpcId >
</ DescribeSecurityGroupAttribute Response >

```

### JSON format

```

{
  "SecurityGroupID ":" sg - bp1gxw6bzn jjvhu3gtrz ",
  "Description ":" FinanceDepartment ",
  "SecurityGroupName ":" FinanceJosephhua ",
  "InnerAccessPolicy ":" Accept ",
  "RequestId ":" A72322C1 - 47C0 - 491E - 8088 - 8B17E4EA85 9F ",
  "RegionId ":" cn - hangzhou ",
  "Permissions ":{
    "Permission ":[
      {
        "SourceCidrIp ":" 0 . 0 . 0 . 0 / 0 ",
        "Description ":"",

```

```

    " DestCidrIp ":",
    " NicType ":" intranet ",
    " DestGroupN   ame ":",
    " PortRange ":" 22 / 22 ",
    " DestGroupI   d ":",
    " Ipv6DestCi   drIp ":",
    " Direction ":" ingress ",
    " Priority ":" 1 ",
    " IpProtocol ":" TCP ",
    " SourcePort   Range ":",
    " SourceGrou   pOwnerAcco   unt ":",
    " Policy ":" Accept ",
    " CreateTime ":" 2018 - 12 - 12T07 : 28 : 38Z ",
    " SourceGrou   pId ":",
    " DestGroupO   wnerAccoun   t ":",
    " Ipv6Source   CidrIp ":",
    " SourceGrou   pName ":",
  },
  {
    " SourceCidr   Ip ":" 0 . 0 . 0 . 0 / 0 ",
    " Descriptio   n ":",
    " DestCidrIp ":" ",
    " NicType ":" intranet ",
    " DestGroupN   ame ":",
    " PortRange ":" 443 / 443 ",
    " DestGroupI   d ":",
    " Ipv6DestCi   drIp ":",
    " Direction ":" ingress ",
    " Priority ":" 1 ",
    " IpProtocol ":" TCP ",
    " SourcePort   Range ":",
    " SourceGrou   pOwnerAcco   unt ":",
    " Policy ":" Accept ",
    " CreateTime ":" 2018 - 12 - 12T07 : 28 : 38Z ",
    " SourceGrou   pId ":",
    " DestGroupO   wnerAccoun   t ":",
    " Ipv6Source   CidrIp ":",
    " SourceGrou   pName ":",
  },
  {
    " SourceCidr   Ip ":" 0 . 0 . 0 . 0 / 0 ",
    " Descriptio   n ":",
    " DestCidrIp ":" ",
    " NicType ":" intranet ",
    " DestGroupN   ame ":",
    " PortRange ":" 80 / 80 ",
    " DestGroupI   d ":",
    " Ipv6DestCi   drIp ":",
    " Direction ":" ingress ",
    " Priority ":" 1 ",
    " IpProtocol ":" TCP ",
    " SourcePort   Range ":",
    " SourceGrou   pOwnerAcco   unt ":",
    " Policy ":" Accept ",
    " CreateTime ":" 2018 - 12 - 12T07 : 28 : 38Z ",
    " SourceGrou   pId ":",
    " DestGroupO   wnerAccoun   t ":",
    " Ipv6Source   CidrIp ":",
    " SourceGrou   pName ":",
  },
  {
    " SourceCidr   Ip ":" 0 . 0 . 0 . 0 / 0 ",
    " Descriptio   n ":",
    " DestCidrIp ":" ",

```

```

    " NicType ":" intranet ",
    " DestGroupN   ame ":"",
    " PortRange ":"- 1 /- 1 ",
    " DestGroupI   d ":"",
    " Ipv6DestCi   drIp ":"",
    " Direction ":" ingress ",
    " Priority ":" 1 ",
    " IpProtocol ":" ICMP ",
    " SourcePort   Range ":"- 1 /- 1 ",
    " SourceGrou   pOwnerAcco   unt ":"",
    " Policy ":" Accept ",
    " CreateTime   ":" 2018 - 12 - 12T07 : 28 : 38Z ",
    " SourceGrou   pId ":"",
    " DestGroupO   wnerAccoun   t ":"",
    " Ipv6Source   CidrIp ":"",
    " SourceGrou   pName ":""
  }
]
},
" VpcId ":" vpc - bp1opxu1zk   hn00gzv26c   Z "
}

```

### Error codes

| HTTP status code | Error code                      | Error message                                 | Description                                                                                                                                     |
|------------------|---------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidRegionId.NotFound        | The specified RegionId does not exist.        | The error message returned when the specified region ID does not exist. Check whether the service is applicable in this region.                 |
| 404              | InvalidSecurityGroupId.NotFound | The specified SecurityGroupId does not exist. | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |

[View error codes](#)

## 13.10 DescribeSecurityGroups

You can call the DescribeSecurityGroups action to query basic information about your security groups, such as the security group ID and description. Security groups are displayed in descending order of security group IDs.



## Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter | Type    | Required | Example                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|---------|----------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String  | Yes      | cn-hangzhou            | The region ID of the security group. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Action    | String  | No       | DescribeSecurityGroups | The operation that you want to perform. Set this value to DescribeSecurityGroups.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| DryRun    | Boolean | No       | false                  | <p>Specifies whether to send a check request only. Default value: false.</p> <ul style="list-style-type: none"><li>· true: Only a check request is sent and no query is performed. The system checks whether your AccessKey is valid, whether RAM users are authorized, and whether the required parameters are set. If the check fails, the corresponding error code is returned. If the check succeeds, the DryRunOperation error code is returned.</li><li>· false: A request is sent. If the 2XX HTTP status code is returned, the query is performed.</li></ul> <p>Default value: false</p> |

| Parameter         | Type    | Required | Example                              | Description                                                                                                                                             |
|-------------------|---------|----------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkType       | String  | No       | vpc                                  | The network type.                                                                                                                                       |
| PageNumber        | Integer | No       | 1                                    | The number of the page to return. Pages start from page 1.<br>Default value: 1                                                                          |
| PageSize          | Integer | No       | 10                                   | The number of entries to return on each page. Maximum value: 50.<br>Default value: 10                                                                   |
| ResourceGroupId   | String  | No       | rg-resourcegroupid1                  | The ID of the resource group to which the security group belongs.                                                                                       |
| SecurityGroupId   | String  | No       | sg-securitygroupid                   | The ID of the security group.                                                                                                                           |
| SecurityGroupIds  | String  | No       | ["sg-id1", "sg-id2", "sg-id2", ....] | A JSON array of security group IDs. A maximum of 100 security group IDs can be entered at a time. Separate multiple security group IDs with commas (,). |
| SecurityGroupName | String  | No       | test1                                | The name of the security group.                                                                                                                         |

| Parameter       | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                       |
|-----------------|--------|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . Key   | String | No       | FinanceDept   | The tag key of the security group. Valid values of N: 1 to 20. The tag key cannot be an empty string. It can be up to 64 characters in length and cannot start with aliyun or acs :. It cannot contain http:// or https://.                                                                       |
| Tag . N . Value | String | No       | FinanceJoshua | The tag value of the security group. Valid values of N: 1 to 20. The tag value can be an empty string. It can be up to 128 characters in length and cannot start with aliyun or acs :. It cannot contain http:// or https://.                                                                     |
| Tag . N . key   | String | No       | FinanceDept   | <p>The tag key of the security group.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use Tag.N.Key to ensure future compatibility.         </div> |

| Parameter       | Type   | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|--------|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . value | String | No       | FinanceJoshua | <p>The tag value of the security group. Valid values of N: 1 to 20. It can be an empty string. It can be up to 128 characters in length. It cannot start with aliyun, acs:, http://, or https://.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use Tag.N.Value to ensure future compatibility.         </div> |
| VpcId           | String | No       | vpc-vpcid1    | The ID of the VPC to which the security group belongs.                                                                                                                                                                                                                                                                                                                                                                                                        |

#### Response parameters

| Parameter      | Type    | Example                              | Description                                                                                   |
|----------------|---------|--------------------------------------|-----------------------------------------------------------------------------------------------|
| PageNumber     | Integer | 1                                    | The number of the page that was returned.                                                     |
| PageSize       | Integer | 10                                   | The number of entries that were returned on each page.                                        |
| RegionId       | String  | cn-hangzhou                          | The region ID of the security group.                                                          |
| RequestId      | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                        |
| SecurityGroups |         |                                      | The returned security group information. It is an array that consists of SecurityGroups data. |

| Parameter                      | Type    | Example              | Description                                                                                                                                                                     |
|--------------------------------|---------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>CreationTime</code>      | String  | 2017-12-05T22:40:00Z | The time when the security group was created. The time follows the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddThh:mmZ format. The time is displayed in UTC.             |
| <code>Description</code>       | String  | FinanceDept          | The description of the security group.                                                                                                                                          |
| <code>ResourceGroupId</code>   | String  | rg-resourcegroupid1  | The ID of the resource group to which the security group belongs.                                                                                                               |
| <code>SecurityGroupId</code>   | String  | sg-securitygroupid1  | The ID of the security group.                                                                                                                                                   |
| <code>SecurityGroupName</code> | String  | FinanceJoshua        | The name of the security group.                                                                                                                                                 |
| <code>SecurityGroupType</code> | String  | normal               | The type of the security group.<br>Valid values:<br><ul style="list-style-type: none"> <li>normal: basic security group</li> <li>enterprise: advanced security group</li> </ul> |
| <code>Tags</code>              |         |                      | The tag of the security group.                                                                                                                                                  |
| <code>TagKey</code>            | String  | FinanceDept          | The tag value of the security group.                                                                                                                                            |
| <code>TagValue</code>          | String  | FinanceJoshua        | The tag key of the security group.                                                                                                                                              |
| <code>VpcId</code>             | String  | vpc-vpcid1           | The ID of the VPC to which the security group belongs.                                                                                                                          |
| <code>TotalCount</code>        | Integer | 4                    | The total number of security groups.                                                                                                                                            |

## Examples

### Sample requests

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

### Sample success responses

#### 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-securityGroupId1</SecurityGroupId>
      <Description>Test</Description>
    </SecurityGroup>
    <SecurityGroup>
      <SecurityGroupId>sg-securityGroupId2</SecurityGroupId>
      <Description>test00212</Description>
    </SecurityGroup>
    <SecurityGroup>
      <SecurityGroupId>sg-securityGroupId3</SecurityGroupId>
      <Description>cn-hangzhou test group</Description>
    </SecurityGroup>
    <SecurityGroup>
      <SecurityGroupId>sg-securityGroupId4</SecurityGroupId>
      <Description>cn-hangzhou test group</Description>
    </SecurityGroup>
  </SecurityGroups>
</DescribeSecurityGroupsResponse>
```

#### JSON format

```
{
  "PageNumber": "1",
  "TotalCount": 4,
  "PageSize": "10",
  "RegionId": "cn-hangzhou",
  "RequestId": "94D38899-626D-434A-891F-7E1F77A81525",
  "SecurityGroups": {
    "SecurityGroup": [
      {
        "SecurityGroupId": "sg-securityGroupId1",
        "Description": "TestByXcf"
      },
      {
        "SecurityGroupId": "sg-securityGroupId2",
        "Description": "test00212"
      },
      {
        "SecurityGroupId": "sg-securityGroupId3",
        "Description": "cn-hangzhou test group"
      },
      {
        "SecurityGroupId": "sg-securityGroupId4",
        "Description": "cn-hangzhou test group"
      }
    ]
  }
}
```

```

{
  "SecurityGroupIds": "sg - securityGroupIds",
  "Description": "test00212"
},
{
  "SecurityGroupIds": "sg - securityGroupIds3",
  "Description": "cn - hangzhou test group"
},
{
  "SecurityGroupIds": "sg - securityGroupIds4",
  "Description": "cn - hangzhou test group"
}
]
}
}

```

### Error codes

| HTTP status code | Error code          | Error message                                                | Description                                                                                                                    |
|------------------|---------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 500              | InternalServerError | The request processing has failed due to some unknown error. | The error message returned because an internal error has occurred. Try again later . If the problem persists, submit a ticket. |

[View error codes](#)

## 13.11 DescribeSecurityGroupReferences

Queries whether a specified security group has been authorized by other security groups.

### Description

When you call this operation, note that:

- Security group authorization includes authorization for inbound and outbound traffic rules.
- Each query returns a maximum of 100 records.
- When you fail to delete a security group ([DeleteSecurityGroup](#)), you can call this operation to determine whether the specified security group has been authorized by other security groups. If the security group to be deleted is authorized by

another security group, you need to revoke its authorization before it can be deleted.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name                | Type       | Required | Example                         | Description                                                                               |
|---------------------|------------|----------|---------------------------------|-------------------------------------------------------------------------------------------|
| RegionId            | String     | Yes      | cn-hangzhou                     | The ID of the region where the security group resides.                                    |
| SecurityGroupId . N | RepeatList | Yes      | sg-securitygroupid1             | The ID of the security group that you want to query. Valid values of N: 1 to 10.          |
| Action              | String     | No       | DescribeSecurityGroupReferences | The operation that you want to perform. Set the value to DescribeSecurityGroupReferences. |

### Response parameters

| Name                                   | Type   | Example                              | Description                                                               |
|----------------------------------------|--------|--------------------------------------|---------------------------------------------------------------------------|
| RequestId                              | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                    |
| SecurityGroupReferences                |        |                                      | The information about references between security groups.                 |
| <sup>⌞</sup> ReferencingSecurityGroups |        |                                      | The information of other security groups referencing this security group. |
| <sup>⌞</sup> AliUid                    | String | 155780923770                         | The ID of an Alibaba Cloud user to whom the security group belongs.       |



| Name                          | Type   | Example           | Description                                          |
|-------------------------------|--------|-------------------|------------------------------------------------------|
| <code>SecurityGroupIds</code> | String | sg-securitygroup1 | The ID of the security group.                        |
| <code>SecurityGroupIds</code> | String | sg-securitygroup2 | The ID of the security group that you want to query. |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

```
<DescribeSecurityGroupsResponse>
  <RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA9 84</RequestId>
  <SecurityGroupReferences>
    <SecurityGroupReference>
      <SecurityGroupId>sg-1133aa</SecurityGroupId>
      <ReferencingSecurityGroups>
        <ReferencingSecurityGroup>
          <SecurityGroupId>sg-2255cc</SecurityGroupId>
          <AliUid>123</AliUid>
        </ReferencingSecurityGroup>
        <ReferencingSecurityGroup>
          <SecurityGroupId>sg-2255dd</SecurityGroupId>
          <AliUid>123</AliUid>
        </ReferencingSecurityGroup>
      </ReferencingSecurityGroups>
    </SecurityGroupReference>
  </SecurityGroupReferences>
</DescribeSecurityGroupsResponse>
```

#### JSON format

```
{
  "RequestId": "CEF72CEB-54B6-4AE8-B225-F876FF7BA9 84",
  "SecurityGroupReferences": [
    {
      "SecurityReferencingGroups": [
        {
          "SecurityGroupId": "sg-2255cc",
          "AliUid": 123
        },
        {
          "SecurityGroupId": "sg-2255dd",
          "AliUid": 123
        }
      ]
    }
  ]
}
```

```
}
],
"SecurityGroupId ":" sg - 1133aa "
}
]
```

#### Error codes

| HTTP status code | Error code                       | Error message                                                                     | Description                                                       |
|------------------|----------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 400              | InvalidSecurityGroupId.Malformed | The specified parameter SecurityGroupId is essential and size should less than 10 | The error message returned when the security group ID is invalid. |

[View error codes](#)

## 13.12 ModifySecurityGroupAttribute

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

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

#### Request parameters

| Name            | Type   | Required | Example             | Description                                                                                                                                      |
|-----------------|--------|----------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId        | String | Yes      | cn-hangzhou         | The ID of the region where the security group resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| SecurityGroupId | String | Yes      | sg-securitygroupid1 | The ID of the security group.                                                                                                                    |

| Name              | Type   | Required | Example                      | Description                                                                                                                                                                                                                                         |
|-------------------|--------|----------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String | No       | ModifySecurityGroupAttribute | The operation that you want to perform. Set the value to ModifySecurityGroupAttribute.                                                                                                                                                              |
| Description       | String | No       | FinanceDept                  | The description of the security group. The description must be 2 to 256 characters in length and cannot start with http:// or https://. Default value: null.                                                                                        |
| SecurityGroupName | String | No       | FinanceJoshua                | The name of the security group. It must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). Default value: null. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

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

#### Successful response examples

**XML format**

```
< ModifySecurityGroupAttributeResponse >
  < RequestId > CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 </
    RequestId >
</ ModifySecurityGroupAttributeResponse >
```

**JSON format**

```
{
  "RequestId ":" CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 "
```

**Error codes**

| HTTP status code | Error code                      | Error message                                | Description                                                                                                                                     |
|------------------|---------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound | The specified security group does not exist. | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |

[View error codes](#)

## 13.13 ModifySecurityGroupEgressRule

Modifies the egress rule of a security group. If you have not created a security group rule, you can call `AuthorizeSecurityGroupEgress` to create one.

**Description**

According to your access authorization requirements, you can define an egress rule for a security group by using either of the following groups of parameters:

- If you need to authorize access to a specified CIDR block, use the following parameters: `IpProtocol`, `PortRange`, `SourcePortRange` (optional), `NicType`, `Policy`, `DestCidrIp`, and `SourceCidrIp` (optional).
- If you need to authorize access to other security groups, use the following parameters: `IpProtocol`, `PortRange`, `SourcePortRange` (optional), `NicType`, `Policy`, `DestCidrIp` (optional), `DestGroupOwnerAccount`, and `DestGroupId`.

## Debug

Use [OpenAPI Explorer](#) to perform debug operations and generate SDK code examples.

## Request parameters

| Name            | Type   | Required? | Example value      | Description                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------|--------|-----------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IpProtocol      | String | Yes       | tcp                | The transport layer protocol.<br>Case insensitive. Valid values: <ul style="list-style-type: none"> <li>icmp</li> <li>gre</li> <li>tcp</li> <li>udp</li> <li>all: supports all protocols</li> </ul>                                                                                                                                                                                  |
| PortRange       | String | Yes       | 80/80              | The range of the ports enabled by the source security group for the transport layer protocol.<br>. Valid values: <ul style="list-style-type: none"> <li>TCP/UDP. Value range: 1 to 65535. The start port and the end port are separated by a slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>ICMP: -1/-1.</li> <li>GRE: -1/-1.</li> <li>ALL: -1/-1.</li> </ul> |
| RegionId        | String | Yes       | cn-hangzhou        | The ID of the region to which the source security group belongs. To view the latest list of Alibaba Cloud regions, call <a href="#">DescribeRegions</a> .                                                                                                                                                                                                                            |
| SecurityGroupId | String | Yes       | sg-securitygroupid | The ID of the source security group.                                                                                                                                                                                                                                                                                                                                                 |

| Name                  | Type   | Required? | Example value                        | Description                                                                                                                                                                                                                                                             |
|-----------------------|--------|-----------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action                | String | No        | ModifySecurityGroupEgressRule        | The name of this action. Value: ModifySecurityGroupRule                                                                                                                                                                                                                 |
| ClientToken           | String | No        | 123e4567-e89b-12d3-a456-426655440000 | Guarantees the idempotence of the request. The value is generated by your client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see <a href="#">How to ensure idempotence</a> . |
| Description           | String | No        | This is a new security group rule    | The description of the security group rule. The length of the description is 1 to 512 characters.                                                                                                                                                                       |
| DestCidrIp            | String | No        | XXX.XX.XXX.XXX/X                     | The destination CIDR block. CIDR IP addresses and IPv4 addresses are supported. Default value: 0.0.0.0/0                                                                                                                                                                |
| DestGroupId           | String | No        | sg-securitygroupid22                 | The ID of the destination security group.                                                                                                                                                                                                                               |
| DestGroupOwnerAccount | String | No        | EcsforCloud@Alibaba.com              | The account to which the destination security group belongs (also known as UID).                                                                                                                                                                                        |
| DestGroupOwnerId      | Long   | No        | 155780923770                         | The ID of the account to which the destination security group belongs.                                                                                                                                                                                                  |

| Name             | Type   | Required? | Example value           | Description                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|--------|-----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ipv6DestCidrIp   | String | No        | 2001:db8:1234:1a00::XXX | The destination CIDR block. CIDR IP addresses and IPv6 addresses are supported.                                                                                                                                                                                                                                                                                                     |
| Ipv6SourceCidrIp | String | No        | 2001:db8:1234:1a00::XXX | The source CIDR block. CIDR IP addresses and IPv6 addresses are supported.                                                                                                                                                                                                                                                                                                          |
| NicType          | String | No        | internet                | <p>The NIC type. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>internet</b>: Internet NIC.</li> <li>• <b>intranet</b>: intranet NIC.</li> </ul> <p>If you configure mutual access between security groups (that is, <code>DestGroupId</code> is specified but <code>DestCidrIp</code> is not), the value of <code>NicType</code> must be <code>intranet</code>.</p> |
| Policy           | String | No        | accept                  | <p>The access permission. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>accept</b>: admits access.</li> <li>• <b>drop</b>: denies access. No denied access message is returned.</li> </ul> <p>Default value: <code>accept</code></p>                                                                                                                                |
| Priority         | String | No        | 1                       | <p>The priority of the security group. Value range: 1 to 100</p> <p>Default value: 1</p>                                                                                                                                                                                                                                                                                            |
| SourceCidrIp     | String | No        | XXX.XX.XXX.XXX/X        | The source CIDR block. CIDR IP addresses and IPv4 addresses are supported.                                                                                                                                                                                                                                                                                                          |

| Name             | Type   | Required? | Example value | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|--------|-----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourcePort Range | String | No        | 80/80         | <p>The range of the ports enabled by the source security group for the transport layer protocol.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>TCP/UDP. Value range: 1 to 65535. The start port and the end port are separated by a slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>ICMP: -1/-1.</li> <li>GRE: -1/-1.</li> <li>ALL: -1/-1.</li> </ul> |

### Response parameters

| Name      | Type   | Example value                        | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

### Example

#### Request example

```
https://ecs.aliyuncs.com/?Action=ModifySecurityGroupEgressRule
&SecurityGroupId=sg-F876FF7BA
&SourceGroupId=sg-1651FBB64
&SourceGroupOwnerAccount=test@aliyun.com
&IpProtocol=tcp
&PortRange=80/80
&Policy=allow
&Description=Thisisanewsecuritygroup rule.
&<CommonRequestParameters>
```

#### Response example

##### XML format

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



```
</ ModifySecurityGroupEgressRuleResponse >
```

### JSON format

```
{
  "RequestId": "CEF72CEB - 54B6 - 4AE8 - B225 - F876FF7BA9 84 "
}
```

### Errors

| HTTP status code | Error code                      | Error message                                                                     | Meaning                                                                                                         |
|------------------|---------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound | The specified SecurityGroupId does not exist.                                     | The specified security group does not exist under this account. Check whether the security group ID is correct. |
| 404              | InvalidDestGroupId.NotFound     | The DestGroupId provided does not exist in our records.                           | The specified destination security group does not exist.                                                        |
| 400              | OperationDenied                 | The specified IpProtocol does not exist or IpProtocol and PortRange do not match. | The specified IP Protocol does not exist, or does not match the port range.                                     |
| 400              | InvalidIpProtocol.Malformed     | The specified parameter "PortRange" is not valid.                                 | The format of the specified IP Protocol is invalid.                                                             |
| 403              | InvalidDestGroupId.Mismatch     | NicType is required or NicType expects intranet.                                  | You must specify NicType or specify the access as intranet.                                                     |
| 400              | InvalidDestCidrIp.Malformed     | The specified parameter "DestCidrIp" is not valid.                                | The specified DestCidrIp is invalid. Check whether this parameter is correct.                                   |
| 403              | MissingParameter                | The input parameter "DestGroupId" or "DestCidrIp" cannot be both blank.           | The parameters DestGroupId and DestCidrIp cannot be both blank.                                                 |
| 400              | InvalidPolicy.Malformed         | The specified parameter "Policy" is not valid.                                    | The specified Policy is invalid. Check whether this parameter is correct.                                       |

| HTTP status code | Error code                        | Error message                                                             | Meaning                                                                                                               |
|------------------|-----------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidNicType.ValueNotSupported  | The specified NicType does not exist.                                     | The specified NIC type does not exist.                                                                                |
| 400              | InvalidNicType.Mismatch           | Specified nic type conflicts with the authorization record.               | The specified NIC type conflicts with the authorized type.                                                            |
| 403              | AuthorizationLimitExceed          | The limit of authorization records in the security group reaches.         | The number of security group rules reaches the upper limit. Check whether the security group rules are set correctly. |
| 403              | InvalidParamter.Conflict          | The specified SecurityGroupId should be different from the SourceGroupId. | The source security group must be different from the destination security group.                                      |
| 400              | InvalidDestGroupId.Mismatch       | Specified security group and destination group are not in the same VPC.   | The specified security group is not in the same VPC as the destination security group.                                |
| 400              | InvalidDestGroup.NotFound         | Specified destination security group does not exist.                      | The specified destination security group does not exist.                                                              |
| 400              | VPCDisabled                       | Can't use the SecurityGroup in VPC.                                       | The VPC does not support security groups.                                                                             |
| 400              | InvalidPriority.Malformed         | The specified parameter "Priority" is not valid.                          | The specified Priority is invalid.                                                                                    |
| 400              | InvalidPriority.ValueNotSupported | The specified Priority is invalid.                                        | The specified Priority is invalid.                                                                                    |
| 400              | InvalidDestCidrIp.Malformed       | The specified parameter DestCidrIp is not valid.                          | The specified DestCidrIp is invalid. Check whether this parameter is correct.                                         |

| HTTP status code | Error code                                | Error message                                                                                                                                                                  | Meaning                                                                                   |
|------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| 500              | InternalServerError                       | The request processing has failed due to some unknown error.                                                                                                                   | An internal error occurs . Try again. If the error persists, open a ticket.               |
| 403              | InvalidNetworkType.Conflict               | The specified SecurityGroup network type should be same with SourceGroup network type (vpc or classic).                                                                        | The network type of the specified SecurityGroup must be the same as that of SourceGroup . |
| 403              | InvalidSecurityGroup.IsSame               | The authorized SecurityGroupId should be different from the DestGroupId.                                                                                                       | The authorized SecurityGroupId cannot be the same as DestGroupId .                        |
| 400              | InvalidNicType.ValueNotSupported          | The specified NicType is not valid.                                                                                                                                            | The specified NIC type does not exist.                                                    |
| 400              | InvalidSecurityGroupDiscription.Malformed | The specified security group rule description is not valid.                                                                                                                    | The description of the specified security group rule is invalid.                          |
| 404              | SecurityGroupRule.NotFound                | The target security group rule do not exist.                                                                                                                                   | The target security group rule does not exist.                                            |
| 400              | InvalidSecurityGroup.InvalidNetworkType   | The specified security group network type is not support this operation, please check the security group network types. For VPC security groups , ClassicLink must be enabled. | The specified network type is invalid.                                                    |
| 400              | MissingParameter.Dest                     | The parameter DestCidrIp or DestGroupId is essential.                                                                                                                          | The fields for both DestCidrIp and DestGroupId cannot be blank.                           |

| HTTP status code | Error code                                                   | Error message                                                                                                                  | Meaning                                                                  |
|------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| 400              | InvalidParam.<br>PortRange                                   | The specified param PortRange or SourcePort Range is not valid. should be integer and less than 65535, range separator is '/'. | The specified parameter is invalid.                                      |
| 400              | InvalidIpP<br>rotocol.<br>ValueNotSu<br>pported              | The specified parameter IpProtocol should not be null and only tcp, udp, icmp, gre or all is supported. Ignore case.           | The specified protocol must be TCP , UDP , ICMP , GRE , or All .         |
| 400              | InvalidPriority<br>.ValueNotSu<br>pported                    | The parameter Priority is invalid.                                                                                             | The specified Priority is invalid.                                       |
| 400              | InvalidParam.<br>SourceIp                                    | %s                                                                                                                             | The specified source IP address is invalid.                              |
| 400              | InvalidParam.<br>DestIp                                      | %s                                                                                                                             | The specified destination IP address is invalid.                         |
| 400              | InvalidParam.<br>Ipv6DestCidrIp                              | %s                                                                                                                             | The specified destination IP address (IPv6 address) is invalid.          |
| 400              | InvalidParam<br>.Ipv6Source<br>CidrIp                        | %s                                                                                                                             | The specified source IP address (IPv6 address) is invalid.               |
| 400              | InvalidParam<br>.Ipv4Protoc<br>olConflict<br>WithIpv6Address | %s                                                                                                                             | An IPv4 CIDR block and an IPv6 CIDR block cannot exist at the same time. |
| 400              | InvalidParam<br>.Ipv6Protoc<br>olConflict<br>WithIpv4Address | %s                                                                                                                             | An IPv6 CIDR block and an IPv4 CIDR block cannot exist at the same time. |
| 400              | ILLEGAL_IP<br>V6_CIDR                                        | %s                                                                                                                             | The specified IPv6 CIDR block is invalid.                                |

For a list of error codes, visit the [API Error Center](#).

## 13.14 ModifySecurityGroupPolicy

Modifies the intranet communication policy of a security group.

### Description

When you call this operation, note that:

- When the `InnerAccessPolicy` parameter value is `Accept`, instances within the security group can communicate with each other. The `Accept` policy has the highest priority of all rules, and all other user-defined rules are ignored.
- When the `InnerAccessPolicy` value is `Drop`, instances in the security group are isolated from each other. In this case, user-defined security group rules have a higher priority and can be used to change the intranet access policy. For example, you can use [AuthorizeSecurityGroup](#) to allow ECS instances in the security group to communicate with each other.
- You can use [DescribeSecurityGroupAttribute](#) to query the intranet communication policy of the security group.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name                           | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|--------|----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>InnerAccessPolicy</code> | String | Yes      | Accept  | <p>The intranet communication policy of the security group.</p> <p>Valid values:</p> <ul style="list-style-type: none"><li>• <b>Accept:</b> Instances in the security group can communicate with each other.</li><li>• <b>Drop:</b> Instances in the security group are isolated from each other.</li></ul> <p>The values are case-insensitive.</p> |

| Name            | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                          |
|-----------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId        | String | Yes      | cn-hangzhou                          | The ID of the region where the security group resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                     |
| SecurityGroupId | String | Yes      | sg-securitygroupid1                  | The ID of the security group.                                                                                                                                                                                                                                                                                        |
| Action          | String | No       | ModifySecurityGroupPolicy            | The operation that you want to perform. Set the value to ModifySecurityGroupPolicy.                                                                                                                                                                                                                                  |
| ClientToken     | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotency</a> . |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

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

```
& SecurityGroupId = sg-1133aa
& InnerAccessPolicy = Drop
< Common request parameters >
```

### Successful response examples

#### XML format

```
< ModifySecurityGroupPolicyResponse >
  < RequestId > CEF72CEB-54B6-4AE8-B225-F876FF7BZ015 </
    RequestId >
</ ModifySecurityGroupPolicyResponse >
```

#### JSON format

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

### Error codes

| HTTP status code | Error code                       | Error message                                                                                                          | Description                                                            |
|------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 400              | InvalidSecurityGroupId.Malformed | The SecurityGroupId is invalid. Only letters, numbers and underscores are supported. Maximum length is 100 characters. | The error message returned when the security group ID is invalid.      |
| 400              | InvalidPolicy.Malformed          | The Policy is invalid. Only 'Accept' and 'Drop' are supported. Ignore case.                                            | The error message returned when the Policy parameter value is invalid. |

[View error codes](#)

## 13.15 ModifySecurityGroupRule

Modifies the inbound rules of a security group. You can call `AuthorizeSecurityGroup` to add rules to a security group if no rules exist.

### Description

You can determine an inbound rule by specifying one of the following groups of parameters. You cannot determine a security group rule by specifying only one parameter.

- Parameters used to authorize access permissions on specified IP address segments : IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp, and SourceCidrIp (optional).
- Parameters used to authorize access permissions on other security groups: IpProtocol, PortRange, SourcePortRange (optional), NicType, Policy, DestCidrIp (optional), DestGroupOwnerAccount, and DestGroupId.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example | Description                                                                                                                                                                                                              |
|------------|--------|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IpProtocol | String | Yes      | icmp    | The transport layer protocol. This parameter value is case-insensitive. Valid values: <ul style="list-style-type: none"><li>icmp</li><li>gre</li><li>tcp</li><li>udp</li><li>all: All protocols are supported.</li></ul> |



| Name            | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|--------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PortRange       | String | Yes      | 80/80                   | <p>The range of destination ports relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>When IpProtocol is set to tcp or udp, the port number range is 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>When IpProtocol is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to gre, the port number range is -1/-1, indicating that all values are valid.</li> <li>When IpProtocol is set to all, the port number range is -1/-1, indicating that all values are valid.</li> </ul> |
| RegionId        | String | Yes      | cn-hangzhou             | The ID of the region where the destination security group resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SecurityGroupId | String | Yes      | sg-securitygroupid1     | The ID of the destination security group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Action          | String | No       | ModifySecurityGroupRule | The operation that you want to perform. Set the value to ModifySecurityGroupRule.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Name           | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                          |
|----------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ClientToken    | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotency</a> . |
| Description    | String | No       | FinanceDept                          | The description of a security group rule. The description must be 1 to 512 characters in length.                                                                                                                                                                                                                     |
| DestCidrIp     | String | No       | 10.0.0.0/8                           | The range of destination IP addresses. CIDR blocks and IPv4 addresses are supported.<br><br>Default value: 0.0.0.0/0.                                                                                                                                                                                                |
| Ipv6DestCidrIp | String | No       | 2001:db8:1234:1a00::XXX              | The destination IPv6 CIDR block. CIDR blocks and IPv6 addresses are supported.<br><br> <b>Note:</b><br>You can only specify IP addresses for VPC-connected instances.<br><br>Default value: null.                                |

| Name             | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                      |
|------------------|--------|----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ipv6SourceCidrIp | String | No       | 2001:db8:1234:1a00::XXX | <p>The source IPv6 CIDR block . CIDR blocks and IPv6 addresses are supported.</p> <div>  <b>Note:</b><br/>           You can only specify IP addresses for VPC-connected instances.         </div> <p>Default value: null.</p> |
| NicType          | String | No       | intranet                | <p>The NIC type. Valid values:</p> <ul style="list-style-type: none"> <li>· internet</li> <li>· intranet</li> </ul> <p>When DestGroupId is specified and DestCidrIp is not, the value of NicType can only be intranet . Default value: internet.</p>                                                             |
| Policy           | String | No       | accept                  | <p>The access control policy. Valid values:</p> <ul style="list-style-type: none"> <li>· accept: grants access.</li> <li>· drop: denies access and returns no responses.</li> </ul> <p>Default value: accept.</p>                                                                                                |
| Priority         | String | No       | 1                       | <p>The priority of security group rules. Valid values: 1 to 100.</p> <p>Default value: 1.</p>                                                                                                                                                                                                                    |
| SourceCidrIp     | String | No       | 0.0.0.0/0               | <p>The range of source IP addresses. CIDR blocks and IPv4 addresses are supported.</p> <p>Default value: 0.0.0.0/0.</p>                                                                                                                                                                                          |

| Name                    | Type   | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------|----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourceGroupId           | String | No       | sg-securitygroupid2 | <p>The ID of the source security group to which you want to grant access permissions. Either the SourceGroupId parameter or the SourceCidrIp parameter must be specified.</p> <p>If SourceGroupId is specified and SourceCidrIp is not, the value of NicType can only be intranet. If both the SourceGroupId and SourceCidrIp parameters are set, the SourceCidrIp parameter will take precedence.</p>                       |
| SourceGroupOwnerAccount | String | No       | FinanceJoshua       | <p>The Alibaba Cloud account that manages the source security group when you set security group rules for different accounts.</p> <ul style="list-style-type: none"> <li>• If neither SourceGroupOwnerAccount nor SourceGroupId is specified, access permissions for other security groups are set.</li> <li>• If the SourceCidrIp parameter is specified, the SourceGroupOwnerAccount parameter will be ignored.</li> </ul> |

| Name               | Type   | Required | Example      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|--------|----------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SourceGroupOwnerId | Long   | No       | 155780923770 | <p>The Alibaba Cloud account that manages the source security group when you set security group rules for different accounts.</p> <ul style="list-style-type: none"> <li>• If neither SourceGroupOwnerId nor SourceGroupOwnerAccount is specified, access permissions for other security groups are set.</li> <li>• If the SourceCidrIp parameter is specified, the SourceGroupOwnerId parameter will be ignored.</li> </ul>                                                                                                                                                                                                                                                                        |
| SourcePortRange    | String | No       | 80/80        | <p>The range of source ports relevant to the transport layer protocol. Valid values:</p> <ul style="list-style-type: none"> <li>• When IpProtocol is set to tcp or udp, the port number range is 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1.</li> <li>• When IpProtocol is set to icmp, the port number range is -1/-1, indicating that all values are valid.</li> <li>• When IpProtocol is set to gre, the port number range is -1/-1, indicating that all values are valid.</li> <li>• When IpProtocol is set to all, the port number range is -1/-1, indicating that all values are valid.</li> </ul> |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

## Sample requests

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

## Successful response examples

## XML format

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

## JSON format

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

## Error codes

| HTTP status code | Error code                      | Error message                                 | Description                                                                                                                                     |
|------------------|---------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound | The specified SecurityGroupId does not exist. | The error message returned when the specified security group does not exist under this account. Check whether the security group ID is correct. |

| HTTP status code | Error code                             | Error message                                                                     | Description                                                                                                             |
|------------------|----------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 400              | OperationDenied                        | The specified IpProtocol does not exist or IpProtocol and PortRange do not match. | The error message returned when the specified IP does not exist or does not match the port range.                       |
| 400              | InvalidIpProtocol.<br>Malformed        | The specified parameter "PortRange" is not valid.                                 | The error message returned when the format of the IpProtocol parameter is invalid.                                      |
| 403              | MissingParameter                       | The input parameter "SourceGroupId" or "SourceCidrIp" cannot be both blank.       | The error message returned when the SourceGroupId and SourceCidrIp parameters are empty.                                |
| 400              | InvalidPolicy.<br>Malformed            | The specified parameter "Policy" is not valid.                                    | The error message returned when the specified parameter is invalid. You need to check whether the parameter is correct. |
| 400              | InvalidNicType.<br>Mismatch            | Specified nic type conflicts with the authorization record.                       | The error message returned when the specified NIC type does not exist.                                                  |
| 403              | InvalidParameter.<br>Conflict          | The specified SecurityGroupId should be different from the SourceGroupId.         | The error message returned when a specified security group is the same as the source security group.                    |
| 400              | InvalidPriority.<br>Malformed          | The parameter Priority is invalid.                                                | The error message returned when the rule priority is invalid.                                                           |
| 400              | InvalidPriority.<br>.ValueNotSupported | The parameter Priority is invalid.                                                | The error message returned when the rule priority is invalid.                                                           |

| HTTP status code | Error code                                | Error message                                                                                                   | Description                                                                                                                                                                                                           |
|------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidSecurityGroupDiscription.Malformed | The specified security group rule description is not valid.                                                     | The error message returned when the description of the specified security group is invalid.                                                                                                                           |
| 404              | SecurityGroupRule.NotFound                | The target security group rule not exist.                                                                       | The error message returned when rules for the destination security group do not exist.                                                                                                                                |
| 400              | MissingParameter.Source                   | Either SourceCidrIp or SourceGroupId must be specified.                                                         | The error message returned when the SourceGroupId and SourceCidrIp parameters are empty.                                                                                                                              |
| 400              | InvalidParam.PortRange                    | Please specify the PortRange or SourcePort Range in integer, less than 65535, and separate the range with ? /?. | The error message returned when the range of destination or source port numbers is not specified. The port numbers must be smaller than 65,535. Use a forward slash (/) to separate the source and destination ports. |
| 400              | InvalidIpProtocol.ValueNotSupported       | The parameter IpProtocol must be specified with case insensitive TCP, UDP, ICMP, GRE or All.                    | The error message returned when the protocol type is not TCP, UDP, ICMP, GRE or all.                                                                                                                                  |
| 400              | InvalidParam.SourceIp                     | %s                                                                                                              | The error message returned when the source IP address is invalid.                                                                                                                                                     |
| 400              | InvalidParam.DestIp                       | %s                                                                                                              | The error message returned when the destination IP address is invalid.                                                                                                                                                |



| HTTP status code | Error code                                       | Error message | Description                                                                  |
|------------------|--------------------------------------------------|---------------|------------------------------------------------------------------------------|
| 400              | InvalidParam.Ipv6DestCidrIp                      | %s            | The error message returned when the destination IPv6 CIDR block is invalid.  |
| 400              | InvalidParam.Ipv6SourceCidrIp                    | %s            | The error message returned when the source IPv6 CIDR block is invalid.       |
| 400              | InvalidParam.Ipv4ProtocolConflictWithIpv6Address | %s            | The error message returned when IPv4 addresses conflict with IPv6 addresses. |
| 400              | InvalidParam.Ipv6ProtocolConflictWithIpv4Address | %s            | The error message returned when IPv6 addresses conflict with IPv4 addresses. |
| 400              | ILLEGAL_IP_V6_CIDR                               | %s            | The error message returned when the specified IPv6 address range is invalid. |

[View error codes](#)

## 14 Deployment sets

### 14.1 CreateDeploymentSet

Creates a deployment set in the specified region.

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

#### Request parameters

| Name        | Type   | Required | Example                              | Description                                                                                                                                                                                                                                                                                                          |
|-------------|--------|----------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId    | String | Yes      | cn-hangzhou                          | The ID of the region where the deployment set resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                     |
| Action      | String | No       | CreateDeploymentSet                  | The operation that you want to perform. Set the value to CreateDeploymentSet.                                                                                                                                                                                                                                        |
| ClientToken | String | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. The ClientToken parameter must be no more than 64 ASCII characters in length. For more information, see <a href="#">How to ensure idempotency</a> . |

| Name               | Type   | Required | Example           | Description                                                                                                                                                                                                                                                                                                          |
|--------------------|--------|----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deployment SetName | String | No       | FinanceDeployment | The name of the deployment set. It must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).                                                                                       |
| Description        | String | No       | FinanceJoshua     | The description of the deployment set. It must be 2 to 256 characters in length. It cannot start with http:// or https://.                                                                                                                                                                                           |
| Domain             | String | No       | Default           | <p>The deployment domain.</p> <p>Default value: Default.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |
| Granularity        | String | No       | Host              | <p>The deployment granularity.</p> <div>  <b>Note:</b><br/>           This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div>                           |

| Name                             | Type   | Required | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------|--------|----------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OnUnableToRedeployFailedInstance | String | No       | CancelMembershipAndStart | <p>The emergency solution to redeploy failed instances in the deployment set. Valid values:</p> <ul style="list-style-type: none"> <li>CancelMembershipAndStart: restarts the instances immediately after they are shut down and migrated to other deployment sets. This is the default value.</li> <li>KeepStopped: keeps the instances shut down and restarts them after the deployment set is replenished.</li> </ul> |
| Strategy                         | String | No       | StrictDispersion         | <p>The deployment strategy.</p> <div>  <p><b>Note:</b><br/>This parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.</p> </div>                                                                                                                                              |

### Response parameters

| Name            | Type   | Example                              | Description                   |
|-----------------|--------|--------------------------------------|-------------------------------|
| DeploymentSetId | String | ds-bp1frxuzdg87zh4pzqkcm             | The ID of the deployment set. |
| RequestId       | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.        |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=CreateDeploymentSet
&RegionId=cn-hangzhou
&DeploymentStrategy=Availability
&DeploymentSetName=AvailMySet
```

&< Common request parameters >

## Successful response examples

### XML format

```
< CreateDeploymentSetResponse >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 </
    RequestId >
    < DeploymentSetId > ds - bp1frxuzdg 87zh4pzqkc m </ Deployment
      SetId >
</ CreateDeploymentSetResponse >
```

### JSON format

```
{
  "RequestId": " 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 ",
  "DeploymentSetId": " ds - bp1frxuzdg 87zh4pzqkc "
}
```

## Error codes

| HTTP status code | Error code                    | Error message                                                                                      | Description                                                                                                                                                                   |
|------------------|-------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter              | The input parameter RegionId that is mandatory for processing this request is not supplied.        | The error message returned when the required RegionId parameter is not specified .                                                                                            |
| 400              | InvalidDescription. Malformed | The specified parameter Description is not valid.                                                  | The error message returned when the value of the Description parameter is invalid. The value must be 2 to 256 characters in length and cannot start with http:// or https://. |
| 400              | MissingParameter              | The input parameter DeploymentSetId that is mandatory for processing this request is not supplied. | The error message returned when the DeploymentSetId parameter is not specified .                                                                                              |

[View error codes](#)

## 14.2 ModifyInstanceDeployment

Migrates an ECS instance to a dedicated host (DDH) in the same region.

### Description

You can call the `ModifyInstanceDeployment` operation to complete the following tasks:

- Add an instance to a deployment set, or migrate an instance from one deployment set to another. The `DeploymentSetId` parameter is required for this task.
- You can migrate ECS instances from a shared host to the specified DDH, or migrate instances between two DDHs to reallocate your resources. The `DedicatedHostId` parameter is required for this task.

When migrating an ECS instance to a DDH, note that:

- Make sure that the instance is in the `Stopped` state. The instance automatically restarts after migration.
- You can only migrate VPC-connected ECS instances.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example       | Description                                                                                                                                |
|------------|--------|----------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-instanceid1 | The ID of the instance. The instance must be in the <code>Stopped</code> or <code>Running</code> state.                                    |
| RegionId   | String | Yes      | cn-hangzhou   | The ID of the region where the instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name            | Type    | Required | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------|---------|----------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action          | String  | No       | ModifyInstanceDeployment | The operation that you want to perform. Set the value to ModifyInstanceDeployment.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| DedicatedHostId | String  | No       | dh-2ze3lmtckdjw1pt8nr8x  | The ID of the DDH. You can call <a href="#">DescribeDedicatedHosts</a> to query available DDHs.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| DeploymentSetId | String  | No       | ds-deploymentsetid1      | The ID of the deployment set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Force           | Boolean | No       | false                    | Indicates whether the DDH of an instance can be changed. <ul style="list-style-type: none"> <li>· true: You are allowed to change the DDH of an instance. You can restart a running instance, a stopped Subscription-based instance , or a stopped Pay-As-You-Go instance that is still billed.</li> <li>· false: You are not allowed to change the DDH of an instance. You can only create a deployment set on the current DDH. This is the default value. Changing the DDH may cause the replacement of deployment set to fail.</li> </ul> |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceDeployment
&RegionId=cn-hangzhou
&DeploymentSetId=ds-bp13v7bjnj9gisnlo1
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

### Error codes

| HTTP status code | Error code                            | Error message                                  | Description                                                                                |
|------------------|---------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------|
| 404              | InvalidDedicatedHostId.NotFound       | The specified DedicatedHostId does not exist.  | The error message returned when the ID of the specified DDH does not exist.                |
| 400              | OperationDenied.UnstoppedInstance     | Operation denied due to unstopped instance.    | The error message returned when the operation is denied on the running instance.           |
| 400              | InvalidDedicatedHostStatus.NotSupport | Operation denied due to dedicated host status. | The error message returned when the operation is denied under the current instance status. |



| HTTP status code | Error code                            | Error message                                                   | Description                                                                                                       |
|------------------|---------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidPeriod.ExceededDedicatedHost   | Instance expired date can't exceed dedicated host expired date. | The error message returned when the expiration date of the instance is later than that of the DDH.                |
| 404              | InvalidInstanceNetworkType.NotSupport | The specified Instance network type not support.                | The error message returned when the network type of the specified instance is not supported.                      |
| 404              | InvalidInstanceType.NotSupport        | The Dedicated host not support the specified instance type.     | The error message returned when the current DDH does not support the instance types .                             |
| 400              | LackResource                          | There's no enough resource on the specified dedicated host.     | The error message returned when DDH resources are fully consumed.                                                 |
| 400              | OperationDenied.LocalDiskInstance     | Operation denied due to instance has local disk                 | The error message returned when a local storage disk does not support the current operation.                      |
| 403              | IncorrectInstanceState                | %s                                                              | The error message returned when the specified resource is in a state that does not support the current operation. |

[View error codes](#)

## 14.3 ModifyDeploymentSetAttribute

Modifies the name and description of a deployment set.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name              | Type   | Required | Example                      | Description                                                                                                                                                                                                                    |
|-------------------|--------|----------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DeploymentSetId   | String | Yes      | ds-deploymentsetid           | The ID of a deployment set.                                                                                                                                                                                                    |
| RegionId          | String | Yes      | cn-hangzhou                  | The ID of the region where the deployment set resides. You can call DescribeRegions to view the latest list of Alibaba Cloud regions.                                                                                          |
| Action            | String | No       | ModifyDeploymentSetAttribute | The operation that you want to perform. Set the value to ModifyDeploymentSetAttribute.                                                                                                                                         |
| DeploymentSetName | String | No       | FinanceJoshua                | The name of the deployment set. It must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). |
| Description       | String | No       | FinanceDept                  | The description of the deployment set. It must be 2 to 256 characters in length and cannot start with http:// or https://.                                                                                                     |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

## Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyDeploymentSetAttribute
&RegionId=cn-hangzhou
&Strategy=Availability
&DeploymentSetId=ds-bp1frxuzdg87zh4pzqkc
&DeploymentSetName=AvailMySet
&<Common request parameters>
```

## Successful response examples

## XML format

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

## JSON format

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

## Error codes

| HTTP status code | Error code       | Error message                                                                               | Description                                                      |
|------------------|------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 400              | MissingParameter | The input parameter RegionId that is mandatory for processing this request is not supplied. | The error message returned when the RegionId parameter is empty. |

| HTTP status code | Error code                       | Error message                                     | Description                                                                                                                                               |
|------------------|----------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidDescription.<br>Malformed | The specified parameter Description is not valid. | The error message returned when the specified description is invalid. It must be 2 to 256 characters in length and cannot start with http:// or https://. |

[View error codes](#)

## 14.4 DeleteDeploymentSet

Deletes a deployment set.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name            | Type   | Required | Example             | Description                                                                                                                                           |
|-----------------|--------|----------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| DeploymentSetId | String | Yes      | ds-deploymentsetid1 | The ID of the deployment set. You cannot delete a deployment set that contains instances.                                                             |
| RegionId        | String | Yes      | cn-hangzhou         | The ID of the region where the deployment set resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions. |

| Name   | Type   | Required | Example             | Description                                                                   |
|--------|--------|----------|---------------------|-------------------------------------------------------------------------------|
| Action | String | No       | DeleteDeploymentSet | The operation that you want to perform. Set the value to DeleteDeploymentSet. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteDeploymentSet
&RegionId=cn-hangzhou
&DeploymentSetId=ds-bp1frxuzdg87zh4pzqkc
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

```
}
```

### Error codes

| HTTP status code | Error code                     | Error message                                                                                        | Description                                                                                         |
|------------------|--------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 400              | MissingParameter               | The input parameter "DeploymentSetId" that is mandatory for processing this request is not supplied. | The error message returned when the DeploymentSetId parameter is empty.                             |
| 403              | DependencyViolation.ReferByHPC | The specified deployment set is still referred by an HPC cluster.                                    | The error message returned when the specified deployment set is associated with other HPC clusters. |

[View error codes](#)

## 14.5 DescribeDeploymentSets

Queries a list of attributes of one or more deployment sets.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                         |
|----------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region where a deployment set resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions. |

| Name              | Type   | Required | Example                                              | Description                                                                                                                                                                                                                                                                               |
|-------------------|--------|----------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String | No       | DescribeDeploymentSets                               | The operation that you want to perform. Set the value to DescribeDeploymentSets.                                                                                                                                                                                                          |
| DeploymentSetIds  | String | No       | ["ds-xxxxxxxxx", "ds-yyyyyyyyy", ... "ds-zzzzzzzzz"] | The list of deployment set IDs. The value can contain a JSON array consisting of up to 100 deployment set IDs. The deployment set IDs must be separated by commas (,).                                                                                                                    |
| DeploymentSetName | String | No       | FinanceJoshua                                        | The name of a deployment set.                                                                                                                                                                                                                                                             |
| Domain            | String | No       | Default                                              | <p>The deployment domain.</p> <div>  <b>Note:</b><br/>           The parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div>      |
| Granularity       | String | No       | Host                                                 | <p>The deployment granularity.</p> <div>  <b>Note:</b><br/>           The parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |

| Name        | Type    | Required | Example      | Description                                                                                                                                                                                                                                                                                       |
|-------------|---------|----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkType | String  | No       | VPC          | <p>The network type in a deployment set.</p> <div>  <b>Note:</b><br/>           The parameter will be removed in the future. We recommend that you use other parameters to ensure compatibility.         </div> |
| PageNumber  | Integer | No       | 1            | <p>The page number to be queried in the deployment set list.</p> <p>Starting value: 1.</p> <p>Default value: 1.</p>                                                                                                                                                                               |
| PageSize    | Integer | No       | 10           | <p>The number of entries per page. Maximum value: 100.</p> <p>Default value: 10.</p>                                                                                                                                                                                                              |
| Strategy    | String  | No       | Availability | <p>The deployment strategy. Value: Availability.</p> <p>Default value: null.</p>                                                                                                                                                                                                                  |

### Response parameters

| Name           | Type   | Example              | Description                                                       |
|----------------|--------|----------------------|-------------------------------------------------------------------|
| DeploymentSets |        |                      | The detailed information of deployment sets returned in an array. |
| CreationTime   | String | 2017-12-05T22:40:00Z | The time a deployment set is created.                             |



| Name                     | Type    | Example                              | Description                                               |
|--------------------------|---------|--------------------------------------|-----------------------------------------------------------|
| DeploymentSetDescription | String  | FinanceDeploymentHighAvailability    | The description of a deployment set.                      |
| DeploymentSetId          | String  | ds-deploymentsetid1                  | The ID of a deployment set..                              |
| DeploymentSetName        | String  | FinanceJoshua                        | The name of a deployment set.                             |
| DeploymentStrategy       | String  | Availability                         | The deployment strategy.                                  |
| Domain                   | String  | Default                              | The deployment domain.                                    |
| Granularity              | String  | Host                                 | The deployment granularity.                               |
| InstanceAmount           | Integer | 1                                    | The number of instances in a deployment set.              |
| InstanceIds              |         | ["i-instanceid1"]                    | The list of instance IDs in a deployment set.             |
| Strategy                 | String  | StrictDispersion                     | The deployment strategy.                                  |
| PageNumber               | Integer | 1                                    | The page number to be queried in the deployment set list. |
| PageSize                 | Integer | 10                                   | The number of entries per page.                           |
| RegionId                 | String  | cn-hangzhou                          | The ID of the region where a deployment set resides.      |
| RequestId                | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                    |

| Name       | Type    | Example | Description                                  |
|------------|---------|---------|----------------------------------------------|
| TotalCount | Integer | 1       | The total number of queried deployment sets. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeDeploymentSets
&RegionId=cn-hangzhou
&DeploymentSetsIds=["ds-bp13v7bjnj9gislol1"]
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeDeploymentSetsResponse>
  <PageSize>10</PageSize>
  <TotalCount>1</TotalCount>
  <PageNumber>1</PageNumber>
  <RequestId>1CB9A584-9E43-408D-B5A8-DB42CDECE03B</RequestId>
  <DeploymentSets>
    <DeploymentSet>
      <DeploymentSetDescription>default</DeploymentSetDescription>
      <DeploymentSetId>ds-bp13v7bjnj9gislol1</DeploymentSetId>
      <DeploymentStrategy>Availability</DeploymentStrategy>
    </DeploymentSet>
    <DeploymentSetName>test</DeploymentSetName>
    <InstanceIds>
      <InstanceId>i-sdfkjsdfk</InstanceId>
      <InstanceId>i-kiiwsch</InstanceId>
    </InstanceIds>
  </DeploymentSets>
</DescribeDeploymentSetsResponse>
```

#### JSON format

```
{
  "DeploymentSets": {
    "DeploymentSet": [
      {
        "DeploymentSetDescription": "default",
        "InstanceIds": [
          "i-sdfkjsdfk",
          "i-kiiwsch"
        ]
      },
      {
        "DeploymentSetName": "test",
        "DeploymentStrategy": "Availability"
      }
    ]
  }
}
```

```
    " Deployment SetId ":" ds - bp13v7bjnj 9gisnlo1ow "
  }
],
" PageNumber ": 1 ,
" TotalCount ": 1 ,
" PageSize ": 10 ,
" RequestId ":" 1CB9A584 - 9E43 - 408D - B5A8 - DB42CDECE0 3B "
}
```

#### Error codes

| HTTP status code | Error code                               | Error message                                           | Description                                                                          |
|------------------|------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------|
| 403              | InvalidDeploymentSetIds.<br>TooManyInput | The parameter DeploymentSets size should less than 100. | The error message returned when the number of specified deployment sets exceeds 100. |

[View error codes](#)

# 15 SSH key pairs

---

## 15.1 CreateKeyPair

Creates an SSH key pair. The system stores the public key and returns the unencrypted private key. The private key is encoded by using PEM and is in the PKCS#8 format. You must store the private key on your own and ensure its confidentiality.

### Description

In addition to calling `CreateKeyPair`, you can create a key pair through other key pair generators and call [ImportKeyPair](#) to upload the key pair to a region.

You can have up to 500 key pairs in each Alibaba Cloud region. For more information, see [SSH key pair](#).

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name        | Type   | Required | Example          | Description                                                                                                                                                                                                                                                                                                                           |
|-------------|--------|----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairName | String | Yes      | FinanceJoshuaV23 | The name of the key pair. It must be 2 to 128 characters in length. It must start with a letter and cannot start with <code>http://</code> or <code>https://</code> . It can contain letters, digits, colons (:), underscores (_), and hyphens (-). The name must be globally unique and supports all character set encoding formats. |

| Name            | Type   | Required | Example                | Description                                                                                                                                                                                                        |
|-----------------|--------|----------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId        | String | Yes      | cn-hangzhou            | The ID of the region where the key pair resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions.                                                                    |
| Action          | String | No       | CreateKeyPair          | The operation that you want to perform. Set the value to CreateKeyPair.                                                                                                                                            |
| ResourceGroupId | String | No       | rg-resourcegroupid1    | The ID of the resource group to which the tag belongs.                                                                                                                                                             |
| Tag . N . Key   | String | No       | FinanceDept            | The tag key of the key pair. Valid values of N: 1 to 20. It cannot be an empty string. It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://. |
| Tag . N . Value | String | No       | FinanceDept.<br>Joshua | The tag value of the key pair. Valid values of N: 1 to 20. It can be an empty string. It can be a maximum of 128 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://. |

## Response parameters

| Name               | Type   | Example                                                     | Description                                                                                                                                                       |
|--------------------|--------|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairFingerPrint | String | 89:f0:ba:62:ac:b8:aa:e1:61:5e:fd:81:69:86:6d:6b:f0:c0:5a:d7 | The fingerprint of the key pair. MD5 is used based on the public key fingerprint format defined in RFC 4716. For more information, see <a href="#">RFC 4716</a> . |
| KeyPairName        | String | FinanceJoshuaV23                                            | The name of the key pair.                                                                                                                                         |
| PrivateKeyBody     | String | XXXXXXXXXX<br>XXXXXXXXXX<br>XXXXXXXXXXXX                    | The private key of the key pair. The private key is encoded by using PEM and is in PKCS#8 format. For more details, see OpenSSL PKCS #8.                          |
| RequestId          | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E                        | The ID of the request.                                                                                                                                            |

## Examples

## Sample requests

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

## Successful response examples

## XML format

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

## JSON format

```
{
```

```

" RequestId ":" 473469C7 - AA6F - 4DC5 - B3DB - A3DC0DE3C8 3E ",
" PrivateKey Body ":" xxxxxxxxxxxx xxxxxxxxxxxx xxxxxxxxxxxx ",
" KeyPairFingerPrint ":" 89 : f0 : ba : 62 : ac : b8 : aa : e1 : 61
: 5e : fd : 81 : 69 : 86 : 6d : 6b : f0 : c0 : 5a : d7 ",
" KeyPairName ":" test "
}

```

### Error codes

| HTTP status code | Error code               | Error message               | Description                                                                                     |
|------------------|--------------------------|-----------------------------|-------------------------------------------------------------------------------------------------|
| 403              | QuotaExceed.<br>KeyPair  | The key pair quota exceeds. | The error message returned when the number of key pairs reaches the upper limit.                |
| 400              | KeyPair.<br>AlreadyExist | The key pair already exist. | The error message returned when a key pair already exists. Duplicate key pairs cannot be added. |

[View error codes](#)

## 15.2 ImportKeyPair

Imports the public key of an RSA-encrypted key pair that was created by other key pair generators. After the public key is imported, you must store the private key on your own and ensure its confidentiality.

### Description

When you call this operation, note that you can only import a maximum of 500 key pairs in each region.

You can use any of the following encryption methods for your key pair:

- RSA
- DSA
- SSH - RSA
- SSH - DSS
- ECDSA
- ssh - rsa - cert - v00 @ openssh . com

- `ssh - dss - cert - v00 @ openssh . com`
- `ssh - rsa - cert - v01 @ openssh . com`
- `ssh - dss - cert - v01 @ openssh . com`
- `ecdsa - sha2 - nistp256 - cert - v01 @ openssh . com`
- `ecdsa - sha2 - nistp384 - cert - v01 @ openssh . com`
- `ecdsa - sha2 - nistp521 - cert - v01 @ openssh . com`

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name          | Type   | Required | Example            | Description                                                                                                                                                                                                                                                   |
|---------------|--------|----------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairName   | String | Yes      | FinanceJoshuaV24   | The name of the key pair.<br>The name must be globally unique. It must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-). |
| PublicKeyBody | String | Yes      | XXXXXXXXXX<br>XXXX | The public key of the key pair.                                                                                                                                                                                                                               |
| RegionId      | String | Yes      | cn-hangzhou        | The ID of the region where the key pair resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions.                                                                                                               |
| Action        | String | No       | ImportKeyPair      | The operation that you want to perform. Set the value to ImportKeyPair.                                                                                                                                                                                       |



## Response parameters

| Name               | Type   | Example                                                     | Description                                                                                                                                         |
|--------------------|--------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairFingerPrint | String | 89:f0:ba:62:ac:b8:aa:e1:61:5e:fd:81:69:86:6d:6b:f0:c0:5a:d7 | The fingerprint of the key pair.<br>MD5 is used based on the public key fingerprint format defined in RFC 4716. For more information, see RFC 4716. |
| KeyPairName        | String | FinanceJoshauV24                                            | The name of the key pair.                                                                                                                           |
| RequestId          | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E                        | The ID of the request.                                                                                                                              |

## Examples

## Sample requests

```
https://ecs.aliyuncs.com/?Action=ImportKeyPair
&RegionId=cn-qingdao
&PublicKeyBody=xxxxxxxxxx
&KeyPairName=test
&<Common request parameters>
```

## Successful response examples

## XML format

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

## JSON format

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

## Error codes

| HTTP status code | Error code                         | Error message                                                                                      | Description                                                                                     |
|------------------|------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 403              | QuotaExceed.<br>KeyPair            | The key pair quota exceeds.                                                                        | The error message returned when the number of key pairs reaches the upper limit.                |
| 400              | InvalidPublicKeyBody.<br>Malformed | The PublicKeyBody format is not supported.                                                         | The error message returned when the public key format is not supported.                         |
| 400              | MissingParameter                   | The input parameter "PublicKeyBody" that is mandatory for processing this request is not supplied. | The error message returned when the required PublicKeyBody parameter is not specified.          |
| 400              | KeyPair.<br>AlreadyExist           | The key pair already exist.                                                                        | The error message returned when a key pair already exists. Duplicate key pairs cannot be added. |

[View error codes](#)

## 15.3 AttachKeyPair

Attaches an SSH key pair to one or multiple Linux-based instances.

### Description

When you call this operation, note that:

- SSH key pairs are not supported on Windows-based instances.
- Once an SSH key pair is attached to an instance, the username-password authentication method is disabled on the instance.
- If an instance is in the Running state, call [RebootInstance](#) to restart the instance for the operation to take effect.
- If an instance is in the Stopped state, call [StartInstance](#) to start the instance for the operation to take effect.

- If an instance already has an SSH key pair attached, the new SSH key pair will automatically replace the original one.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name            | Type   | Required | Example                                                  | Description                                                                                                                                                                        |
|-----------------|--------|----------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId<br>s | String | Yes      | ["i-xxxxxxx",<br>"i-yyyyyyyy",<br>... "i-zzzzzzzz"<br>"] | The IDs of instances to which you want to attach an SSH key pair. The value can contain a JSON array consisting of up to 50 instance IDs. The IDs must be separated by commas (,). |
| KeyPairName     | String | Yes      | FinanceJoshuaV25                                         | The name of the SSH key pair.                                                                                                                                                      |
| RegionId        | String | Yes      | cn-hangzhou                                              | The ID of the region where the SSH key pair resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions.                                |
| Action          | String | No       | AttachKeyPair                                            | The operation that you want to perform. Set the value to AttachKeyPair.                                                                                                            |

## Response parameters

| Name        | Type   | Example          | Description                                                     |
|-------------|--------|------------------|-----------------------------------------------------------------|
| FailCount   | String | 0                | The number of instances to which key pairs fail to be attached. |
| KeyPairName | String | FinanceJoshuaV25 | The name of a key pair.                                         |

| Name        | Type   | Example                              | Description                                                                                                 |
|-------------|--------|--------------------------------------|-------------------------------------------------------------------------------------------------------------|
| RequestId   | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                      |
| Results     |        |                                      | The result set of attachment operations.                                                                    |
| └Code       | String | 200                                  | The operation status code returned . 200 indicates that the operation is successful.                        |
| └InstanceId | String | i-instanceid1                        | The ID of an instance.                                                                                      |
| └Message    | String | successful                           | The operation information returned. When the value of code is 200, the value of message becomes successful. |
| └Success    | String | true                                 | The message returned indicating whether the operation is successful .                                       |
| TotalCount  | String | 2                                    | The total number of instances to which key pairs are bound.                                                 |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=AttachKeyPair
&InstanceId.s=["i-xxxxxxxx", "i-yyyyyyyy", ... "i-zzzzzzzz"]
&KeyPairName=FinanceJos_huaV25
&RegionId=cn-hangzhou
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<AttachKeyPairResponse>
  <TotalCount>2</TotalCount>
```

```

< RequestId > 4ADF7A06 - 66BD - 4FBF - A2ED - 2364E41D8C 06 </
RequestId >< RequestId > 4ADF7A06 - 66BD - 4FBF - A2ED - 2364E41D8C
06 </ RequestId >
< Results >
  </ Result >
    < Message > AccessDenied </ Message >
    < InstanceId > i - m5eg7be9nd loji64jknv </ InstanceId >
    < Success > true </ Success >
    < Code > 200 </ Code >
  </ Result >
  </ Result >
    < Message > AccessDenied </ Message >
    < InstanceId > i - m5e25x2mwr 0hk33dwv0h </ InstanceId >
    < Success > true </ Success >
    < Code > 200 </ Code >
  </ Result >
</ Results >
< FailCount > 0 </ FailCount >
</ AttachKeyPairResponse >

```

### JSON format

```

{
  "TotalCount": 2,
  "RequestId": "4ADF7A06 - 66BD - 4FBF - A2ED - 2364E41D8C 06",
  "Results": {
    "Result": [
      {
        "Message": "successful",
        "InstanceId": "i - m5eg7be9nd loji64jknv",
        "Success": true,
        "Code": "200"
      },
      {
        "Message": "successful",
        "InstanceId": "i - m5e25x2mwr 0hk33dwv0h",
        "Success": true,
        "Code": "200"
      }
    ]
  },
  "FailCount": 0
}

```

### Error codes

| HTTP status code | Error code                            | Error message                                                      | Description                                                                                            |
|------------------|---------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 403              | Dependency Violation. WindowsInstance | The instance creating is windows, cannot use ssh key pair to login | The error message returned when you cannot detach key pairs from the specified Windows-based instance. |

| HTTP status code | Error code                          | Error message                                     | Description                                                           |
|------------------|-------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------|
| 400              | Dependency Violation.<br>IoOptimize | The specified parameter InstanceIds is not valid. | The error message returned when the specified instance ID is invalid. |

[View error codes](#)

## 15.4 DetachKeyPair

Detaches SSH key pairs from one or multiple Linux-based instances.

### Description

When you call this operation, note that:

- After you detach an SSH key pair, you must restart the instance ([RebootInstance](#)) for the operation to take effect.
- After an SSH key pair is detached from an instance, the account-password authentication method is used by default.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name        | Type   | Required | Example                                             | Description                                                                                                                                                                  |
|-------------|--------|----------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceIds | String | Yes      | ["d-xxxxxxxxx", "d-yyyyyyyyyy", ... "d-zzzzzzzzzz"] | The IDs of instances from which SSH key pairs are detached. The value can be a JSON array consisting of up to 50 instance IDs. Multiple IDs must be separated by commas (,). |

| Name        | Type   | Required | Example          | Description                                                                                                                                        |
|-------------|--------|----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairName | String | Yes      | FinanceJoshuaV26 | The SSH key pair names.                                                                                                                            |
| RegionId    | String | Yes      | cn-hangzhou      | The ID of the region where an SSH key pair resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions. |
| Action      | String | No       | DetachKeyPair    | The operation that you want to perform. Set the value to DetachKeyPair.                                                                            |

## Response parameters

| Name                | Type   | Example                              | Description                                                                                          |
|---------------------|--------|--------------------------------------|------------------------------------------------------------------------------------------------------|
| FailCount           | String | 0                                    | The number of instances from which key pairs fail to be detached.                                    |
| KeyPairName         | String | FinanceJoshuaV26                     | The name of a key pair.                                                                              |
| RequestId           | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. This parameter is returned regardless of whether the operation is successful. |
| Results             |        |                                      | The result set of detach operation.                                                                  |
| $\angle$ Code       | String | 200                                  | The operation status code returned. 200 indicates that the operation is successful.                  |
| $\angle$ InstanceId | String | i-instanceid1                        | The ID of an instance.                                                                               |

| Name                    | Type   | Example    | Description                                                                                            |
|-------------------------|--------|------------|--------------------------------------------------------------------------------------------------------|
| <code>Message</code>    | String | successful | The operation information returned. When the value of code is 200, the value of message is successful. |
| <code>Success</code>    | String | true       | The message returned indicating whether the operation is successful.                                   |
| <code>TotalCount</code> | String | 2          | The total number of instances from which key pairs are detached.                                       |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DetachKeyPair
&RegionId=cn-qingdao
&InstanceId.s=["i-xxxxxxx","i-yyyyyy"]
&KeyPairName=test
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DetachKeyPairResponse>
  <TotalCount>2</TotalCount>
  <RequestId>834B3E6B-2D1D-482F-81A4-810C327D4735</RequestId>
  <Results>
    <Result>
      <Message>AccessDenied</Message>
      <InstanceId>i-m5eg7be9ndloji64jknv</InstanceId>
      <Success>true</Success>
      <Code>200</Code>
    </Result>
    <Result>
      <Message>successful</Message>
      <InstanceId>i-m5e25x2mwr0hk33dvv0h</InstanceId>
      <Success>true</Success>
      <Code>200</Code>
    </Result>
  </Results>
  <FailCount>0</FailCount>
```



```
</ DetachKeyPairResponse >
```

#### JSON format

```
{
  "TotalCount": 2,
  "RequestId": "834B3E6B - 2D1D - 482F - 81A4 - 810C327D47 35",
  "Results": {
    "Result": [
      {
        "Message": "successful",
        "InstanceId": "i-m5eg7be9nd-loji64jknv",
        "Success": true,
        "Code": "200"
      },
      {
        "Message": "successful",
        "InstanceId": "i-m5e25x2mwr-0hk33dwv0h",
        "Success": true,
        "Code": "200"
      }
    ]
  },
  "FailCount": 0
}
```

#### Error codes

| HTTP status code | Error code                            | Error message                                                      | Description                                                                                            |
|------------------|---------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 403              | Dependency Violation. WindowsInstance | The instance creating is windows, cannot use ssh key pair to login | The error message returned when you cannot detach key pairs from the specified Windows-based instance. |

[View error codes](#)

## 15.5 DeleteKeyPairs

Deletes one or multiple SSH key pairs. The entry of a deleted SSH key pair is removed from the database. However, the instances bound with the SSH key pair can still use it.

#### Description

When you call this operation, note that:

- After you delete an SSH key pair, this pair cannot be returned in response to [DescribeKeyPairs](#).
- When you call [DescribeInstances](#) to query instance information, the SSH key pair name (KeyPairNames) is still returned, but without any other information.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name         | Type   | Required | Example                                              | Description                                                                                                                                       |
|--------------|--------|----------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairNames | String | Yes      | ["key-xxxxxxxx", "key-yyyyyyyy", ... "key-zzzzzzzz"] | The SSH key pair names. The value can be a JSON array consisting of up to 100 SSH key pairs. Multiple key pairs must be separated by commas (,).  |
| RegionId     | String | Yes      | cn-hangzhou                                          | The ID of the region where a SSH key pair resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions. |
| Action       | String | No       | DeleteKeyPairs                                       | The operation that you want to perform. Set the value to DeleteKeyPairs.                                                                          |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

```
<DeleteKeyPairsResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C8-3E</
  RequestId>
</DeleteKeyPairsResponse>
```

#### JSON format

```
{
  "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C8-3E"
}
```

### Error codes

| HTTP status code | Error code                            | Error message                                                                                     | Description                                                                           |
|------------------|---------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 400              | MissingParameter                      | The input parameter "KeyPairNames" that is mandatory for processing this request is not supplied. | The error message returned when the required KeyPairNames parameter is not specified. |
| 400              | InvalidKeyPairNames.ValueNotSupported | The specified parameter "KeyPairNames" is not valid.                                              | The error message returned when the KeyPairNames parameter is invalid.                |

[View error codes](#)

## 15.6 DescribeKeyPairs

Queries one or more key pairs.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name               | Type   | Required | Example          | Description                                                                                                                                                                                        |
|--------------------|--------|----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId           | String | Yes      | cn-hangzhou      | The ID of the region where a key pair resides. You can call <a href="#">DescribeRegions</a> to view the latest list of Alibaba Cloud regions.                                                      |
| Action             | String | No       | DescribeKeyPairs | The operation that you want to perform. Set the value to DescribeKeyPairs.                                                                                                                         |
| KeyPairFingerprint | String | No       | XXXXXXXXXX       | The fingerprint of the key pair. The message-digest algorithm 5 (MD5) is used based on the public key fingerprint format defined in RFC 4716. For more information, see <a href="#">RFC 4716</a> . |

| Name            | Type    | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|---------|----------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KeyPairName     | String  | No       | *Finance*           | <p>The name of the key pair. The asterisk (*) symbol can be used as a wild card in regular expressions to query key pairs by fuzzy match. Sample patterns:</p> <ul style="list-style-type: none"> <li>• *SshKey: queries key pair names ending with SshKey, including SshKey.</li> <li>• SshKey *: queries key pair names starting with SshKey, including SshKey.</li> <li>• * SshKey *: queries key pair names that contain SshKey.</li> <li>• SshKey: queries SshKey by exact match.</li> </ul> |
| PageNumber      | Integer | No       | 1                   | <p>The page number to be queried in the SSH key pair list.</p> <p>Starting value: 1.</p> <p>Default value: 1.</p>                                                                                                                                                                                                                                                                                                                                                                                 |
| PageSize        | Integer | No       | 10                  | <p>The number of entries per page . Maximum Value: 50</p> <p>Default value: 10</p>                                                                                                                                                                                                                                                                                                                                                                                                                |
| ResourceGroupId | String  | No       | rg-resourcegroupid1 | The ID of the resource group that hosts the key pair.                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Name               | Type   | Required | Example                | Description                                                                                                                                                                                                            |
|--------------------|--------|----------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N .<br>Key   | String | No       | FinanceDept            | The tag key of the key pair.<br>Valid values of N: 1 to 20. It cannot be an empty string. It must be no more than 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://. |
| Tag . N .<br>Value | String | No       | FinanceDept.<br>Joshua | The tag value of the key pair.<br>Valid values of N: 1 to 20. It can be an empty string. It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.   |

## Response parameters

| Name                            | Type   | Example                | Description                      |
|---------------------------------|--------|------------------------|----------------------------------|
| KeyPairs                        |        |                        | A set of key pairs.              |
| <sup>└</sup> KeyPairFingerPrint | String | XXXXXXXXXXXX           | The fingerprint of the key pair. |
| <sup>└</sup> KeyPairName        | String | FinanceJoshuaV27       | The name of the key pair.        |
| <sup>└</sup> ResourceGroupId    | String | rg-resourcegroupid1    | The ID of the resource group.    |
| <sup>└</sup> Tags               |        |                        | The tags of the key pair.        |
| <sup>└</sup> TagKey             | String | FinanceDept            | The tag key of the key pair.     |
| <sup>└</sup> TagValue           | String | FinanceDept.<br>Joshua | The tag value of the key pair.   |

| Name       | Type    | Example                              | Description                                                                                          |
|------------|---------|--------------------------------------|------------------------------------------------------------------------------------------------------|
| PageNumber | Integer | 1                                    | The current page number.                                                                             |
| PageSize   | Integer | 10                                   | The number of entries per page.                                                                      |
| RequestId  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. This parameter is returned regardless of whether the operation is successful. |
| TotalCount | Integer | 1                                    | The total number of key pairs.                                                                       |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeKeyPairs
&RegionId=cn-qingdao
&KeyPairFilter.Print=xxxxxxxxxx
&KeyPairName=test
&PageNumber=1
&PageSize=20
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

```
{
  "PageNumber": 1,
  "TotalCount": 1,
  "KeyPairs": {
    "KeyPair": {
      "KeyPairFilter.Print": "xxxxxxxxxx",
```

```
    "KeyPairName": "test"
  }
],
"PageSize": 2,
"RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C8-3E"
}
```

## Error codes

[View error codes](#)



# 16 Networks

---

## 16.1 AllocatePublicIpAddress

Assigns a public IP address to an instance.

### Description

When you call this operation, note that:

- Before you can assign a public IP address to an instance, the instance must be in the Running or Stopped state.
- No public IP addresses can be assigned to a VPC-connected instance bound with an Elastic IP (EIP).
- You can assign only one public IP address to an instance. If an instance has a public IP address, the `AllocatedAlready` error message is returned.
- After you restart an instance ([RebootInstance](#)) or start an instance ([StartInstance](#)), the new public IP address takes effect.
- If an instance is [locked for security reasons](#) (the `OperationLocks` parameter is `"LockReason": "security"`), no public IP addresses can be assigned to the instance.

You can also bind an EIP to an instance. For more information, see [AssociateEipAddress](#).

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example                 | Description                                                                                     |
|------------|--------|----------|-------------------------|-------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-instance1             | The ID of the instance to be allocated an IP address.                                           |
| Action     | String | No       | AllocatePublicIpAddress | The operation that you want to perform. Set the value to <code>AllocatePublicIpAddress</code> . |

| Name      | Type   | Required | Example      | Description                           |
|-----------|--------|----------|--------------|---------------------------------------|
| IpAddress | String | No       | 10.1.149.159 | The public IP address of an instance. |
| VlanId    | String | No       | 100          | The VLAN ID.                          |

### Response parameters

| Name      | Type   | Example                              | Description                           |
|-----------|--------|--------------------------------------|---------------------------------------|
| IpAddress | String | 10.1.149.159                         | The public IP address of an instance. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                |

### Examples

#### Sample requests

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

#### Successful response examples

##### XML format

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

##### JSON format

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

}

## Error codes

| HTTP status code | Error code                         | Error message                                                                                                     | Description                                                                                                                        |
|------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidVlanId.NotFound             | The VlanId provided does not exist in our records.                                                                | The error message returned when the ID of the specified VLAN does not exist.                                                       |
| 403              | InstanceExpiredOrInArrears         | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned when the subscription of an instance has expired. You need to renew the subscription before proceeding. |
| 404              | InvalidIpAddress.NotFound          | The specified IP is not in the specified vlan.                                                                    | The error message returned when the specified IP address is not in the specified VLAN.                                             |
| 403              | AllocatedAlready                   | There is an IpAddress allocated already for the specified instance.                                               | The error message returned when you try to assign a specified IP address to an instance that already has an IP address.            |
| 400              | OperationDenied                    | Specified operation is denied as your instance is in VPC.                                                         | The error message returned when the specified operation does not support VPC-connected instances.                                  |
| 400              | AllocateIpInvalidInstanceBandwidth | OperationDenied The InternetMaxBandwidth Out of the specified instance cannot be less than 0.                     | The error message returned when the Internet bandwidth is less than 0.                                                             |

| HTTP status code | Error code                      | Error message                                                                    | Description                                                                                                                         |
|------------------|---------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 400              | OperationDenied                 | The specified parameter "VlanId" is not valid or vlan has not enough IP address. | The error message returned when the specified VLAN ID is invalid or the number of IP addresses in the VLAN reaches the upper limit. |
| 403              | NAT_PUBLIC_IP_BINDING_FAILED    | Binding nat public ip failed                                                     | The error message returned when you fail to bind a public IP address to an instance.                                                |
| 403              | NAT_PUBLIC_IP_ALLOCATION_FAILED | Nat public ip binding failed.                                                    | The error message returned when ECS fails to assign a public IP address to an instance.                                             |

[View error codes](#)

## 16.2 ConvertNatPublicIpToEip

Converts the public IP address of a VPC-connected ECS instance to an Elastic IP (EIP) address.

### Description

When you call this operation, note that:

- The network type of the instance must be VPC.
- The ECS instance must be in either Stopped or Running state.
- The operation fails if no public IP address is assigned to the ECS instance.
- The operation fails if the ECS instance is bound to an EIP.
- The operation fails if the ECS instance has any inactivated specification changes.
- The operation fails if the instance expires in 24 hours.
- After you convert the public IP address to an EIP address, EIP is billed separately.
- The operation fails if the [public network bandwidth](#) of the [subscription-based](#) ECS instance is billed by bandwidth.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example                 | Description                                                                                                                                |
|------------|--------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-test                  | The ID of the instance for which you want to convert its public IP address to an EIP address.                                              |
| RegionId   | String | Yes      | cn-hangzhou             | The ID of the region where the instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action     | String | No       | ConvertNatPublicIpToEip | The operation that you want to perform. Set the value to ConvertNatPublicIpToEip.                                                          |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

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

### Successful response examples

**XML format**

```
< ConvertNat PublicIpTo EipResponse >
  < RequestId > B154D309 - F3E1 - 4AB7 - BA94 - FECA8B890 01 </
    RequestId >
</ ConvertNat PublicIpTo EipResponse >
```

**JSON format**

```
{
  "RequestId ":" B154D309 - F3E1 - 4AB7 - BA94 - FECA8B890 01 "
```

**Error codes**

| HTTP status code | Error code                                  | Error message                                   | Description                                                                                                       |
|------------------|---------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidInstanceId.PlannedChange             | %s                                              | The error message returned when the instance has incomplete changes.                                              |
| 403              | InvalidInstanceState.Released               | %s                                              | The error message returned when the specified instance state is invalid.                                          |
| 403              | IncorrectInstanceState                      | %s                                              | The error message returned when the specified resource is in a state that does not support the current operation. |
| 404              | InvalidInstanceId.NotFound                  | %s                                              | The error message returned when the specified instance does not exist.                                            |
| 403              | InvalidInternetChargeType.ValueNotSupported | %s                                              | The error message returned when the InternetChargeType parameter is invalid.                                      |
| 403              | MaxEIPQuotaExceeded                         | The number of EIP exceeds the limit per region. | The error message returned when the number of EIPs exceeds the limit in the region.                               |

| HTTP status code | Error code                         | Error message | Description                                                                                                          |
|------------------|------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidInstance.<br>OverduePayment | %s            | The error message returned when an account has overdue payments . You need to top up your account before proceeding. |

[View error codes](#)

## 16.3 AttachClassicLinkVpc

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

### Description

When you call this interface, consider the following:

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

### Request parameters

| Name     | Type   | Required | Description                                                                                                            |
|----------|--------|----------|------------------------------------------------------------------------------------------------------------------------|
| Action   | String | Yes      | The name of this interface.<br>Value: AttachClassicLinkVpc.                                                            |
| RegionId | String | Yes.     | Region ID of the instance. For more information, see <a href="#">DescribeRegions</a> to obtain the latest region list. |

| Name       | Type   | Required | Description                                                                                                            |
|------------|--------|----------|------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes.     | ID of the classic network instance. You can call <a href="#">DescribeInstances</a> to obtain all of your instance IDs. |
| VpcId      | String | Yes.     | ID of the ClassicLink enabled VPC. You can call <a href="#">DescribeVpcs</a> to obtain all of your VPC IDs.            |

### Response parameters

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

### Examples

#### Request example

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

#### Response example

##### XML format

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

##### JSON format

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

### Error codes

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



| Error code                      | Error information                                              | HTTP status code | Description                                                                                                        |
|---------------------------------|----------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------|
| Abs.InvalidInstanceId.Malformed | The specified instance has already been linked to another VPC. | 400              | The specified instance is already linked to another VPC.                                                           |
| InvalidInstanceId.Malformed     | The specified instance is not a classic network type instance. | 400              | The network type of the specified instance is not a classic network.                                               |
| InvalidRegionId.Malformed       | The specified RegionId is invalid.                             | 400              | The specified <code>RegionId</code> does not exist or you are not authorized to access the specified region.       |
| InvalidVpcId.Malformed          | The specified VpcId is invalid.                                | 400              | The specified <code>VpcId</code> is invalid.                                                                       |
| InvalidInstanceId.NotBelong     | The user does not own the specified instance.                  | 403              | The specified instance does not belong to you.                                                                     |
| InvalidStatus.InstanceLocked    | The specified instance is in another processing list.          | 403              | The specified instance is processing another task.                                                                 |
| InvalidStatus.InstanceStatus    | Only the Running or Stopped InstanceStatus is allowed.         | 403              | The specified instance must be in the Running ( <code>Running</code> ) or Stopped ( <code>Stopped</code> ) status. |
| OperationDenied                 | The specified VPC are unable to attach ClassicLink.            | 403              | The specified VPC cannot enable ClassicLink.                                                                       |

| Error code                     | Error information                                         | HTTP status code | Description                                                                                                                                                      |
|--------------------------------|-----------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QuotaExceeded                  | The maximum number of links in the specified VPC exceeds. | 403              | The number of available links for the current VPC has reached the upper limit, up to 1000 classic network type instances are allowed to connect to the same VPC. |
| InvalidInstanceId.<br>NotFound | The specified InstanceId does not exist.                  | 404              | The specified <code>InstanceId</code> does not exist.                                                                                                            |

## 16.4 DetachClassicLinkVpc

Unlinks a classic network-connected instance from the VPC. After the ClassicLink is disabled, the classic network-connected instance cannot access the VPC.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example     | Description                                                                                                                                |
|------------|--------|----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-test      | The ID of the classic network-connected instance.                                                                                          |
| RegionId   | String | Yes      | cn-hangzhou | The ID of the region where the instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| VpcId      | String | Yes      | vpc-test    | The ID of the VPC to which the instance is linked.                                                                                         |

| Name   | Type   | Required | Example              | Description                                                                    |
|--------|--------|----------|----------------------|--------------------------------------------------------------------------------|
| Action | String | No       | DetachClassicLinkVpc | The operation that you want to perform. Set the value to DetachClassicLinkVpc. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

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

#### Successful response examples

##### XML format

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

##### JSON format

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

### Error codes

| HTTP status code | Error code                | Error message                                     | Description                                                         |
|------------------|---------------------------|---------------------------------------------------|---------------------------------------------------------------------|
| 403              | InvalidRegionId.Malformed | The specified parameter ? RegionId? is not valid. | The error message returned when the specified region ID is invalid. |

| HTTP status code | Error code                       | Error message                                                                                     | Description                                                                                                                         |
|------------------|----------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 403              | OperationDenied                  | The instances are not allowed to detach from the linked vpc.                                      | The error message returned when the linked instance cannot be detached from the VPC.                                                |
| 403              | InvalidStatus.<br>InstanceStatus | The specified instance status is not support this operation ,expect status is running or shutted. | The error message returned when the operation is not supported under the instance state . The expected state is Running or Shutted. |
| 403              | Forbidden.<br>SubUser            | User not authorized to operate on the specified resource.                                         | The error message returned when the RAM user is not authorized to perform operations on this resource.                              |

[View error codes](#)

## 16.5 DescribeBandwidthLimitation

Queries a list of bandwidth resources.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                               |
|----------|--------|----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region where an instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name               | Type   | Required | Example                     | Description                                                                                                                                                                                                                                                                                                 |
|--------------------|--------|----------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action             | String | No       | DescribeBandwidthLimitation | The operation that you want to perform. Set the value to DescribeBandwidthLimitation.                                                                                                                                                                                                                       |
| InstanceChargeType | String | No       | PrePaid                     | <p>The billing method of the instance. For more information, see <a href="#">Pricing overview</a>. Valid values:</p> <ul style="list-style-type: none"> <li>PrePaid: the subscription-based billing method.</li> <li>PostPaid: the Pay-As-You-Go billing method.</li> </ul> <p>Default value: PostPaid.</p> |
| InstanceType       | String | No       | ecs.g5.large                | <p>The type of the instance. For more information, see <a href="#">Instance type families</a>, or call the <a href="#">DescribeInstanceTypes</a> to query latest instance types.</p>                                                                                                                        |
| OperationType      | String | No       | Upgrade                     | <p>Specifies bandwidth operations. Valid values:</p> <ul style="list-style-type: none"> <li>Upgrade</li> <li>Downgrade</li> <li>Create</li> </ul> <p>Default value: Create.</p>                                                                                                                             |
| ResourceId         | String | No       | s-946ntx4xx                 | The ID of the resource. When you set the OperationType parameter to Upgrade or Downgrade, the ResourceId parameter is required.                                                                                                                                                                             |

| Name         | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|--------|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotStrategy | String | No       | NoSpot  | <p>The spot strategy for a Pay-As-You-Go instance. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>NoSpot</b>: indicates a regular Pay-As-You-Go instance.</li> <li>• <b>SpotWithPriceLimit</b>: indicates a Pay-As-You-Go instance with the maximum hourly price.</li> <li>• <b>SpotAsPriceGo</b>: indicates that the system automatically offers a spot hourly price for an instance based on the supply-demand statistics. The spot price is limited to the cost of resources you actually use.</li> </ul> <p>Default: NoSpot.</p> <p>The SpotStrategy parameter is applicable only when the InstanceChargeType parameter is set to PostPaid.</p> |

#### Response parameters

| Name                            | Type   | Example      | Description                                                                                                                                                                                                         |
|---------------------------------|--------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bandwidths                      |        |              | The bandwidth types.                                                                                                                                                                                                |
| <sup>⌞</sup> InternetChargeType | String | PayByTraffic | <p>The bandwidth billing method. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>PayByBandwidth</b>: You are billed based on the fixed amount of bandwidth.</li> <li>• <b>PayByTraffic</b></li> </ul> |

| Name         | Type    | Example                              | Description                                                            |
|--------------|---------|--------------------------------------|------------------------------------------------------------------------|
| $\perp$ Max  | Integer | 100                                  | The maximum bandwidth. No value is returned if the parameter is empty. |
| $\perp$ Min  | Integer | 0                                    | The minimum bandwidth. No value is returned if the parameter is empty. |
| $\perp$ Unit | String  | Mbps                                 | The bandwidth unit. No value is returned if the parameter is empty.    |
| RequestId    | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                 |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

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

```
</ DescribeBandwidthLimitationResponse >
```

### JSON format

```
{
  "RequestId ":" 675B6D89 - A3EB - 4987 - BAF3 - 610591E0D0 19 ",
  "Bandwidths ":{
    "Bandwidth ":[
      {
        "Max ": 100 ,
        "InternetChargeType ":" PayByTraffic ",
        "Unit ":" Mbps ",
        "Min ": 0
      },
      {
        "Max ": 100 ,
        "InternetChargeType ":" PayByTraffic ",
        "Unit ":" Mbps ",
        "Min ": 0
      }
    ]
  }
}
```

### Error codes

| HTTP status code | Error code                 | Error message                                  | Description                                                                  |
|------------------|----------------------------|------------------------------------------------|------------------------------------------------------------------------------|
| 400              | Invalid.InstanceChargeType | The specified InstanceChargeType is not valid. | The error message returned when the InstanceChargeType parameter is invalid. |
| 404              | Invalid.NetworkCategory    | The specified NetworkCategory is not valid.    | The error message returned when the NetworkCategory parameter is invalid.    |
| 404              | Invalid.SpotStrategy       | The specified SpotStrategy is not valid.       | The error message returned when the SpotStrategy parameter is invalid.       |
| 404              | Invalid.IoOptimized        | The specified IoOptimized is not valid.        | The error message returned when the IoOptimized parameter is invalid.        |



| HTTP status code | Error code              | Error message                               | Description                                                                               |
|------------------|-------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------|
| 404              | Invalid.ResourceId      | The specified ResourceId is not valid.      | The error message returned when the resource does not exist in the region or is released. |
| 404              | Invalid.InstancePayType | The specified InstancePayType is not valid. | The error message returned when the InstancePayType parameter is invalid.                 |

[View error codes](#)

## 16.6 DescribeClassicLinkInstances

Queries one or multiple classic network-connected instances that have established ClassicLink with VPCs.

### Description

When you call this operation, note that:

- This API only supports classic network-connected instances.
- You can query a maximum of 100 classic network-connected instances each time.
- Either the VpcId parameter or the InstanceId parameter must be specified.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                                                |
|----------|--------|----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region where the instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name       | Type   | Required | Example                      | Description                                                                                                   |
|------------|--------|----------|------------------------------|---------------------------------------------------------------------------------------------------------------|
| Action     | String | No       | DescribeClassicLinkInstances | The operation that you want to perform. Set the value to DescribeClassicLinkInstances.                        |
| InstanceId | String | No       | i-test                       | The ID of the instance. You can specify a maximum of 100 instance IDs, which must be separated by commas (,). |
| PageNumber | String | No       | 1                            | The current page number.<br>Starting value: 1.<br>Default value: 1.                                           |
| PageSize   | String | No       | 10                           | The number of entries per page.<br>. Valid values: 1 to 100.<br>Default value: 10.                            |
| VpcId      | String | No       | vpc-test                     | The ID of the VPC. The <a href="#">ClassicLink</a> service must be enabled for the specified VPC.             |

### Response parameters

| Name        | Type    | Example  | Description                                                     |
|-------------|---------|----------|-----------------------------------------------------------------|
| Links       |         |          | The links between classic network-connected instances and VPCs. |
| └InstanceId | String  | i-test   | The ID of an instance.                                          |
| └VpcId      | String  | vpc-test | The ID of a VPC.                                                |
| PageNumber  | Integer | 1        | The page number you query in the link list.                     |
| PageSize    | Integer | 10       | The number of entries per page.                                 |

| Name       | Type    | Example                              | Description                |
|------------|---------|--------------------------------------|----------------------------|
| RequestId  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the API request. |
| TotalCount | Integer | 2                                    | The total number of links. |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

```
<DescribeClassicLinkInstancesResponse>
  <RequestId>B154D309-F3E1-4AB7-BA94-FEFC8B890001</RequestId>
  <TotalCount>2</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <Links>
    <Link>
      <InstanceId>i-test</InstanceId>
      <VpcId>vpc-test</VpcId>
    </Link>
    <Link>
      <InstanceId>i-test1</InstanceId>
      <VpcId>vpc-test</VpcId>
    </Link>
  </Links>
</DescribeClassicLinkInstancesResponse>
```

#### JSON format

```
{
  "PageNumber": 1,
  "TotalCount": 2,
  "Links": {
    "Link": [
      {
        "InstanceId": "i-test",
        "VpcId": "vpc-test"
      },
      {
        "InstanceId": "i-test1",
        "VpcId": "vpc-test"
      }
    ]
  }
}
```

```
} ,
" PageSize ": 10 ,
" RequestId ":" B154D309 - F3E1 - 4AB7 - BA94 - FEFCA8B890 01 "
}
```

#### Error codes

| HTTP status code | Error code                      | Error message                                  | Description                                                                               |
|------------------|---------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------|
| 403              | InvalidInstanceId.<br>NotBelong | The specified instance does not belong to you. | The error message returned when the specified instance does not exist under your account. |

[View error codes](#)

## 16.7 ModifyInstanceNetworkSpec

Modifies the bandwidth configurations of an ECS instance. When the network specifications of an instance cannot meet your needs, you can modify its bandwidth configurations to improve network performance.

#### Description

When you call this operation, note that:

- When modifying the bandwidth configurations of a prepaid instance, you can perform the following operations:
  - When outbound bandwidth to the Internet is upgraded from 0 Mbit/s to a non-zero value, a public IP address is automatically allocated.
  - You can use this API to change the bandwidth billing method from PayByTraffic to PayByBandwidth. You can use [ECS console](#) to change the bandwidth billing method from PayByTraffic to PayByBandwidth.

- When modifying the bandwidth configurations of a postpaid instance, you can perform the following operations:
  - You can upgrade or downgrade the bandwidth.
  - When outbound bandwidth to the Internet is upgraded from 0 Mbit/s to a non-zero value, a public IP address is automatically allocated. You need to call [AllocatePublicIpAddress](#) to assign a public IP address to an instance.
- For a classic instance, when outbound bandwidth to the Internet is upgraded from 0 Mbit/s to a non-zero value, the instance must be in the Stopped state.
- After the bandwidth is upgraded, AutoPay is set to true by default. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order. If your account balance is insufficient, you can set the AutoPay parameter to false to generate a normal order. Then, you can log on to the [ECS console](#) to pay for the order.
- You can downgrade instance type for each prepaid instance three times at most, because the refund of price difference cannot exceed three times.
- The price difference will be refunded to your original form of payment. Used coupons cannot be refunded.
- Each time a downgrade operation is successful, you cannot perform another operation on that instance within five minutes.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example                   | Description                                                                                       |
|------------|--------|----------|---------------------------|---------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-xxxxx1                  | The ID of the instance for which you want to modify network configurations.                       |
| Action     | String | No       | ModifyInstanceNetworkSpec | The operation that you want to perform. Set the value to <code>ModifyInstanceNetworkSpec</code> . |

| Name             | Type    | Required | Example                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|---------|----------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AllocatePublicIp | Boolean | No       | false                                | Indicates whether to allocate a public IP address. Default value: false.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| AutoPay          | Boolean | No       | true                                 | <p>Indicates whether to enable AutoPay. Valid values:</p> <ul style="list-style-type: none"> <li>· true: After the bandwidth is upgraded, AutoPay is enabled. Make sure that your account has sufficient balance. Otherwise, your order becomes invalid and you have to cancel this order.</li> <li>· false: After the bandwidth is upgraded, an order is generated and fees are not deducted. If your account balance is insufficient, you can set the AutoPay parameter to false to generate a normal order. Then, you can log on to the <a href="#">ECS console</a> to pay for the order.</li> </ul> <p>Default value: true.</p> |
| ClientToken      | String  | No       | 123e4567-e89b-12d3-a456-426655440000 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. It can be a maximum of 64 characters in length. For more information, see <a href="#">How to ensure idempotency</a> .                                                                                                                                                                                                                                                                                                                                              |

| Name                    | Type    | Required | Example           | Description                                                                                                                                        |
|-------------------------|---------|----------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| EndTime                 | String  | No       | 2017-12-06T22Z    | The time when bandwidth update ends. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddThhZ.       |
| InternetMaxBandwidthIn  | Integer | No       | 10                | The maximum inbound bandwidth from the Internet. Unit: Mbit/s. Valid values: 1 to 200.                                                             |
| InternetMaxBandwidthOut | Integer | No       | 10                | The maximum outbound bandwidth to the Internet. Unit: Mbit/s. Valid values: 0 to 100.                                                              |
| NetworkChargeType       | String  | No       | PayByTraffic      | The bandwidth billing method. Valid values: <ul style="list-style-type: none"> <li>PayByTraffic: traffic-based billing method.</li> </ul>          |
| StartTime               | String  | No       | 2017-12-05T22:40Z | The time when bandwidth upgrade starts. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddThh:mmZ. |

#### Response parameters

| Name      | Type   | Example                              | Description                    |
|-----------|--------|--------------------------------------|--------------------------------|
| OrderId   | String | 1111111111<br>111111111111110        | The ID of the generated order. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the API request.     |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

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

#### JSON format

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

## Error codes

| HTTP status code | Error code                                       | Error message                                                        | Description                                                                                 |
|------------------|--------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 400              | InvalidInternetMaxBandwidthIn.ValueNotSupported  | The specified InternetMaxBandwidthIn is beyond the permitted range.  | The error message returned when the specified InternetMaxBandwidthIn parameter is invalid.  |
| 400              | InvalidInternetMaxBandwidthOut.ValueNotSupported | The specified InternetMaxBandwidthOut is beyond the permitted range. | The error message returned when the specified InternetMaxBandwidthOut parameter is invalid. |
| 403              | IncorrectInstanceState                           | The current state of the instance does not support this operation.   | The error message returned when this operation is not supported under the instance state.   |



| HTTP status code | Error code                                  | Error message                                                                                                     | Description                                                                                                                      |
|------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 403              | InstanceExpiredOrInArrears                  | The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode). | The error message returned when the subscription of the instance has expired. You must renew the subscription before proceeding. |
| 403              | ChargeTypeViolation                         | The operation is not permitted due to billing method of the instance.                                             | The error message returned when the billing method of the instance is not supported.                                             |
| 400              | OperationDenied                             | Specified instance is in VPC.                                                                                     | The error message returned when the specified instance is VPC-connected.                                                         |
| 400              | InvalidParameter.Bandwidth                  | %s                                                                                                                | The error message returned when the parameter value is invalid.                                                                  |
| 400              | InvalidParameter.Conflict                   | %s                                                                                                                | The error message returned when parameter values conflict.                                                                       |
| 400              | InvalidStartTime.ValueNotSupported          | %s                                                                                                                | The error message returned when the end time precedes the start time.                                                            |
| 400              | Account.Arrearage                           | Your account has an outstanding payment.                                                                          | The error message returned when outstanding orders exist in your account.                                                        |
| 400              | InvalidInternetChargeType.ValueNotSupported | The specified InternetChargeType is invalid.                                                                      | The error message returned when the specified bandwidth billing method is invalid.                                               |
| 400              | DecreasedBandwidthNotAllowed                | %s                                                                                                                | The error message returned when the bandwidth cannot be downgraded.                                                              |

| HTTP status code | Error code                                  | Error message                                                                     | Description                                                                                                                 |
|------------------|---------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 400              | BandwidthUpgradeDenied.<br>EipBoundInstance | The specified VPC instance has bound EIP , temporary bandwidth upgrade is denied. | The error message returned when the instance cannot be upgraded because it is bound with an EIP.                            |
| 403              | InvalidAccountStatus.<br>NotEnoughBalance   | Your account does not have enough balance.                                        | The error message returned when your account balance is insufficient. You need to top up your account before proceeding.    |
| 403              | InvalidInstance.<br>UnpaidOrder             | The specified Instance has unpaid order.                                          | The error message returned when outstanding orders exist in your account. You need to pay for the orders before proceeding. |
| 400              | IpAllocationError                           | Allocate public ip failed.                                                        | The error message returned when allocation of public IP addresses fails.                                                    |
| 400              | InvalidParam.<br>AllocatePublicIp           | The specified param AllocatePublicIp is invalid .                                 | The error message returned when the specified AllocatePublicIp parameter is invalid.                                        |
| 400              | InstanceDowngrade.<br>QuotaExceed           | Quota of instance downgrade is exceed.                                            | The error message returned when the instance has been downgraded the allowed times.                                         |
| 400              | InvalidBandwidth.<br>ValueNotSupported      | Instance upgrade bandwidth of temporary not allow less then existed .             | The error message returned when you select a lower bandwidth for instance update.                                           |

| HTTP status code | Error code                               | Error message                                                                                     | Description                                                                                               |
|------------------|------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 403              | InvalidInstance.<br>InstanceNotSupported | The special vpc instance with eip not need bandwidth.                                             | The error message returned when you specify the bandwidth for a VPC-connected instance bound with an EIP. |
| 400              | InvalidInstanceState                     | The specified instance state does not support this action.                                        | The error message returned when this operation is not supported under the instance state.                 |
| 403              | InvalidInstanceState                     | The current state of the instance does not support this operation.                                | The error message returned when this operation is not supported under the instance state.                 |
| 400              | InvalidInstance.<br>UnpaidOrder          | Unpaid order exists in your account, please complete or cancel the payment in the expense center. | The error message returned when outstanding orders exist in your account.                                 |

[View error codes](#)

# 17 Elastic network interfaces

## 17.1 CreateNetworkInterface

Creates an Elastic Network Interface (ENI).

### Description

- A newly created ENI is in the Available state.
- An ENI can only be attached to a VPC-connected instance in the same zone.
- An ENI can only be attached to one instance. Before you attach an ENI to another instance, you need to detach it from the current instance.
- When an ENI is attached to another instance, its properties remain unchanged and its data traffic is redirected to the new instance.
- One Alibaba Cloud account can have a maximum of 100 ENIs in a region by default. You can [submit a ticket](#) to apply for more ENIs.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name            | Type   | Required | Example       | Description                                                                                                                               |
|-----------------|--------|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId        | String | Yes      | cn-hangzhou   | The ID of the region where an instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| SecurityGroupId | String | Yes      | sg-c0003exxxx | The ID of the security group to which an instance belongs. The security group and instance must be in the same VPC.                       |
| VSwitchId       | String | Yes      | [vswitchid]   | The ID of the VSwitch in the VPC.                                                                                                         |

| Name                 | Type   | Required | Example                | Description                                                                                                                                                                                                                                                                            |
|----------------------|--------|----------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action               | String | No       | CreateNetworkInterface | The operation that you want to perform. Set the value to CreateNetworkInterface.                                                                                                                                                                                                       |
| ClientToken          | String | No       | xxxxxx                 | A client token. It is used to ensure the idempotency of requests. The value of this parameter is generated by the client and is unique among different requests. It can be a maximum of 64 characters in length. For more information, see <a href="#">How to ensure idempotency</a> . |
| Description          | String | No       | test                   | The ENI description. The description must be 2 to 256 characters in length and cannot start with http:// or https://.<br><br>Default value: null.                                                                                                                                      |
| NetworkInterfaceName | String | No       | eni-eniname1           | The ENI name. It must be 2 to 128 characters in length. It must start with a letter and cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).<br><br>Default value: null.                                               |

| Name             | Type   | Required | Example             | Description                                                                                                                                                                                                              |
|------------------|--------|----------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PrimaryIpAddress | String | No       | 172.17. XX. XXX     | The primary private IP address of the ENI. The specified IP address must be idle within the CIDR block of the VSwitch. If an IP address is not specified , an idle IP address of the VSwitch will be selected at random. |
| ResourceGroupId  | String | No       | rg-resourcegroupid1 | The ID of the resource group.                                                                                                                                                                                            |
| Tag . N . Key    | String | No       | test                | The tag key of the ENI. Valid values of N: 1 to 20. It cannot be a null string. It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.              |
| Tag . N . Value  | String | No       | api                 | The tag value of the ENI. Valid values of N: 1 to 20. It can be a null string. It can be a maximum of 128 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.              |

## Response parameters

| Name               | Type   | Example                              | Description            |
|--------------------|--------|--------------------------------------|------------------------|
| NetworkInterfaceId | String | eni-enilxxxxx                        | The ENI ID.            |
| RequestId          | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https :// ecs . aliyuncs . com /? Action = CreateNetw  orkInterfa
ce
& RegionId = cn - hangzhou
& SecurityGr  oupId = sg - c0003exxxx  x
& VSwitchId =[ vswitchid ]
& Tag . 1 . Key = test
& Tag . 1 . Value = api
& ResourceGr  oupId = rg - resourcegr  oupid1
& PrimaryIpA  ddress = 172 . 17 . XX . XXX
& NetworkInt  erfaceName = eni - eniname1
& Descriptio  n = test
& ClientToke  n = xxxxxxxxxx
&< Common  request  parameters >
```

### Successful response examples

#### XML format

```
< CreateNetw  orkInterfa  ceResponse >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx  xx </
  RequestId >
  < NetworkInt  erfaceId > eni - eniIxxxxx </ NetworkInt  erfaceId >
</ CreateNetw  orkInterfa  ceResponse >
```

#### JSON format

```
{
  " RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx  xx ",
  " NetworkInt  erfaceId ":" eni - enixxxxx "
}
```

### Error codes

| HTTP status code | Error code                       | Error message | Description                                                                                              |
|------------------|----------------------------------|---------------|----------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.<br>NotSupported | %s            | The error message returned when your account type is not supported.                                      |
| 403              | Abs.InvalidAcc<br>ount.NotFound  | %s            | The error message returned when your Alibaba Cloud account does not exist or your AccessKey has expired. |

| HTTP status code | Error code                       | Error message | Description                                                                                            |
|------------------|----------------------------------|---------------|--------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter                 | %s            | The error message returned when a required parameter is not specified.                                 |
| 403              | Forbidden.NotSupportRAM          | %s            | The error message returned when RAM users are not allowed to perform this operation.                   |
| 400              | UnsupportedParameter             | %s            | The error message returned when a parameter is not supported.                                          |
| 403              | Forbidden.SubUser                | %s            | The error message returned when the RAM user is not authorized to perform operations on this resource. |
| 400              | InvalidParameter                 | %s            | The error message returned when the parameter format is incorrect.                                     |
| 400              | InvalidInstanceId.MalFormed      | %s            | The error message returned when the instance ID format is incorrect.                                   |
| 400              | InvalidOperation.InvalidEcsState | %s            | The error message returned when the private IP address cannot be released under the instance state.    |
| 400              | InvalidOperation.InvalidEniState | %s            | The error message returned when the private IP address cannot be released under the ENI state.         |



| HTTP status code | Error code                                      | Error message | Description                                                                                                     |
|------------------|-------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------|
| 400              | InvalidOperation.<br>DetachPrimaryEniNotAllowed | %s            | The error message returned when the primary ENI cannot be detached from the instance.                           |
| 404              | InvalidEcsId.<br>NotFound                       | %s            | The error message returned when the specified instance ID does not exist.                                       |
| 404              | InvalidEniId.<br>NotFound                       | %s            | The error message returned when the specified ENI ID does not exist.                                            |
| 404              | InvalidVSwitchId.<br>NotFound                   | %s            | The error message returned when the specified VSwitch ID does not exist.                                        |
| 404              | InvalidSecurityGroupId.<br>NotFound             | %s            | The error message returned when the specified security group ID does not exist.                                 |
| 403              | EniPerInstanceLimitExceeded                     | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified ECS instance type. |
| 403              | InvalidOperation.<br>AvailabilityZoneMismatch   | %s            | The error message returned when the specified VPC VSwitch, ENI, and instance do not belong to the same zone.    |
| 403              | InvalidOperation.<br>VpcMismatch                | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.             |

| HTTP status code | Error code                       | Error message | Description                                                                                                      |
|------------------|----------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 403              | SecurityGroupInstanceLimitExceed | %s            | The error message returned when the number of instances in the specified security group exceeds the upper limit. |
| 403              | InvalidSecurityGroupId.NotVpc    | %s            | The error message returned when the specified security group is not VPC-connected.                               |
| 403              | InvalidOperation.InvalidEniType  | %s            | The error message returned when the ENI type does not support the operation.                                     |
| 403              | InvalidVSwitchId.IpNotEnough     | %s            | The error message returned when the number of IP addresses in the specified VSwitch is insufficient.             |
| 403              | InvalidVSwitchId.IpInvalid       | %s            | The error message returned when the specified private IP address is invalid.                                     |
| 400              | Forbidden.RegionId               | %s            | The error message returned when the function is not supported in this region.                                    |

[View error codes](#)

## 17.2 AttachNetworkInterface

Attaches an ENI to a VPC-connected instance.

### Description

- The ENI must be in the Available state.
- The instance must be in the Running or Stopped state.

- An ENI can only be attached to a VPC-connected ECS instance, and the ENI must belong to the same VPC as the ECS instance.
- One ENI can only be attached to one instance.
- An instance can be attached with multiple ENIs. For more information about the maximum number of ENIs that can be attached to each instance type, see [Elastic network Interface](#).
- Because a VSwitch of a VPC can only be located in a single zone, ensure that the ECS instance to be attached to an ENI is in the same zone as the VSwitch that hosts the ENI.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can call APIs, dynamically generate SDK example code, and quickly retrieve APIs.

### Request parameters

| Name               | Type   | Required | Example                | Description                                                                                                                                    |
|--------------------|--------|----------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId         | String | Yes      | i-myInstance           | The ID of the instance.                                                                                                                        |
| NetworkInterfaceId | String | Yes      | [networkInterfaceId]   | The ID of the ENI.                                                                                                                             |
| RegionId           | String | Yes      | cn-hangzhou            | The ID of the region where the ECS instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action             | String | No       | AttachNetworkInterface | The operation that you want to perform. Set the value to AttachNetworkInterface.                                                               |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=AttachNetworkInterface
&InstanceId=i-myInstance
&NetworkInterfaceId=[networkInterfaceId]
&RegionId=cn-hangzhou
<Common request parameters>
```

### Successful response examples

#### XML format

```
<AttachNetworkInterfaceResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx-xx</
  RequestId>
</AttachNetworkInterfaceResponse>
```

#### JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxx-xx"
}
```

### Error codes

| HTTP status code | Error code                   | Error message | Description                                                                                                       |
|------------------|------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.NotSupported | %s            | The error message returned when your account type is not supported.                                               |
| 403              | Abs.InvalidAccount.NotFound  | %s            | The error message returned when the specified Alibaba Cloud account does not exist or your AccessKey has expired. |
| 400              | MissingParameter             | %s            | The error message returned when a required parameter is not specified.                                            |

| HTTP status code | Error code                           | Error message | Description                                                                                         |
|------------------|--------------------------------------|---------------|-----------------------------------------------------------------------------------------------------|
| 403              | Forbidden.<br>NotSupportRAM          | %s            | The error message returned when RAM users are not allowed to perform this operation.                |
| 400              | Unsupporte<br>dParameter             | %s            | The error message returned when a parameter is not supported.                                       |
| 403              | Forbidden.<br>SubUser                | %s            | The error message returned when a RAM user is unauthorized to perform operations on this resource.  |
| 400              | InvalidPar<br>ameter                 | %s            | The error message returned when the parameter format is invalid.                                    |
| 400              | InvalidIns<br>tanceId.<br>MalFormed  | %s            | The error message returned when the instance ID format is invalid.                                  |
| 400              | InvalidOperation<br>.InvalidRegion   | %s            | The error message returned when the specified region ID is invalid.                                 |
| 400              | InvalidOperation<br>.InvalidEcsState | %s            | The error message returned when the private IP address cannot be released under the instance state. |
| 400              | InvalidOperation<br>.InvalidEniState | %s            | The error message returned when the private IP address cannot be released under the ENI state.      |

| HTTP status code | Error code                                      | Error message | Description                                                                                                 |
|------------------|-------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------|
| 400              | InvalidOperation.<br>DetachPrimaryEniNotAllowed | %s            | The error message returned when the primary ENI cannot be detached from its instance.                       |
| 404              | InvalidEcsId.<br>NotFound                       | %s            | The error message returned when the specified instance ID does not exist.                                   |
| 404              | InvalidEniId.<br>NotFound                       | %s            | The error message returned when the specified ENI ID does not exist.                                        |
| 404              | InvalidVSwitchId.<br>NotFound                   | %s            | The error message returned when the specified VSwitch ID does not exist.                                    |
| 404              | InvalidSecurityGroupId.<br>NotFound             | %s            | The error message returned when the specified security group ID does not exist.                             |
| 403              | EniPerInstanceLimitExceeded                     | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified instance type. |
| 403              | InvalidOperation.<br>AvailabilityZoneMismatch   | %s            | The error message returned when the specified VSwitch, ENI, and instance do not belong to the same zone.    |
| 403              | InvalidOperation.<br>VpcMismatch                | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.         |

| HTTP status code | Error code                         | Error message | Description                                                                                                      |
|------------------|------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 403              | SecurityGroupInstanceLimitExceed   | %s            | The error message returned when the number of instances in the specified security group exceeds the upper limit. |
| 403              | InvalidSecurityGroupId.NotVpc      | %s            | The error message returned when the specified security group is not VPC-connected.                               |
| 403              | InvalidOperation.InvalidEniType    | %s            | The error message returned when the ENI type is not supported.                                                   |
| 400              | Forbidden.RegionId                 | %s            | The error message returned when this function is not supported in the region.                                    |
| 403              | InvalidInstanceId.NotFound         | %s            | The error message returned when the specified instance does not exist.                                           |
| 400              | InvalidOperation.InvalidGeneration | %s            | The error message returned when the instance type is not supported.                                              |

[View error codes](#)

## 17.3 AssignPrivateIpAddresses

Assigns one or multiple secondary private IP addresses to an ENI. You can specify private IP addresses within the CIDR block of the VSwitch that hosts the ENI.

Alternatively, you can specify the number of private IP addresses for ECS to assign them automatically.

#### Description

- The ENI to which you want to assign IP addresses must be in the Available or InUse state.
- When you perform operations on the primary ENI, the instance to which the ENI is attached must be in the Running or Stopped state.
- When an ENI is in the Available state, you can assign up to 10 secondary private IP addresses to the ENI. When an ENI is attached to an instance, the number of private IP addresses that can be assigned to the ENI is subject to the instance type. For more information, see [Instance type families](#).

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can call APIs, dynamically generate SDK example code, and quickly retrieve APIs.

#### Request parameters

| Name               | Type   | Required | Example                  | Description                                                                                                                                    |
|--------------------|--------|----------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkInterfaceId | String | Yes      | eni-myeni                | The ID of the ENI.                                                                                                                             |
| RegionId           | String | Yes      | cn-hangzhou              | The ID of the region where the ECS instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action             | String | No       | AssignPrivateIpAddresses | The operation that you want to perform. Set the value to AssignPrivateIpAddresses.                                                             |



| Name                           | Type       | Required | Example       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|------------|----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PrivateIpAddress.N             | RepeatList | No       | 172.17.XX.XXX | <p>One or multiple secondary private IP addresses selected from the CIDR block of the VSwitch that hosts the ENI.</p> <p>Valid values of N:</p> <ul style="list-style-type: none"> <li>When the ENI is in the Available state: 1 to 10.</li> <li>When the ENI is in the InUse state: limited by the instance type. For more information, see <a href="#">Instance type families</a>.</li> </ul> <p>You must specify either the PrivateIpAddress.N parameter or the SecondaryPrivateIpAddressCount parameter to assign secondary private IP addresses.</p> |
| SecondaryPrivateIpAddressCount | Integer    | No       | 1             | The specified number of private IP addresses to be assigned by the ECS instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-myeni
&RegionId=cn-hangzhou
&PrivateIpAddress.1=172.17.XX.XXX
&SecondaryPrivateIpAddressCount=1
```

&< Common request parameters >

## Successful response examples

### XML format

```
< AssignPrivateIpAddressResponse >
  < RequestId > 04F0F334 - 1335 - 436C - A1D7 - 6C044FE700 08 </
    RequestId >
</ AssignPrivateIpAddressResponse >
```

### JSON format

```
{
  "RequestId": "04F0F334 - 1335 - 436C - A1D7 - 6C044FE700 08 "
}
```

## Error codes

| HTTP status code | Error code                   | Error message | Description                                                                                                       |
|------------------|------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.NotSupported | %s            | The error message returned when your account type is not supported.                                               |
| 403              | Abs.InvalidAccount.NotFound  | %s            | The error message returned when the specified Alibaba Cloud account does not exist or your AccessKey has expired. |
| 403              | MissingParameter             | %s            | The error message returned when a required parameter is not specified.                                            |
| 403              | Forbidden.NotSupportRAM      | %s            | The error message returned when RAM users are not allowed to perform this operation.                              |
| 400              | UnsupportedParameter         | %s            | The error message returned when a parameter is not supported.                                                     |

| HTTP status code | Error code                                  | Error message | Description                                                                                          |
|------------------|---------------------------------------------|---------------|------------------------------------------------------------------------------------------------------|
| 403              | Forbidden.SubUser                           | %s            | The error message returned when a RAM user is not authorized to perform operations on this resource. |
| 400              | InvalidParameter                            | %s            | The error message returned when the parameter format is invalid.                                     |
| 400              | InvalidInstanceId.Malformed                 | %s            | The error message returned when the instance ID format is invalid.                                   |
| 400              | InvalidOperation.InvalidEcsState            | %s            | The error message returned when the private IP address cannot be released under the instance state.  |
| 400              | InvalidOperation.InvalidEniState            | %s            | The error message returned when the private IP address cannot be released under the ENI state.       |
| 400              | InvalidOperation.DetachPrimaryEniNotAllowed | %s            | The error message returned when the primary ENI cannot be detached from its instance.                |
| 404              | InvalidEcsId.NotFound                       | %s            | The error message returned when the specified instance ID does not exist.                            |
| 404              | InvalidEniId.NotFound                       | %s            | The error message returned when the specified ENI ID does not exist.                                 |

| HTTP status code | Error code                                | Error message | Description                                                                                                      |
|------------------|-------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidVSwitchId.NotFound                 | %s            | The error message returned when the specified VSwitch ID does not exist.                                         |
| 404              | InvalidSecurityGroupId.NotFound           | %s            | The error message returned when the specified security group ID does not exist.                                  |
| 403              | EniPerInstanceLimitExceeded               | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified instance type.      |
| 403              | InvalidOperation.AvailabilityZoneMismatch | %s            | The error message returned when the specified VSwitch, ENI, and instance do not belong to the same zone.         |
| 403              | InvalidOperation.VpcMismatch              | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.              |
| 403              | SecurityGroupInstanceLimitExceeded        | %s            | The error message returned when the number of instances in the specified security group exceeds the upper limit. |
| 403              | InvalidSecurityGroupId.NotVpc             | %s            | The error message returned when the specified security group is not VPC-connected.                               |
| 403              | InvalidOperation.InvalidEniType           | %s            | The error message returned when the ENI type is not supported.                                                   |

| HTTP status code | Error code                   | Error message | Description                                                                             |
|------------------|------------------------------|---------------|-----------------------------------------------------------------------------------------|
| 404              | InvalidInstanceId.NotFound   | %s            | The error message returned when the specified instance does not exist.                  |
| 403              | InvalidVSwitchId.IpNotEnough | %s            | The error message returned when IP addresses in the specified VSwitch are insufficient. |
| 403              | InvalidVSwitchId.IpInvalid   | %s            | The error message returned when the specified private IP address is invalid.            |
| 403              | InvalidIp.IpAssigned         | %s            | The error message returned when the specified IP address is already assigned.           |
| 403              | Operation.Conflict           | %s            | The error message returned when operations conflict. You need to try again.             |
| 400              | Forbidden.RegionId           | %s            | The error message returned when this function is not supported in the region.           |
| 400              | InvalidAction                | %s            | The error message returned when the operation is invalid.                               |

[View error codes](#)

## 17.4 UnassignPrivateIpAddresses

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

### Description

- The ENI must be in the Available or InUse state.

- When you perform operations on the primary ENI, the instance to which the ENI is attached must be in the Running or Stopped state.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can call APIs, dynamically generate SDK example code, and quickly retrieve APIs.

## Request parameters

| Name                 | Type       | Required | Example                    | Description                                                                                                                                                                                                                                         |
|----------------------|------------|----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkInterfaceId   | String     | Yes      | eni-myeni                  | The ID of the ENI.                                                                                                                                                                                                                                  |
| PrivateIpAddress . N | RepeatList | Yes      | 192.168.0.1                | The secondary private IP addresses to be deleted. Valid values of N: <ul style="list-style-type: none"><li>· When the ENI is in the Available state: 1 to 10.</li><li>· When the ENI is in the InUse state: subject to the instance type.</li></ul> |
| RegionId             | String     | Yes      | cn-hangzhou                | The ID of the region where the ECS instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                      |
| Action               | String     | No       | UnassignPrivateIpAddresses | The operation that you want to perform. Set the value to UnassignPrivateIpAddresses.                                                                                                                                                                |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=UnassignPrivateIpAddresses
&NetworkInterfaceId=eni-myeni
&PrivateIpAddress.1=192.168.0.1
&RegionId=cn-hangzhou
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

### Error codes

| HTTP status code | Error code                   | Error message | Description                                                                                                       |
|------------------|------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.NotSupported | %s            | The error message returned when your account type is not supported.                                               |
| 403              | Abs.InvalidAccount.NotFound  | %s            | The error message returned when the specified Alibaba Cloud account does not exist or your AccessKey has expired. |
| 403              | MissingParameter             | %s            | The error message returned when a required parameter is not specified.                                            |

| HTTP status code | Error code                                              | Error message | Description                                                                                          |
|------------------|---------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------|
| 403              | Forbidden.<br>NotSupportRAM                             | %s            | The error message returned when RAM users are not allowed to perform this operation.                 |
| 400              | Unsupporte<br>dParameter                                | %s            | The error message returned when a parameter is not supported.                                        |
| 403              | Forbidden.<br>SubUser                                   | %s            | The error message returned when a RAM user is not authorized to perform operations on this resource. |
| 400              | InvalidPar<br>ameter                                    | %s            | The error message returned when the parameter format is invalid.                                     |
| 400              | InvalidIns<br>tanceId.<br>MalFormed                     | %s            | The error message returned when the instance ID format is invalid.                                   |
| 400              | InvalidOperation<br>.InvalidEcsState                    | %s            | The error message returned when the private IP address cannot be released under the instance state.  |
| 400              | InvalidOperation<br>.InvalidEniState                    | %s            | The error message returned when the private IP address cannot be released under the ENI state.       |
| 400              | InvalidOperation<br>.DetachPrim<br>aryEniNotA<br>llowed | %s            | The error message returned when the primary ENI cannot be detached from its instance .               |



| HTTP status code | Error code                                | Error message | Description                                                                                                      |
|------------------|-------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidEcsId.NotFound                     | %s            | The error message returned when the specified instance ID does not exist.                                        |
| 404              | InvalidEniId.NotFound                     | %s            | The error message returned when the specified ENI ID does not exist.                                             |
| 404              | InvalidVSwitchId.NotFound                 | %s            | The error message returned when the specified VSwitch ID does not exist.                                         |
| 404              | InvalidSecurityGroupId.NotFound           | %s            | The error message returned when the specified security group ID does not exist.                                  |
| 403              | EniPerInstanceLimitExceeded               | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified instance type.      |
| 403              | InvalidOperation.AvailabilityZoneMismatch | %s            | The error message returned when the specified VSwitch, ENI, and instance are not in the same zone.               |
| 403              | InvalidOperation.VpcMismatch              | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.              |
| 403              | SecurityGroupInstanceLimitExceeded        | %s            | The error message returned when the number of instances in the specified security group exceeds the upper limit. |

| HTTP status code | Error code                           | Error message | Description                                                                        |
|------------------|--------------------------------------|---------------|------------------------------------------------------------------------------------|
| 403              | InvalidSecurityGroupId.<br>NotVpc    | %s            | The error message returned when the specified security group is not VPC-connected. |
| 403              | InvalidOperation.<br>.InvalidEniType | %s            | The error message returned when the ENI type is not supported.                     |
| 404              | InvalidInstanceId.<br>NotFound       | %s            | The error message returned when the specified instance does not exist.             |
| 403              | InvalidVSwitchId.<br>IpInvalid       | %s            | The error message returned when the specified private IP address is invalid.       |
| 403              | InvalidIp.<br>IpUnassigned           | %s            | The error message returned when the specified IP address is not assigned.          |
| 403              | Operation.<br>Conflict               | %s            | The error message returned when operations conflict. You need to try again.        |
| 400              | Forbidden.<br>RegionId               | %s            | The error message returned when this function is not supported in the region.      |
| 400              | InvalidAction                        | %s            | The error message returned when the operation is invalid.                          |

[View error codes](#)

## 17.5 DetachNetworkInterface

Detaches an ENI from an instance.

### Description

When you call this operation, note that:

- You cannot detach the primary ENI of an instance.
- The ENI must be in the Detaching or InUse state.
- The instance must be in the Running or Stopped state.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can call APIs, dynamically generate SDK example code, and quickly retrieve APIs.

### Request parameters

| Name               | Type   | Required | Example                | Description                                                                                                                                    |
|--------------------|--------|----------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId         | String | Yes      | i-myinstance           | The ID of the instance.                                                                                                                        |
| NetworkInterfaceId | String | Yes      | eni-myeni              | The ID of the ENI.                                                                                                                             |
| RegionId           | String | Yes      | cn-hangzhou            | The ID of the region where the ECS instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action             | String | No       | DetachNetworkInterface | The operation that you want to perform. Set the value to DetachNetworkInterface.                                                               |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DetachNetworkInterface
&InstanceId=i-myinstance
&NetworkInterfaceId=eni-myeni
&RegionId=cn-hangzhou
<Common request parameters>
```

### Successful response examples

#### XML format

```
<DetachNetworkInterfaceResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx-xx</
  RequestId>
</DetachNetworkInterfaceResponse>
```

#### JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxx-xx"
}
```

## Error codes

| HTTP status code | Error code                   | Error message | Description                                                                                                       |
|------------------|------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.NotSupported | %s            | The error message returned when your account type is not supported.                                               |
| 403              | Abs.InvalidAccount.NotFound  | %s            | The error message returned when the specified Alibaba Cloud account does not exist or your AccessKey has expired. |
| 400              | MissingParameter             | %s            | The error message returned when a required parameter is not specified.                                            |

| HTTP status code | Error code                           | Error message | Description                                                                                          |
|------------------|--------------------------------------|---------------|------------------------------------------------------------------------------------------------------|
| 403              | Forbidden.<br>NotSupportRAM          | %s            | The error message returned when RAM users are not allowed to perform this operation.                 |
| 400              | Unsupporte<br>dParameter             | %s            | The error message returned when a parameter is not supported.                                        |
| 403              | Forbidden.<br>SubUser                | %s            | The error message returned when a RAM user is not authorized to perform operations on this resource. |
| 400              | InvalidPar<br>ameter                 | %s            | The error message returned when the parameter format is invalid.                                     |
| 400              | InvalidIns<br>tanceId.<br>MalFormed  | %s            | The error message returned when the instance ID format is invalid.                                   |
| 400              | InvalidOperation<br>.InvalidRegion   | %s            | The error message returned when the specified region ID is invalid.                                  |
| 400              | InvalidOperation<br>.InvalidEcsState | %s            | The error message returned when the private IP address cannot be released under the instance state.  |
| 400              | InvalidOperation<br>.InvalidEniState | %s            | The error message returned when the private IP address cannot be released under the ENI state.       |

| HTTP status code | Error code                                      | Error message | Description                                                                                                 |
|------------------|-------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------|
| 400              | InvalidOperation.<br>DetachPrimaryEniNotAllowed | %s            | The error message returned when the primary ENI cannot be detached from its instance.                       |
| 404              | InvalidEcsId.<br>NotFound                       | %s            | The error message returned when the specified instance ID does not exist.                                   |
| 404              | InvalidEniId.<br>NotFound                       | %s            | The error message returned when the specified ENI ID does not exist.                                        |
| 404              | InvalidVSwitchId.<br>NotFound                   | %s            | The error message returned when the specified VSwitch ID does not exist.                                    |
| 404              | InvalidSecurityGroupId.<br>NotFound             | %s            | The error message returned when the specified security group ID does not exist.                             |
| 403              | EniPerInstanceLimitExceeded                     | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified instance type. |
| 403              | InvalidOperation.<br>AvailabilityZoneMismatch   | %s            | The error message returned when the specified VSwitch, ENI, and instance are not in the same zone.          |
| 403              | InvalidOperation.<br>VpcMismatch                | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.         |

| HTTP status code | Error code                       | Error message | Description                                                                                            |
|------------------|----------------------------------|---------------|--------------------------------------------------------------------------------------------------------|
| 403              | SecurityGroupInstanceLimitExceed | %s            | The error message returned when the number of instances in the security group exceeds the upper limit. |
| 403              | InvalidSecurityGroupId.NotVpc    | %s            | The error message returned when the specified security group is not VPC-connected.                     |
| 403              | InvalidOperation.InvalidEniType  | %s            | The error message returned when the ENI type is not supported.                                         |
| 400              | Forbidden.RegionId               | %s            | The error message returned when this function is not supported in the region.                          |
| 400              | InvalidParams.EniId              | %s            | The error message returned when the format of the specified ENI ID is invalid.                         |

[View error codes](#)

## 17.6 DeleteNetworkInterface

Deletes an Elastic Network Interface (ENI).

### Description

- The ENI must be in the Available state.
- If the ENI is already attached to an ECS instance, you can delete the ENI only after it is detached from the ECS instance ([DetachNetworkInterface](#)).
- After the ENI is removed,
  - the primary private IP address of the ENI is automatically released.
  - The deleted ENI is automatically removed from all security groups it was added to.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can call APIs, dynamically generate SDK example code, and quickly retrieve APIs.

## Request parameters

| Name               | Type   | Required | Example                | Description                                                                                                                        |
|--------------------|--------|----------|------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| NetworkInterfaceId | String | Yes      | eni-myeni              | The ID of an ENI.                                                                                                                  |
| RegionId           | String | Yes      | cn-hangzhou            | The ID of the region that hosts the ENI. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action             | String | No       | DeleteNetworkInterface | The operation that you want to perform. Set the value to DeleteNetworkInterface.                                                   |

## Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteNetworkInterface
&NetworkInterfaceId=eni-myeni
&RegionId=cn-hangzhou
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DetachNetworkInterface>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx</RequestId>
```



```
</ DetachNetworkInterface >
```

#### JSON format

```
{
  "RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FExxx  xx "
}
```

#### Error codes

| HTTP status code | Error code                   | Error message | Description                                                                                                       |
|------------------|------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.NotSupported | %s            | The error message returned when your account type is not supported.                                               |
| 403              | Abs.InvalidAccount.NotFound  | %s            | The error message returned when the specified Alibaba Cloud account does not exist or your AccessKey has expired. |
| 400              | MissingParameter             | %s            | The error message returned when a required parameter is not specified .                                           |
| 403              | Forbidden.NotSupportRAM      | %s            | The error message returned when RAM users are not allowed to perform this operation.                              |
| 400              | UnsupportedParameter         | %s            | The error message returned when a parameter is not supported.                                                     |
| 403              | Forbidden.SubUser            | %s            | The error message returned when a RAM user is not authorized to perform operations on this resource.              |

| HTTP status code | Error code                                  | Error message | Description                                                                                         |
|------------------|---------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------|
| 400              | InvalidParameter                            | %s            | The error message returned when the parameter format is invalid.                                    |
| 400              | InvalidInstanceId.MalFormed                 | %s            | The error message returned when the instance ID format is invalid.                                  |
| 400              | InvalidOperation.InvalidEcsState            | %s            | The error message returned when the private IP address cannot be released under the instance state. |
| 400              | InvalidOperation.InvalidEniState            | %s            | The error message returned when the private IP address cannot be released under the ENI state.      |
| 400              | InvalidOperation.DetachPrimaryEniNotAllowed | %s            | The error message returned when the primary ENI cannot be detached from its instance .              |
| 404              | InvalidEcsId.NotFound                       | %s            | The error message returned when the specified instance ID does not exist.                           |
| 404              | InvalidEniId.NotFound                       | %s            | The error message returned when the specified ENI ID does not exist.                                |
| 404              | InvalidVSwitchId.NotFound                   | %s            | The error message returned when the specified VSwitch ID does not exist.                            |

| HTTP status code | Error code                                | Error message | Description                                                                                                      |
|------------------|-------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound           | %s            | The error message returned when the specified security group ID does not exist.                                  |
| 403              | EniPerInstanceLimitExceeded               | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified instance type.      |
| 403              | InvalidOperation.AvailabilityZoneMismatch | %s            | The error message returned when the specified VSwitch, ENI, and instance are not in the same zone.               |
| 403              | InvalidOperation.VpcMismatch              | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.              |
| 403              | SecurityGroupInstanceLimitExceeded        | %s            | The error message returned when the number of instances in the specified security group exceeds the upper limit. |
| 403              | InvalidSecurityGroupId.NotVpc             | %s            | The error message returned when the specified security group is not VPC-connected.                               |
| 403              | InvalidOperation.InvalidEniType           | %s            | The error message returned when the ENI type is not supported.                                                   |
| 400              | Forbidden.RegionId                        | %s            | The error message returned when this function is not supported in the region.                                    |

| HTTP status code | Error code              | Error message | Description                                                                    |
|------------------|-------------------------|---------------|--------------------------------------------------------------------------------|
| 400              | InvalidParams.<br>EniId | %s            | The error message returned when the format of the specified ENI ID is invalid. |

[View error codes](#)

## 17.7 DescribeNetworkInterfaces

You can call this operation to query ENIs.

### Description

- You can specify attribute values to filter the results.
- If no attribute values are specified, all ENIs are returned.
- You can query a maximum of 100 ENIs at a time.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can call APIs, dynamically generate SDK example code, and quickly retrieve APIs.

### Request parameters

| Name     | Type   | Required | Example                   | Description                                                                                                                                    |
|----------|--------|----------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou               | The ID of the region where the ECS instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | DescribeNetworkInterfaces | The operation that you want to perform. Set the value to DescribeNetworkInterfaces.                                                            |

| Name                   | Type       | Required | Example                     | Description                                                                                                                                                                                                                                                                            |
|------------------------|------------|----------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId             | String     | No       | AY121018033933eaxxxxxx      | The ID of the instance to which an ENI is attached.                                                                                                                                                                                                                                    |
| NetworkInterfaceId . N | RepeatList | No       | eni-bp17pdijfczaxZZZZxxxxxx | The ID of the ENI. You can query a maximum of 100 ENIs at a time.                                                                                                                                                                                                                      |
| NetworkInterfaceName   | String     | No       | my-eni-name                 | The name of an ENI.                                                                                                                                                                                                                                                                    |
| PageNumber             | Integer    | No       | 1                           | The page number of the query result. The parameter value is a positive integer.<br>Default value: 1.                                                                                                                                                                                   |
| PageSize               | Integer    | No       | 100                         | The number of entries on each page. Valid values: 1 to 100.<br>Default value: 10.                                                                                                                                                                                                      |
| PrimaryIpAddress       | String     | No       | 172.17. XX. XXX             | The private IP address of the primary ENI.                                                                                                                                                                                                                                             |
| ResourceGroupId        | String     | No       | rg-resourcegroupid1         | The ID of the resource group.                                                                                                                                                                                                                                                          |
| SecurityGroupId        | String     | No       | sg-bp144yr32sx6ndwxxxxxx    | The ID of the security group.                                                                                                                                                                                                                                                          |
| Tag . N . Key          | String     | No       | test                        | The tag key of an ENI. Valid values of N: 1 to 20. It cannot be a null string. It can be a maximum of 64 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://. It cannot start with aliyun or acs:. It cannot contain http:// or https://. |

| Name            | Type   | Required | Example                   | Description                                                                                                                                                                                                                                                                           |
|-----------------|--------|----------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag . N . Value | String | No       | api                       | The tag value of an ENI. Valid values of N: 1 to 20. It can be a null string. It can be a maximum of 128 characters in length. It cannot start with aliyun or acs:. It cannot contain http:// or https://.It cannot start with aliyun or acs:. It cannot contain http:// or https://. |
| Type            | String | No       | Secondary                 | The type of an ENI. Valid values :<br><ul style="list-style-type: none"> <li>Primary</li> <li>Secondary</li> </ul>                                                                                                                                                                    |
| VSwitchId       | String | No       | vsw-bp16usj2p27htro3xxxxx | The ID of the VSwitch associated with the ENIs to be queried.                                                                                                                                                                                                                         |
| VpcId           | String | No       | vsw-bp16usj2p27htro3xxxxx | The ID of the VPC to which an ENI belongs.                                                                                                                                                                                                                                            |

### Response parameters

| Name                 | Type   | Example               | Description                                                                       |
|----------------------|--------|-----------------------|-----------------------------------------------------------------------------------|
| NetworkInterfaceSets |        |                       | A set of ENIs.                                                                    |
| └AssociatedPublicIp  |        |                       | The public IP address associated with the secondary private IP address of an ENI. |
| └AllocationId        | String | eip-2ze88m67qx5zxxxxx | The ID of an EIP.                                                                 |
| └PublicIpAddress     | String | 116.62.129.250        | The public IP address of the instance.                                            |

| Name                              | Type    | Example                     | Description                                   |
|-----------------------------------|---------|-----------------------------|-----------------------------------------------|
| <code>CreationTime</code>         | String  | 2017-11-24T06:14:22Z        | The creation time of the instance.            |
| <code>Description</code>          | String  | test1                       | Description                                   |
| <code>InstanceId</code>           | String  | AY121018033933eaxxxxxx      | The ID of the instance.                       |
| <code>Ipv6Sets</code>             |         |                             | A set of IPv6 addresses assigned to an ENI.   |
| <code>Ipv6Addresses</code>        | String  | 2001:db8:1234:1a00::XXX     | The IPv6 address assigned to an ENI.          |
| <code>MacAddress</code>           | String  | 00:16:3e:0f:XX:XX           | The MAC address of an ENI.                    |
| <code>NetworkInterfaceId</code>   | String  | eni-bp17pdijfczaxZZZZxxxxxx | The ID of an ENI.                             |
| <code>NetworkInterfaceName</code> | String  | my-eni-name                 | The name of an ENI.                           |
| <code>PrivateIpAddress</code>     | String  | 172.17. XX.XXX"             | The private IP address of the instance.       |
| <code>PrivateIpSets</code>        |         |                             | A set of private IP addresses.                |
| <code>AssociatedPublicIp</code>   |         |                             | The public IP address associated with an ENI. |
| <code>AllocationId</code>         | String  | eip-2ze88m67qx5zxxxxxx      | The ID of an EIP.                             |
| <code>PublicIpAddress</code>      | String  | 116.62.129.250              | The public IP address of the instance.        |
| <code>Primary</code>              | Boolean | true                        | Indicates whether the IP address is primary.  |
| <code>PrivateIpAddress</code>     | String  | 172.17. XX.XXX              | The private IP address of the instance.       |

| Name               | Type    | Example                              | Description                                                    |
|--------------------|---------|--------------------------------------|----------------------------------------------------------------|
| └ ResourceGroupId  | String  | rg-resourcegroupid1                  | The ID of the resource group.                                  |
| └ SecurityGroupIds |         | sg-bp144yr32sx6ndwxxxxx              | The IDs of security groups to which the specified ENIs belong. |
| └ Status           | String  | Available                            | The status of an ENI.                                          |
| └ Tags             |         |                                      | The tag of an ENI.                                             |
| └ TagKey           | String  | test                                 | The tag key of an ENI.                                         |
| └ TagValue         | String  | api                                  | The tag value of an ENI.                                       |
| └ Type             | String  | Secondary                            | The type of an ENI.                                            |
| └ VSwitchId        | String  | vsw-bp16usj2p27htro3xxxxx            | The ID of the VSwitch associated with the ENIs to be queried.  |
| └ VpcId            | String  | vpc-bp1j7w3gc1cexjqdxxxxx            | The ID of the VPC to which an ENI belongs.                     |
| └ ZoneId           | String  | cn-hangzhou-e                        | The ID of the zone in which an ENI resides.                    |
| PageNumber         | Integer | 1                                    | The page number that you query in the instance list.           |
| PageSize           | Integer | 100                                  | The number of entries per page.                                |
| RequestId          | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                         |
| TotalCount         | Integer | 1                                    | The total number of instances.                                 |



## Examples

### Sample requests

```
https :// ecs . aliyuncs . com /? Action = DescribeNe  tworkInter
faces
& RegionId = cn - hangzhou
& Tag . 1 . Key = test
& Tag . 1 . Value = api
& ResourceGr oupId = rg - resourcegr oupid1
& VSwitchId = vsw - bp16usj2p2 7htro3xxxx x
& VpcId = vsw - bp16usj2p2 7htro3xxxx x
& PrimaryIpA ddress = 172 . 17 . XX . XXX
& SecurityGr oupId = sg - bp144yr32s x6ndwxxxxx
& NetworkInt  erfaceName = my - eni - name
& Type = Secondary
& InstanceId = AY12101803 3933eaxxxx x
& NetworkInt  erfaceId . 1 = eni - bp17pdijfc zaxZZZxxx xx
& PageNumber = 1
& PageSize = 100
&< Common request parameters >
```

### Successful response examples

#### XML format

```
< DescribeNe tworkInter facesRespo nse >
  < NetworkInt  erfaceSets >
    < NetworkInt  erfaceSet >
      < Associated PublicIp />
      < CreationTi me > 2017 - 11 - 24T06 : 14 : 22Z </ CreationTi
me >
      < InstanceId > AY12101803 3933eaxxxx x </ InstanceId >
      < MacAddress > 00 : 16 : 3e : 0f : XX : XX </ MacAddress >
      < NetworkInt  erfaceId > eni - bp17pdijfc zaxZZZxxx xx </
NetworkInt  erfaceId >
      < PrivateIpA ddress > XXX . XXX . XX . XX </ PrivateIpA ddress
>
      < PrivateIpS ets >
        < PrivateIpS et >
          < Associated PublicIp />
          < Primary > true </ Primary >
          < PrivateIpA ddress > XXX . XXX . XX . XX </ PrivateIpA
ddress >
        </ PrivateIpS et >
      </ PrivateIpS ets >
      < SecurityGr oupIds >
        < SecurityGr oupId > sg - bp144yr32s x6ndwxxxxx </
SecurityGr oupId >
      </ SecurityGr oupIds >
      < Status > Available </ Status >
      < Type > Secondary </ Type >
      < VpcId > vpc - bp1j7w3gc1 cexjqdxxxx x </ VpcId >
      < VSwitchId > vsw - bp16usj2p2 7htro3xxxx x </ VSwitchId >
      < ZoneId > cn - hangzhou - e </ ZoneId >
    </ NetworkInt  erfaceSet >
  </ NetworkInt  erfaceSets >
  < PageNumber > 1 </ PageNumber >
  < PageSize > 100 </ PageSize >
  < RequestId > CEE5C347 - 0B64 - 4535 - A061 - 95BE95Axxx xx </
RequestId >
```

```
< TotalCount > 1 </ TotalCount >
</ DescribeNetworkInterfacesResponse >
```

### JSON format

```
{
  "PageNumber": 1,
  "TotalCount": 1,
  "PageSize": 100,
  "RequestId": "CEE5C347 - 0B64 - 4535 - A061 - 95BE95Axxx xx",
  "NetworkInterfaceSets": {
    "NetworkInterfaceSet": [
      {
        "Type": "Secondary",
        "InstanceId": "AY12101803 3933eaxxxx x",
        "PrivateIpSets": {
          "PrivateIpSet": [
            {
              "PrivateIpAddress": "XXX . XXX . XX . XX",
              "Primary": true,
              "AssociatedPublicIp": {}
            }
          ]
        },
        "ZoneId": "cn - hangzhou - e",
        "VSwitchId": "vsw - bp16usj2p2 7htro3xxxx x",
        "VpcId": "vpc - bp1j7w3gc1 cexjqdxxxx x",
        "AssociatedPublicIp": {},
        "NetworkInterfaceId": "eni - bp17pdijfc zaxZZZxxx xx",
        "CreationTime": "2017 - 11 - 24T06 : 14 : 22Z",
        "Status": "Available",
        "MacAddress": "00 : 16 : 3e : 0f : XX : XX",
        "SecurityGroups": {
          "SecurityGroupId": [
            "sg - bp144yr32s x6ndwxxxxx "
          ]
        },
        "PrivateIpAddress": "XXX . XXX . XX . XX"
      }
    ]
  }
}
```

### Error codes

| HTTP status code | Error code                       | Error message | Description                                                         |
|------------------|----------------------------------|---------------|---------------------------------------------------------------------|
| 403              | InvalidUserType.<br>NotSupported | %s            | The error message returned when your account type is not supported. |

| HTTP status code | Error code                       | Error message | Description                                                                                                       |
|------------------|----------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 403              | Abs.InvalidAccount.NotFound      | %s            | The error message returned when the specified Alibaba Cloud account does not exist or your AccessKey has expired. |
| 400              | MissingParameter                 | %s            | The error message returned when a required parameter is not specified.                                            |
| 403              | Forbidden.NotSupportRAM          | %s            | The error message returned when RAM users are not allowed to perform this operation.                              |
| 400              | UnsupportedParameter             | %s            | The error message returned when a parameter is not supported.                                                     |
| 403              | Forbidden.SubUser                | %s            | The error message returned when a RAM user is not authorized to perform operations on this resource.              |
| 400              | InvalidParameter                 | %s            | The error message returned when the parameter format is invalid.                                                  |
| 400              | InvalidInstanceId.Malformed      | %s            | The error message returned when the instance ID format is invalid.                                                |
| 400              | InvalidOperation.InvalidEcsState | %s            | The error message returned when the private IP address cannot be released under the instance state.               |

| HTTP status code | Error code                                      | Error message | Description                                                                                                 |
|------------------|-------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------|
| 400              | InvalidOperation.<br>InvalidEniState            | %s            | The error message returned when the private IP address cannot be released under the ENI state.              |
| 400              | InvalidOperation.<br>DetachPrimaryEniNotAllowed | %s            | The error message returned when the primary ENI cannot be detached from the instance.                       |
| 404              | InvalidEcsId.<br>NotFound                       | %s            | The error message returned when the specified instance ID does not exist.                                   |
| 404              | InvalidEniId.<br>NotFound                       | %s            | The error message returned when the specified ENI ID does not exist.                                        |
| 404              | InvalidVSwitchId.<br>NotFound                   | %s            | The error message returned when the specified VSwitch ID does not exist.                                    |
| 404              | InvalidSecurityGroupId.<br>NotFound             | %s            | The error message returned when the specified security group ID does not exist.                             |
| 403              | EniPerInstanceLimitExceeded                     | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified instance type. |
| 403              | InvalidOperation.<br>AvailabilityZoneMismatch   | %s            | The error message returned when the specified VSwitch, ENI, and instance are not in the same zone.          |

| HTTP status code | Error code                          | Error message | Description                                                                                                      |
|------------------|-------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidOperation.<br>VpcMismatch    | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.              |
| 403              | SecurityGroupInstanceLimitExceed    | %s            | The error message returned when the number of instances in the specified security group exceeds the upper limit. |
| 403              | InvalidSecurityGroupId.<br>NotVpc   | %s            | The error message returned when the specified security group is not VPC-connected.                               |
| 403              | InvalidOperation.<br>InvalidEniType | %s            | The error message returned when the ENI type is not supported.                                                   |
| 400              | Forbidden.<br>RegionId              | %s            | The error message returned when this operation is not supported in the region.                                   |

[View error codes](#)

## 17.8 ModifyNetworkInterfaceAttribute

You can call this operation to modify attributes of an ENI.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can call APIs, dynamically generate SDK example code, and quickly retrieve APIs.

## Request parameters

| Name                 | Type   | Required | Example                         | Description                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|--------|----------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NetworkInterfaceId   | String | Yes      | eni-myeni                       | The ID of the ENI.                                                                                                                                                                                                                                                                                                                                                                                                 |
| RegionId             | String | Yes      | cn-hangzhou                     | The ID of the region where the ECS instance resides. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                                                                     |
| Action               | String | No       | ModifyNetworkInterfaceAttribute | The operation that you want to perform. Set the value to ModifyNetworkInterfaceAttribute.                                                                                                                                                                                                                                                                                                                          |
| Description          | String | No       | test                            | <p>The description of the ENI.</p> <ul style="list-style-type: none"> <li>• The description must be 2 to 256 characters in length.</li> <li>• It cannot start with http:// or https://.</li> <li>• If not specified, this parameter is null.</li> </ul> <p>Default value: null.</p>                                                                                                                                |
| NetworkInterfaceName | String | No       | my-eni-name                     | <p>The name of the ENI.</p> <ul style="list-style-type: none"> <li>• The name must be 2 to 128 characters in length. It must start with a letter and can contain digits, underscores ( _ ), and hyphens (-).</li> <li>• The ENI name is displayed in the console.</li> <li>• It cannot start with http:// or https://.</li> <li>• If not specified, this parameter is null.</li> </ul> <p>Default value: null.</p> |

| Name                | Type       | Required | Example   | Description                                                                                                                                                                            |
|---------------------|------------|----------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SecurityGroupId . N | RepeatList | No       | sg-1133aa | Changes the security group for the ENI. The existing security groups will be replaced by the specified SecurityGroupId . N .<br><br>Valid range of N: 1 to 5.Valid range of N: 1 to 5. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=ModifyNetworkInterfaceAttribute
&NetworkInterfaceId=eni-myeni
&RegionId=cn-hangzhou
&SecurityGroupId.1=sg-1133aa
&NetworkInterfaceName=my-eni-name
&Description=test
&<Common request parameters>
```

#### Successful response examples

##### XML format

```
<DetachNetworkInterfaceResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxx xx</RequestId>
</DetachNetworkInterfaceResponse>
```

##### JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxx xx"
```

}

## Error codes

| HTTP status code | Error code                       | Error message | Description                                                                                                        |
|------------------|----------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidUserType.<br>NotSupported | %s            | The error message returned when your account type is not supported.                                                |
| 403              | Abs.InvalidAccount.NotFound      | %s            | The error message returned when the specified Alibaba Cloud account does not exist, or your AccessKey has expired. |
| 400              | MissingParameter                 | %s            | The error message returned when a required parameter is not specified.                                             |
| 403              | Forbidden.<br>NotSupportRAM      | %s            | The error message returned when RAM users are not allowed to perform this operation.                               |
| 400              | UnsupportedParameter             | %s            | The error message returned when a parameter is not supported.                                                      |
| 403              | Forbidden.<br>SubUser            | %s            | The error message returned when a RAM user is not authorized to perform operations on this resource.               |
| 400              | InvalidParameter                 | %s            | The error message returned when the parameter format is invalid.                                                   |



| HTTP status code | Error code                                  | Error message | Description                                                                                         |
|------------------|---------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------|
| 400              | InvalidInstanceId.Malformed                 | %s            | The error message returned when the instance ID format is invalid.                                  |
| 400              | InvalidOperation.InvalidEcsState            | %s            | The error message returned when the private IP address cannot be released under the instance state. |
| 400              | InvalidOperation.InvalidEniState            | %s            | The error message returned when the private IP address cannot be released under the ENI state.      |
| 400              | InvalidOperation.DetachPrimaryEniNotAllowed | %s            | The error message returned when the primary ENI cannot be detached from the instance.               |
| 400              | InvalidParams.EniId                         | %s            | The error message returned when the format of the specified ENI ID is invalid.                      |
| 404              | InvalidEcsId.NotFound                       | %s            | The error message returned when the specified instance ID does not exist.                           |
| 404              | InvalidEniId.NotFound                       | %s            | The error message returned when the specified ENI ID does not exist.                                |
| 404              | InvalidVSwitchId.NotFound                   | %s            | The error message returned when the specified VSwitch ID does not exist.                            |

| HTTP status code | Error code                                | Error message | Description                                                                                                      |
|------------------|-------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidSecurityGroupId.NotFound           | %s            | The error message returned when the specified security group ID does not exist.                                  |
| 403              | EniPerInstanceLimitExceeded               | %s            | The error message returned when the number of ENIs exceeds the upper limit for the specified instance type.      |
| 403              | InvalidOperation.AvailabilityZoneMismatch | %s            | The error message returned when the specified VSwitch, ENI, and instance are not in the same zone.               |
| 403              | InvalidOperation.VpcMismatch              | %s            | The error message returned when the specified ENI and security group do not belong to the same VPC.              |
| 403              | SecurityGroupInstanceLimitExceeded        | %s            | The error message returned when the number of instances in the specified security group exceeds the upper limit. |
| 403              | InvalidSecurityGroupId.NotVpc             | %s            | The error message returned when the specified security group is not VPC-connected.                               |
| 403              | InvalidOperation.InvalidEniType           | %s            | The error message returned when the ENI type is not supported.                                                   |
| 400              | Forbidden.RegionId                        | %s            | The error message returned when this operation is not supported in the region.                                   |

[View error codes](#)

# 18 System event

---

## 18.1 DescribeInstancesFullStatus

Queries the full status information of one or more instances. The full status information includes the instance status and the instance event status. The instance status is the lifecycle status of the instance. The instance event status is the health status of the maintenance event. For more information, see ECS instance lifecycle and System events.

### Description

The response includes the status information about the instance and the scheduled system events.

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

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example                     | Description                                                                                                                                   |
|----------|--------|----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou                 | The ID of the region where the instance is located. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | DescribeInstancesFullStatus | The operation that you want to perform. Set the value to DescribeInstancesFullStatus.                                                         |

| Name                     | Type       | Required | Example                                                                | Description                                                                                                                                                                       |
|--------------------------|------------|----------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EventId . N              | RepeatList | No       | [EventId. 1="e-xhskHun1256xxx",<br>EventId. 2="e-xhskHun1257xxx".....] | The IDs of one or more events. Valid values of N: 1 to 100. You can specify multiple values in the form of a repeated list.                                                       |
| EventPublishTime . End   | String     | No       | 2017-12-07T00:00:00Z                                                   | The end time of the period during which a system event is pushed. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.   |
| EventPublishTime . Start | String     | No       | 2017-11-30T00:00:00Z                                                   | The start time of the period during which a system event is pushed. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. |

| Name      | Type   | Required | Example                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|--------|----------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EventType | String | No       | InstanceExpiration.Stop | <p>The type of the event. The EventType parameter takes effect only when the InstanceEventType.N parameter is not specified. Valid values:</p> <ul style="list-style-type: none"><li>• SystemMaintenance.Reboot : The instance restarts due to maintenance.</li><li>• SystemFailure.Reboot: The instance restarts due to a system failure.</li><li>• InstanceFailure.Reboot: The instance restarts due to an instance failure.</li><li>• InstanceExpiration.Stop: The instance is stopped due to subscription expiration.</li><li>• InstanceExpiration.Delete: The instance is released due to subscription expiration.</li><li>• AccountUnbalanced.Stop: The instance is stopped due to overdue payments.</li><li>• AccountUnbalanced.Delete: The instance is released due to overdue payments.</li></ul> |

| Name         | Type   | Required | Example     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|--------|----------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HealthStatus | String | No       | Maintaining | <p>The health status of the instance. Valid values:</p> <ul style="list-style-type: none"><li>• <b>Impaired:</b> The instance is impaired.</li><li>• <b>Warning:</b> The instance performance may be degraded because of maintenance or technical issues.</li><li>• <b>Maintaining:</b> The instance is in maintenance.</li><li>• <b>Initializing:</b> The instance is in initialization.</li><li>• <b>InsufficientData:</b> The status cannot be determined because of insufficient data.</li><li>• <b>NotApplicable:</b> Not applicable.</li></ul> <p>All the values are case-sensitive.</p> |

| Name                   | Type       | Required | Example                                                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------|------------|----------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceEventTypes . N | RepeatList | No       | InstanceExpiration.Stop                                         | <p>The types of one or more events. Valid values of N: 1 to 30. You can specify multiple values in the form of a repeated list. Valid values:</p> <ul style="list-style-type: none"> <li>• SystemMaintenance.Reboot : The instance restarts due to maintenance.</li> <li>• SystemFailure.Reboot: The instance restarts due to a system failure.</li> <li>• InstanceFailure.Reboot: The instance restarts due to an instance failure.</li> <li>• InstanceExpiration.Stop: The instance is stopped due to subscription expiration.</li> <li>• InstanceExpiration.Delete: The instance is released due to subscription expiration.</li> <li>• AccountUnbalanced.Stop: The instance is stopped due to overdue payments.</li> <li>• AccountUnbalanced.Delete: The instance is released due to overdue payments.</li> </ul> |
| InstanceId . N         | RepeatList | No       | [InstanceId. 1="i-instance1", InstanceId. 2="i-instance2".....] | <p>The IDs of one or more instances. Valid values of N : 1 to 100. You can specify multiple values in the form of a repeated list.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



| Name                 | Type    | Required | Example              | Description                                                                                                                                                           |
|----------------------|---------|----------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NotBefore .<br>End   | String  | No       | 2017-11-30T00:00:00Z | The end time of the scheduled event execution period. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.   |
| NotBefore .<br>Start | String  | No       | 2017-12-07T00:00:00Z | The start time of the scheduled event execution period. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. |
| PageNumber           | Integer | No       | 1                    | The page number of the query result. The value must be a positive integer.<br><br>Default value: 1.                                                                   |
| PageSize             | Integer | No       | 10                   | The number of entries per page . Valid values: 1 to 100.<br><br>Default value: 10.                                                                                    |
| Status               | String  | No       | Running              | The lifecycle status of the specified instance. Valid values :<br><br><ul style="list-style-type: none"> <li>Starting</li> <li>Running</li> <li>Stopped</li> </ul>    |

## Response parameters

| Name                  | Type | Example | Description                          |
|-----------------------|------|---------|--------------------------------------|
| InstanceFullStatusSet |      |         | An array of InstanceFullStatus data. |

| Name                     | Type    | Example                  | Description                                                                                                                                        |
|--------------------------|---------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| └HealthStatus            |         |                          | The health status of the instance.                                                                                                                 |
| └Code                    | Integer | 64                       | The code of the health status.                                                                                                                     |
| └Name                    | String  | Warning                  | The name of the health status.                                                                                                                     |
| └InstanceId              | String  | i-instance1              | The ID of the instance.                                                                                                                            |
| └ScheduledSystemEventSet |         |                          | An array of ScheduledSystemEventData.                                                                                                              |
| └EventCycleStatus        |         |                          | The event status.                                                                                                                                  |
| └Code                    | Integer | 24                       | The code of the event status.                                                                                                                      |
| └Name                    | String  | Scheduled                | The name of the event status.                                                                                                                      |
| └EventId                 | String  | e-event1                 | The ID of the instance event.                                                                                                                      |
| └EventPublishTime        | String  | 2017-11-30T06:32:31Z     | The publishing time of the event.<br>The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. |
| └EventType               |         |                          | The event type.                                                                                                                                    |
| └Code                    | Integer | 1                        | The code of the event type.                                                                                                                        |
| └Name                    | String  | SystemMaintenance.Reboot | The name of the event type.                                                                                                                        |
| └ExtendedAttribute       |         |                          | The extended attribute of system events for instances with local disks.                                                                            |
| └Device                  | String  | /dev/vdb                 | The device name of the local disk.                                                                                                                 |
| └DiskId                  | String  | d-diskid2                | The ID of the local disk.                                                                                                                          |

| Name                    | Type    | Example                              | Description                                                                                                                                              |
|-------------------------|---------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└NotBefore</code> | String  | 2017-12-07T00:00:00Z                 | The scheduled execution time of the event. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. |
| <code>└Status</code>    |         |                                      | The instance lifecycle status.                                                                                                                           |
| <code>└Code</code>      | Integer | 1                                    | The code of the instance lifecycle status.                                                                                                               |
| <code>└Name</code>      | String  | Running                              | The name of the instance lifecycle status.                                                                                                               |
| <code>PageNumber</code> | Integer | 1                                    | The page number.                                                                                                                                         |
| <code>PageSize</code>   | Integer | 10                                   | The number of entries per page.                                                                                                                          |
| <code>RequestId</code>  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                                   |
| <code>TotalCount</code> | Integer | 2                                    | The total number of entries.                                                                                                                             |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstancesFullStatus
&RegionId=cn-hangzhou
&InstanceId.1=i-instance1
&EventId.1=e-event1
&Status=Running
&HealthStatus=Maintaining
&InstanceEventType.1=InstanceExpiration.Stop
&EventType=InstanceExpiration.Stop
&NotBefore.Start=2017-12-07T00:00:00Z
&NotBefore.End=2017-11-30T00:00:00Z
&EventPublishTime.Start=2017-11-30T00:00:00Z
&EventPublishTime.End=2017-12-07T00:00:00Z
&PageNumber=1
&PageSize=10
&<Common request parameters>
```

### Successful response examples

**XML format**

```

< DescribeInstancesResponse >
  < InstanceStatusSet >
    < InstanceStatusType >
      < InstanceId > i-instance1 </ InstanceId >
      < Status >
        < Code > 1 </ Code >
        < Name > Running </ Name >
      </ Status >
      < HealthStatus >
        < Code > 0 </ Code >
        < Name > Maintaining </ Name >
      </ HealthStatus >
      < ScheduledSystemEventSet >
        < ScheduledSystemEventType >
          < EventId > e-event1 </ EventId >
          < EventCycleStatus >
            < Code > 24 </ Code >
            < Name > Scheduled </ Name >
          </ EventCycleStatus >
          < EventType >
            < Code > 1 </ Code >
            < Name > SystemMaintenance.Reboot </ Name >
          </ EventType >
          < EventPublishTime > 2017-11-30T06:32:31Z </ EventPublishTime >
          < NotBefore > 2017-12-01T06:32:31Z </ NotBefore >
        </ ScheduledSystemEventType >
        < ScheduledSystemEventType >
          < EventId > e-event2 </ EventId >
          < EventCycleStatus >
            < Code > 24 </ Code >
            < Name > Scheduled </ Name >
          </ EventCycleStatus >
          < EventType >
            < Code > 34 </ Code >
            < Name > InstanceExpiration.Stop </ Name >
          </ EventType >
          < EventPublishTime > 2017-11-30T00:00:00Z </ EventPublishTime >
          < NotBefore > 2017-12-07T00:00:00Z </ NotBefore >
        </ ScheduledSystemEventType >
      </ ScheduledSystemEventSet >
    </ InstanceStatusType >
    < InstanceStatusType >
      < InstanceId > i-instance2 </ InstanceId >
      < Status >
        < Code > 1 </ Code >
        < Name > Running </ Name >
      </ Status >
      < HealthStatus >
        < Code > 64 </ Code >
        < Name > Warning </ Name >
      </ HealthStatus >
      < ScheduledSystemEventSet >
        < ScheduledSystemEventType >
          < EventId > e-event3 </ EventId >
          < EventCycleStatus >
            < Code > 24 </ Code >

```

```

        < Name > Scheduled </ Name >
    </ EventCycle Status >
    < EventType >
        < Code > 65 </ Code >
        < Name > SystemFailure . Reboot </ Name >
    </ EventType >
    < EventPublic shTime > 2017 - 11 - 30T06 : 32 :
31Z </ EventPublic shTime >
    < NotBefore > 2017 - 12 - 01T06 : 32 : 31Z </
NotBefore >
        </ ScheduledSystemEvent Type >
    </ ScheduledSystemEvent Set >
    </ InstanceFullStatusType >
</ InstanceFullStatusSet >
< PageSize > 10 </ PageSize >
< PageNumber > 1 </ PageNumber >
< TotalCount > 2 </ TotalCount >
    < RequestId > AAC49D3E - ED6F - 4F00 - XXXX - 377C551B1D D4 </
RequestId >
</ DescribeInstancesFullStatusResponse >

```

### JSON format

```

{
  " PageNumber ": 1 ,
  " TotalCount ": 2 ,
  " PageSize ": 10 ,
  " InstanceFullStatusSet ":{
    " InstanceFullStatusType ":[
      {
        " Status ":{
          " Name ":" Running ",
          " Code ": 1
        },
        " HealthStatus ":{
          " Name ":" Maintaining ",
          " Code ": 0
        },
        " InstanceId ":" i - instance1 ",
        " ScheduledSystemEvent Set ":{
          " ScheduledSystemEvent Type ":[
            {
              " EventPublic shTime ":" 2017 - 11 - 30T06 : 32 : 31Z ",
              " NotBefore ":" 2017 - 12 - 01T06 : 32 : 31Z ",
              " EventId ":" e - event1 ",
              " EventType ":{
                " Name ":" SystemMaintenance . Reboot ",
                " Code ": 1
              },
              " EventCycle Status ":{
                " Name ":" Scheduled ",
                " Code ": 24
              }
            },
            {
              " EventPublic shTime ":" 2017 - 11 - 30T00 : 00 : 00Z ",
              " NotBefore ":" 2017 - 12 - 07T00 : 00 : 00Z ",
              " EventId ":" e - event2 ",
              " EventType ":{
                " Name ":" InstanceExpiration . Stop ",
                " Code ": 34
              },
              " EventCycle Status ":{

```

```

        " Name ":" Scheduled ",
        " Code ": 24
    }
}
]
}
},
{
    " Status ":{
        " Name ":" Running ",
        " Code ": 1
    },
    " HealthStat us ":{
        " Name ":" Warning ",
        " Code ": 64
    },
    " InstanceId ":" i - instance2 ",
    " ScheduledS ystemEvent Set ":{
        " ScheduledS ystemEvent Type ":[
            {
                " EventPubli shTime ":" 2017 - 11 - 30T06 : 32 : 31Z ",
                " NotBefore ":" 2017 - 12 - 01T06 : 32 : 31Z ",
                " EventId ":" e - event3 ",
                " EventType ":{
                    " Name ":" SystemFail ure . Reboot ",
                    " Code ": 65
                },
                " EventCycle Status ":{
                    " Name ":" Scheduled ",
                    " Code ": 24
                }
            }
        ]
    }
}
},
" RequestId ":" AAC49D3E - ED6F - 4F00 - XXXX - 377C551B1D D4 "
}

```

## Error codes

| HTTP status code | Error code       | Error message | Description                                                            |
|------------------|------------------|---------------|------------------------------------------------------------------------|
| 404              | MissingParameter | %s            | The error message returned when a required parameter is not specified. |
| 403              | InvalidParameter | %s            | The error message returned when the parameter format is invalid.       |

| HTTP status code | Error code                          | Error message | Description                                                                      |
|------------------|-------------------------------------|---------------|----------------------------------------------------------------------------------|
| 403              | InvalidParameter.TimeEndBeforeStart | %s            | The error message returned when the end time is earlier than the start time.     |
| 403              | OperationDenied.NotInWhiteList      | %s            | The error message returned when you are not authorized to perform the operation. |
| 403              | InstanceIdLimitExceeded             | %s            | The error message returned when the specified instance IDs is more than 100.     |
| 403              | EventIdLimitExceeded                | %s            | The error message returned when more than 100 simulated event IDs are specified. |

[View error codes](#)

## 18.2 DescribeInstanceHistoryEvents

You can call this operation to query the system events of a specified instance. Inactive historical system events are queried by default. You can query system events within the last seven days. You can specify the InstanceEventCycleStatus parameter to query the system events that are in the Scheduled or Executing state.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter        | Type       | Required | Example                       | Description                                                                                                                                                                                                                                                                                                                                 |
|------------------|------------|----------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId         | String     | Yes      | cn-hangzhou                   | The regions ID of the instance for which to query system events. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list.                                                                                                                                                                                |
| Action           | String     | No       | DescribeInstanceHistoryEvents | The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set the value to <code>DescribeInstanceHistoryEvents</code> .                                                                                                                                                   |
| EventCycleStatus | String     | No       | Executed                      | The lifecycle status of the system event. This parameter takes effect only when the <code>InstanceEventCycleStatus.N</code> parameter is not specified.<br>Valid values:<br><ul style="list-style-type: none"> <li>• Scheduled</li> <li>• Avoided</li> <li>• Executing</li> <li>• Executed</li> <li>• Canceled</li> <li>• Failed</li> </ul> |
| EventId . N      | RepeatList | No       | e-2ze9yxxxxwtqcvai68rl        | The IDs of one or more system events. Valid values of N: 1 to 100. The event IDs must be displayed in a repeated list format.                                                                                                                                                                                                               |



| Parameter                   | Type   | Required | Example              | Description                                                                                                                                                                                                                      |
|-----------------------------|--------|----------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EventPublishTime .<br>End   | String | No       | 2017-12-01T06:32:31Z | The end of the time range where system events that are published during this time range is queried. Specify the time in the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC.       |
| EventPublishTime .<br>Start | String | No       | 2017-11-30T06:32:31Z | The beginning of the time range where system events that are published during this time range is queried. Specify the time in the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC. |

| Parameter | Type   | Required | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|--------|----------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EventType | String | No       | SystemMaintenance.Reboot | <p>The type of the system event . This parameter takes effect only when the InstanceEventType.N parameter is not specified. Valid values:</p> <ul style="list-style-type: none"> <li>• SystemMaintenance.Reboot : The instance has been restarted due to system maintenance.</li> <li>• SystemFailure.Reboot: The instance has been restarted due to system failure.</li> <li>• SystemFailure.Delete: The instance has been released due to instance creation failure.</li> <li>• InstanceFailure.Reboot: The instance has been restarted due to instance failure.</li> <li>• InstanceExpiration.Stop : The instance has been stopped due to subscription expiration.</li> <li>• InstanceExpiration.Delete : The instance has been released due to subscription expiration.</li> <li>• AccountUnbalanced.Stop : The instance has been stopped due to an overdue payment.</li> <li>• AccountUnbalanced.Delete : The instance has been released due to an overdue payment.</li> </ul> |

| Parameter                    | Type       | Required | Example  | Description                                                                                                                                                                                                                                                                                                              |
|------------------------------|------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceEventCycleStatus . N | RepeatList | No       | Executed | <p>The lifecycle status of one or more system events. Valid values of N: 1 to 6. Multiple values must be displayed in a repeated list format. Valid values:</p> <ul style="list-style-type: none"><li>• Scheduled</li><li>• Avoided</li><li>• Executing</li><li>• Executed</li><li>• Canceled</li><li>• Failed</li></ul> |

| Parameter              | Type       | Required | Example                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------|------------|----------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceEventTypes . N | RepeatList | No       | SystemMaintenance.Reboot | <p>The types of one or more system events. Valid values of N: 1 to 30. Multiple values must be displayed in a repeated list format. Valid values:</p> <ul style="list-style-type: none"> <li>• SystemMaintenance.Reboot : The instance has been restarted due to system maintenance.</li> <li>• SystemFailure.Reboot: The instance has been restarted due to system failure.</li> <li>• SystemFailure.Delete: The instance has been released due to instance creation failure.</li> <li>• InstanceFailure.Reboot: The instance has been restarted due to instance failure.</li> <li>• InstanceExpiration.Stop : The instance has been stopped due to subscription expiration.</li> <li>• InstanceExpiration.Delete : The instance has been released due to subscription expiration.</li> <li>• AccountUnbalanced.Stop : The instance has been stopped due to an overdue payment.</li> <li>• AccountUnbalanced.Delete : The instance has been released due to an overdue payment.</li> </ul> |

| Parameter            | Type    | Required | Example              | Description                                                                                                                                                                                                                                     |
|----------------------|---------|----------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId           | String  | No       | i-myInstance         | The ID of the instance to be queried. If no instance ID is specified, system events of all instances in the specified region are queried.                                                                                                       |
| NotBefore .<br>End   | String  | No       | 2017-12-01T06:32:31Z | The end of the time range where system events that are scheduled for execution during this time range are queried. Specify the time in the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC.       |
| NotBefore .<br>Start | String  | No       | 2017-11-30T06:32:31Z | The beginning of the time range where system events that are scheduled for execution during this time range are queried. Specify the time in the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC. |
| PageNumber           | Integer | No       | 1                    | The number of the page to return. Pages start from page 1.<br>Default value: 1                                                                                                                                                                  |
| PageSize             | Integer | No       | 10                   | The number of entries to return on each page. Valid values: 1 to 100.<br>Default value: 10                                                                                                                                                      |

## Response parameters

| Parameter              | Type    | Example                 | Description                                                                                                                                                         |
|------------------------|---------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceSystemEventSet |         |                         | An array of system events for the instance.                                                                                                                         |
| └EventCycleStatus      |         |                         | The lifecycle status of the system event.                                                                                                                           |
| └Code                  | Integer | 0                       | The status code of the system event.                                                                                                                                |
| └Name                  | String  | Executed                | The status name of the system event.                                                                                                                                |
| └EventFinishTime       | String  | 2017-12-01T06:35:31Z    | The time when the system event ended. The time follows the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddThh:mmZ format. The time is displayed in UTC.         |
| └EventId               | String  | e-2ze9yxxxxwtqcvai68rx  | The ID of the system event.                                                                                                                                         |
| └EventPublishTime      | String  | 2017-11-30T06:32:31Z    | The time when the system event was published. The time follows the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddThh:mmZ format. The time is displayed in UTC. |
| └EventType             |         |                         | The type of the system event.                                                                                                                                       |
| └Code                  | Integer | 34                      | The code of the system event type.                                                                                                                                  |
| └Name                  | String  | InstanceExpiration.Stop | The name of the system event type.                                                                                                                                  |
| └ExtendedAttribute     |         |                         | The extended attributes of the system event.                                                                                                                        |
| └Device                | String  | /dev/vda                | The device name of the local disk.                                                                                                                                  |

| Parameter                | Type    | Example                              | Description                                                                                                                                                             |
|--------------------------|---------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└DiskId</code>     | String  | d-diskid1                            | The ID of the local disk.                                                                                                                                               |
| <code>└InstanceId</code> | String  | i-myInstance                         | The ID of the instance.                                                                                                                                                 |
| <code>└NotBefore</code>  | String  | 2017-12-06T00:00:00Z                 | The scheduled execution time of the system event. The time follows the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddThh:mmZ format. The time is displayed in UTC. |
| <code>PageNumber</code>  | Integer | 1                                    | The number of the page returned.                                                                                                                                        |
| <code>PageSize</code>    | Integer | 10                                   | The number of entries returned on each page.                                                                                                                            |
| <code>RequestId</code>   | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                                                  |
| <code>TotalCount</code>  | Integer | 2                                    | The total number of instance states.                                                                                                                                    |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceHistoryEvents
&RegionId=cn-hangzhou
&InstanceId=i-myInstance
&EventId.1=e-2ze9yxxxxw-tqcvai68rl
&InstanceEventCycleStatus.1=Executed
&EventCycleStatus=Executed
&InstanceEventType.1=SystemMaintenance.Reboot
&EventType=SystemMaintenance.Reboot
&NotBefore.Start=2017-11-30T06:32:31Z
&NotBefore.End=2017-12-01T06:32:31Z
&EventPublishTime.Start=2017-11-30T06:32:31Z
&EventPublishTime.End=2017-12-01T06:32:31Z
&PageNumber=1
&PageSize=10
&<Common request parameters>
```

### Sample success responses

#### XML format

```
<DescribeInstanceHistoryEventsResponse>
```

```

< InstanceSy stemEventS et >
  < InstanceSy stemEventT ype >
    < InstanceId > i - 2ze3tphuqv c93cixxxx3 </ InstanceId >
    < EventId > e - 2ze9yxxxxw tqcvai68rl </ EventId >
    < EventType >
      < Code > 1 </ Code >
      < Name > SystemMain tenance . Reboot </ Name >
    </ EventType >
    < EventCycle Status >
      < Code > 0 </ Code >
      < Name > Executed </ Name >
    </ EventCycle Status >
    < EventPubli shTime > 2017 - 11 - 30T06 : 32 : 31Z </
EventPubli shTime >
    < NotBefore > 2017 - 12 - 01T06 : 32 : 31Z </ NotBefore >
    < EventFinis hTime > 2017 - 12 - 01T06 : 35 : 31Z </
EventFinis hTime >
    </ InstanceSy stemEventT ype >
    < InstanceSy stemEventT ype >
      < InstanceId > i - 2ze3tphuqv c93cixxxx3 </ InstanceId >
      < EventId > e - 2ze9yxxxxw tqcvai68r3 </ EventId >
      < EventType >
        < Code > 34 </ Code >
        < Name > InstanceEx piration . Stop </ Name >
      </ EventType >
      < EventCycle Status >
        < Code > 8 </ Code >
        < Name > Avoided </ Name >
      </ EventCycle Status >
      < EventPubli shTime > 2017 - 11 - 29T06 : 32 : 31Z </
EventPubli shTime >
      < NotBefore > 2017 - 12 - 06T00 : 00 : 00Z </ NotBefore >
      < EventFinis hTime > 2017 - 12 - 05T12 : 35 : 31Z </
EventFinis hTime >
      </ InstanceSy stemEventT ype >
    </ InstanceSy stemEventS et >
    < PageSize > 10 </ PageSize >
    < PageNumber > 1 </ PageNumber >
    < TotalCount > 2 </ TotalCount >
    < RequestId > 02EA76D3 - 5A2A - 44EB - XXXX - 8901881D87 07 </
RequestId >
  </ DescribeIn stanceHist oryEventsR esponse >

```

### JSON format

```

{
  " PageNumber ": 1 ,
  " TotalCount ": 2 ,
  " PageSize ": 10 ,
  " RequestId ":" 02EA76D3 - 5A2A - 44EB - XXXX - 8901881D87 07 ",
  " InstanceSy stemEventS et ":{
    " InstanceSy stemEventT ype ":[
      {
        " EventPubli shTime ":" 2017 - 11 - 30T06 : 32 : 31Z ",
        " NotBefore ":" 2017 - 12 - 01T06 : 32 : 31Z ",
        " EventFinis hTime ":" 2017 - 12 - 01T06 : 35 : 31Z ",
        " InstanceId ":" i - 2ze3tphuqv c93cixxxx3 ",
        " EventId ":" e - 2ze9yxxxxw tqcvai68rl ",
        " EventType ":{
          " Name ":" SystemMain tenance . Reboot ",
          " Code ": 1
        },
        " EventCycle Status ":{

```



```

    " Name ":" Executed ",
    " Code ": 0
  },
},
{
  " EventPubli shTime ":" 2017 - 11 - 29T06 : 32 : 31Z ",
  " NotBefore ":" 2017 - 12 - 06T00 : 00 : 00Z ",
  " EventFinis hTime ":" 2017 - 12 - 05T12 : 35 : 31Z ",
  " InstanceId ":" i - 2ze3tphuqv c93cixxxx3 ",
  " EventId ":" e - 2ze9yxxxxw tqcvai68r3 ",
  " EventType ":{
    " Name ":" InstanceEx piration . Stop ",
    " Code ": 34
  },
  " EventCycle Status ":{
    " Name ":" Avoided ",
    " Code ": 8
  }
}
]
}
}
}

```

### Error codes

| HTTP status code | Error code                           | Error message | Description                                                                          |
|------------------|--------------------------------------|---------------|--------------------------------------------------------------------------------------|
| 404              | MissingParameter                     | %s            | The error message returned because a required parameter is not specified.            |
| 403              | InvalidParameter                     | %s            | The error message returned because the parameter format is invalid.                  |
| 403              | EventIdLimitExceeded                 | %s            | The error message returned because more than 100 system event IDs are specified.     |
| 403              | InvalidParameter. TimeEndBeforeStart | %s            | The error message returned because the end time was earlier the start time.          |
| 403              | OperationDenied.NotInWhiteList       | %s            | The error message returned because you are not authorized to perform this operation. |

[View error codes](#)

## 18.3 DescribeDisksFullStatus

Queries the full status information of one or more disks.

### Description

- The full status information of a disk includes the disk lifecycle status (Status), disk health status (HealthStatus), and disk event type (EventType).
- The disk-related event publishing time, scheduled event execution time, and actual event execution time are the same. If you specify a time period [EventTime.Start, EventTime.End], the system queries all events that occurred during this period. You can query events within the last seven days.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name        | Type       | Required | Example                 | Description                                                                                                                               |
|-------------|------------|----------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId    | String     | Yes      | cn-hangzhou             | The ID of the region to which the disk belongs. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action      | String     | No       | DescribeDisksFullStatus | The operation that you want to perform. Set the value to DescribeDisksFullStatus.                                                         |
| DiskId . N  | RepeatList | No       | d-disk1                 | The ID of the disk to be queried . Valid values of N: 1 to 100.                                                                           |
| EventId . N | RepeatList | No       | e-event1                | The event ID. Valid values of N: 1 to 100.                                                                                                |

| Name                 | Type   | Required | Example              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------|--------|----------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EndTime .<br>End     | String | No       | 2018-05-08T02:48:52Z | The end time of events to be queried. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.                                                                                                                                                                                                                                                                                               |
| EventTime .<br>Start | String | No       | 2018-05-06T02:43:10Z | The start time of events to be queried. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.                                                                                                                                                                                                                                                                                             |
| EventType            | String | No       | Stalled              | The disk event type. Valid values: <ul style="list-style-type: none"> <li>• Degraded: The disk performance is degraded.</li> <li>• SeverelyDegraded: The disk performance is seriously degraded.</li> <li>• Stalled: The disk may be stalled with I/O suspended.</li> </ul>                                                                                                                                                                       |
| HealthStat<br>us     | String | No       | Warning              | The health status of the disk. Valid values: <ul style="list-style-type: none"> <li>• Impaired: The disk performance is damaged.</li> <li>• Warning: The disk performance may be degraded because of maintenance or technical issues.</li> <li>• Initializing: The instance is being initialized.</li> <li>• InsufficientData: The status cannot be determined because of insufficient data.</li> <li>• NotApplicable: Not applicable.</li> </ul> |

| Name       | Type    | Required | Example   | Description                                                                                                                                                                                                                                                               |
|------------|---------|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PageNumber | Integer | No       | 1         | The page number of the query result. The value must be a positive integer.<br><br>Default value: 1.                                                                                                                                                                       |
| PageSize   | Integer | No       | 10        | The number of entries per page. Valid values: 1 to 100.<br><br>Default value: 10.                                                                                                                                                                                         |
| Status     | String  | No       | Available | The lifecycle status of the disk. For more information, see <a href="#">Cloud disk status</a> . Valid values: <ul style="list-style-type: none"><li>• In_Use</li><li>• Available</li><li>• Attaching</li><li>• Detaching</li><li>• Creating</li><li>• ReIniting</li></ul> |

### Response parameters

| Name              | Type   | Example              | Description                                                                                                                        |
|-------------------|--------|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| DiskFullStatusSet |        |                      | An array of DiskFullStatus data.                                                                                                   |
| └Device           | String | /dev/xvdb            | The device name of the disk that is attached to an instance, such as /dev/xvdb. It is null unless the disk is in the In_use state. |
| └DiskEventSet     |        |                      | An array of DiskEvent data.                                                                                                        |
| └EventEndTime     | String | 2018-05-06T02:48:52Z | The end time of the event.                                                                                                         |
| └EventId          | String | e-event1             | The ID of the disk event.                                                                                                          |

| Name          | Type    | Example                              | Description                            |
|---------------|---------|--------------------------------------|----------------------------------------|
| ↳EventTime    | String  | 2018-05-08T02:43:10Z                 | The occurrence time of the event.      |
| ↳EventType    |         |                                      | The event type.                        |
| ↳Code         | Integer | 7                                    | The code of the event type.            |
| ↳Name         | String  | Stalled                              | The name of the event type.            |
| ↳DiskId       | String  | d-disk1                              | The ID of the disk.                    |
| ↳HealthStatus |         |                                      | The disk health status.                |
| ↳Code         | Integer | 128                                  | The code of the disk health status.    |
| ↳Name         | String  | Impaired                             | The name of the disk health status.    |
| ↳InstanceId   | String  | i-instance1                          | The ID of the instance.                |
| ↳Status       |         |                                      | The disk lifecycle status.             |
| ↳Code         | Integer | 129                                  | The code of the disk lifecycle status. |
| ↳Name         | String  | Available                            | The name of the disk lifecycle status. |
| PageNumber    | Integer | 1                                    | The page number of the instance list.  |
| PageSize      | Integer | 10                                   | The number of entries per page.        |
| RequestId     | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                 |
| TotalCount    | Integer | 2                                    | The total number of instance statuses. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeDiskFullStatus
&RegionId=cn-hangzhou
&DiskId.1=d-disk1
&EventId.1=e-event1
&Status=Available
&HealthStatus=Warning
&EventType=Stalled
&EventTime.Start=2018-05-06T02:43:10Z
&EventTime.End=2018-05-08T02:48:52Z
&PageNumber=1
&PageSize=10
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeDiskFullStatusResponse>
  <DiskFullStatusSet>
    <DiskFullStatusType>
      <DiskEventsSet>
        <DiskEventType>
          <EventId>e-event1</EventId>
          <EventType>
            <Code>7</Code>
            <Name>Stalled</Name>
          </EventType>
          <EventTime>2018-05-08T02:43:10Z</EventTime>
        </DiskEventType>
      </DiskEventsSet>
      <DiskId>d-disk1</DiskId>
      <InstanceId>i-instance1</InstanceId>
      <Device>/dev/xvda</Device>
      <HealthStatus>
        <Code>128</Code>
        <Name>Impaired</Name>
      </HealthStatus>
      <Status>
        <Code>129</Code>
        <Name>Available</Name>
      </Status>
    </DiskFullStatusType>
    <DiskFullStatusType>
      <DiskEventsSet>
        <DiskEventType>
          <EventId>e-event2</EventId>
          <EventType>
            <Code>1</Code>
            <Name>Degraded</Name>
          </EventType>
          <EventTime>2018-05-06T02:43:10Z</EventTime>
          <EventEndTime>2018-05-06T02:48:52Z</EventEndTime>
        </DiskEventType>
      </DiskEventsSet>
      <DiskId>d-disk2</DiskId>
```

```

    < InstanceId > i - instance2 </ InstanceId >
    < Device >/ dev / xvdb </ Device >
    < HealthStat us >
      < Code > 64 </ Code >
      < Name > Warning </ Name >
    </ HealthStat us >
    < Status >
      < Code > 0 </ Code >
      < Name > Ok </ Name >
    </ Status >
  </ DiskFullSt atusType >
</ DiskFullSt atusSet >
< PageNumber > 1 </ PageNumber >
< PageSize > 10 </ PageSize >
< RequestId > 1A8B4B27 - 8B2D - XXXX - XXXX - 0F64DBE4C2 11 </
RequestId >
< TotalCount > 2 </ TotalCount >
</ DescribeDi sksFullSta tusRespons e >

```

### JSON format

```

{
  " PageNumber ": 1 ,
  " TotalCount ": 2 ,
  " PageSize ": 10 ,
  " RequestId ":" 1A8B4B27 - 8B2D - XXXX - XXXX - 0F64DBE4C2 11 ",
  " DiskFullSt atusSet ":{
    " DiskFullSt atusType ":[
      {
        " Status ":{
          " Name ":" Available ",
          " Code ": 129
        },
        " Device ":"/ dev / xvda ",
        " HealthStat us ":{
          " Name ":" Impaired ",
          " Code ": 128
        },
        " InstanceId ":" i - instance1 ",
        " DiskEventS et ":{
          " DiskEventT ype ":[
            {
              " EventTime ":" 2018 - 05 - 08T02 : 43 : 10Z ",
              " EventId ":" e - event1 ",
              " EventType ":{
                " Name ":" Stalled ",
                " Code ":" 7 "
              }
            }
          ]
        }
      }
    ],
    " DiskId ":" d - disk1 "
  },
  {
    " Status ":{
      " Name ":" Available ",
      " Code ": 129
    },
    " Device ":"/ dev / xvdb ",
    " HealthStat us ":{
      " Name ":" Ok ",
      " Code ": 0
    }
  },

```

```

    " InstanceId ":" i - instance2 ",
    " DiskEvents et ":{
      " DiskEventT ype ":[
        {
          " EventTime ":" 2018 - 05 - 06T02 : 43 : 10Z ",
          " EventId ":" e - event2 ",
          " EventType ":{
            " Name ":" Degraded ",
            " Code ":" 1 "
          },
          " EventEndTi me ":" 2018 - 05 - 06T02 : 48 : 52Z "
        }
      ]
    },
    " DiskId ":" d - disk2 "
  }
}
}
}

```

### Error codes

| HTTP status code | Error code                           | Error message | Description                                                                      |
|------------------|--------------------------------------|---------------|----------------------------------------------------------------------------------|
| 404              | MissingParameter                     | %s            | The error message returned when a required parameter is not specified .          |
| 403              | InvalidParameter                     | %s            | The error message returned when the parameter format is invalid.                 |
| 403              | DiskIdLimitExceeded                  | %s            | The error message returned when the specified instance IDs is more than 100.     |
| 403              | EventIdLimitExceeded                 | %s            | The error message returned when more than 100 simulated event IDs are specified. |
| 403              | InvalidParameter. TimeEndBeforeStart | %s            | The error message returned when the end time is earlier than the start time.     |

[View error codes](#)



## 18.4 CancelSimulatedSystemEvents

Cancels one or more simulated system events that are in the Scheduled or Executing state. After you cancel a simulated system event, the simulated event is in the Canceled state.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name        | Type       | Required | Example                     | Description                                                                                                                            |
|-------------|------------|----------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| EventId . N | RepeatList | Yes      | e-xhskHun1256xxxx           | The IDs of one or multiple system events. Valid values of N: 1 to 100. You can specify multiple values in the form of a repeated list. |
| RegionId    | String     | Yes      | cn-hangzhou                 | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                        |
| Action      | String     | No       | CancelSimulatedSystemEvents | The operation that you want to perform. Set the value to CancelSimulatedSystemEvents.                                                  |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=CancelSimulatedSystemEvents
&EventId.1=e-xhskHun1256xxx
&RegionId=cn-hangzhou
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

### Error codes

| HTTP status code | Error code                               | Error message | Description                                                              |
|------------------|------------------------------------------|---------------|--------------------------------------------------------------------------|
| 404              | MissingParameter                         | %s            | The error message returned when a required parameter is not specified.   |
| 403              | InvalidParameter                         | %s            | The error message returned when the parameter format is invalid.         |
| 403              | CannotCancelSystemEvent.<br>NotSimulated | %s            | The error message returned when you cancel a non-simulated system event. |
| 403              | InvalidEventId.<br>NotFound              | %s            | The error message returned when the specified EventId does not exist.    |

| HTTP status code | Error code           | Error message | Description                                                                      |
|------------------|----------------------|---------------|----------------------------------------------------------------------------------|
| 400              | EventIdLimitExceeded | %s            | The error message returned when more than 100 simulated event IDs are specified. |

[View error codes](#)

## 18.5 CreateSimulatedSystemEvents

Schedules simulated system events for one or more ECS instances. The simulated system events do not occur in the actual system and the simulation does not affect ECS instances.

### Description

You can use the ECS console, [ECS APIs](#), or CloudMonitor to view the scheduled simulated system events.

The following table describes the lifecycle of a simulated system event.

- **Scheduled:** The status for the simulated system event is automatically changed to Scheduled after it is scheduled.
- **Executed:** The status for the simulated system event is automatically changed to Executed at the scheduled time specified by the NotBefore parameter if no manual intervention is involved.
- **Canceled:** The status for the simulated system event is changed to Canceled if you cancel the event by calling [CancelSimulatedSystemEvents](#).
- **Avoided:** The status for the simulated system event of maintenance-triggered instance restart can be changed to Avoided if you [restart the instance](#) before the scheduled time of the simulated system event. The maintenance-triggered instance restart is indicated by the SystemMaintenance.Reboot value.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name              | Type       | Required | Example                     | Description                                                                                                                                                                                                                                                                                                                            |
|-------------------|------------|----------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EventType         | String     | Yes      | SystemMaintenance.Reboot    | The type of a system event.<br>Valid values:<br><ul style="list-style-type: none"> <li>SystemMaintenance.Reboot: The instance restarts due to maintenance.</li> <li>SystemFailure.Reboot: The instance restarts due to a system failure.</li> <li>InstanceFailure.Reboot: The instance restarts due to an instance failure.</li> </ul> |
| InstanceId<br>. N | RepeatList | Yes      | i-instance1                 | The IDs of one or more ECS instances. Valid values of N: 1 to 100. You can specify multiple values in the form of a repeated list.                                                                                                                                                                                                     |
| NotBefore         | String     | Yes      | 2018-12-01T06:32:31Z        | The start time of the scheduled event execution period. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ.                                                                                                                                                                  |
| RegionId          | String     | Yes      | cn-hangzhou                 | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                                                        |
| Action            | String     | No       | CreateSimulatedSystemEvents | The operation that you want to perform. Set the value to CreateSimulatedSystemEvents.                                                                                                                                                                                                                                                  |

## Response parameters

| Name       | Type   | Example                              | Description                      |
|------------|--------|--------------------------------------|----------------------------------|
| EventIdSet |        | e-xhskHun1256xxxx                    | The list of simulated event IDs. |
| RequestId  | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.           |

## Examples

### Sample requests

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

### Successful response examples

#### XML format

```
<CreateSimulatedSystemEventsResponse>
  <EventIdSet>
    <EventId>e-bp191hqye*****34y</EventId>
    <EventId>e-bp191hqye*****34x</EventId>
  </EventIdSet>
  <RequestId>E69EF3CC-94CD-42E7-8926-F133B86387C0</RequestId>
</CreateSimulatedSystemEventsResponse>
```

#### JSON format

```
{
  "EventIdSet":{
    "EventId":[
      "e-bp191hqye*****34y",
      "e-bp191hqye*****34x"
    ]
  },
  "RequestId":"679E9056-9B75-4306-8A72-A1DF93EBEF74"
}
```

## Error codes

| HTTP status code | Error code                  | Error message | Description                                                                                                      |
|------------------|-----------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 404              | MissingParameter            | %s            | The error message returned when a required parameter is not specified .                                          |
| 403              | InvalidParameter            | %s            | The error message returned when the parameter format is invalid.                                                 |
| 403              | InvalidNotBeforePassed      | %s            | The error message returned when the specified value of the NotBefore parameter is earlier than the current time. |
| 404              | InvalidInstanceId.NotFound  | %s            | The error message returned when the specified instance does not exist.                                           |
| 403              | SimulatedEventLimitExceeded | %s            | The error message returned when the number of simulated events has reached the upper limit.                      |
| 403              | InstanceIdLimitExceeded     | %s            | The error message returned when the specified instance IDs is more than 100.                                     |

[View error codes](#)

# 19 Monitoring

---

## 19.1 DescribeEniMonitorData

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

### Description

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

- Up to 400 monitored data entries can be returned per query. If the value of (EndTime and StartTime)/Period is greater than 400, an error is returned.
- You can only query the monitored data in the last 30 days. If the value of the StartTime parameter is earlier than 30 days, an error is returned.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example                | Description                                                                                                                                                                                                                                                          |
|------------|--------|----------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EndTime    | String | Yes      | 2018-05-21T12:22:00Z   | The end time of the retrieved data. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. If the specified number of seconds (ss) is not 00, the time will be automatically rounded up to the next minute.   |
| InstanceId | String | Yes      | myInstance             | The ID of the instance to which the secondary ENI is bound.                                                                                                                                                                                                          |
| RegionId   | String | Yes      | cn-hangzhou            | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                      |
| StartTime  | String | Yes      | 2018-05-21T12:19:00Z   | The start time of the retrieved data. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. If the specified number of seconds (ss) is not 00, the time will be automatically rounded up to the next minute. |
| Action     | String | No       | DescribeEniMonitorData | The operation that you want to perform. Set the value to DescribeEniMonitorData.                                                                                                                                                                                     |



| Name   | Type    | Required | Example   | Description                                                                                                                                                               |
|--------|---------|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EniId  | String  | No       | eni-myENI | The ID of the secondary ENI . All secondary ENIs that are bound to the instance are queried by default.                                                                   |
| Period | Integer | No       | 60        | The interval of the retrieved data. Unit: seconds. Valid values: <ul style="list-style-type: none"> <li>• 60</li> <li>• 600</li> <li>• 3600</li> </ul> Default value: 60. |

## Response parameters

| Name            | Type   | Example   | Description                                                                       |
|-----------------|--------|-----------|-----------------------------------------------------------------------------------|
| MonitorData     |        |           | An array of EniMonitorDataType data.                                              |
| └ DropPacket Rx | String | 0         | The discarded intranet data packets received by the secondary ENI. Unit: packets. |
| └ DropPacket Tx | String | 0         | The discarded intranet data packets sent by the secondary ENI. Unit: packets.     |
| └ EniId         | String | eni-myENI | The ID of the secondary ENI.                                                      |
| └ IntranetRx    | String | 0         | The intranet data traffic received by the secondary ENI. Unit: Kbit/s.            |
| └ IntranetTx    | String | 0         | The intranet data traffic sent by the secondary ENI. Unit: Kbit/s.                |

| Name                   | Type    | Example                              | Description                                                                                                                                   |
|------------------------|---------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <sup>L</sup> PacketRx  | String  | 0                                    | The intranet data traffic packets received by the secondary ENI. Unit : packets.                                                              |
| <sup>L</sup> PacketTx  | String  | 0                                    | The intranet data packets sent by the secondary ENI. Unit: packets.                                                                           |
| <sup>L</sup> TimeStamp | String  | 2018-05-21T03:22:00Z                 | The timestamp of traffic query. The time follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. |
| RequestId              | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                        |
| TotalCount             | Integer | 4                                    | The total number of returned entries.                                                                                                         |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeEniMonitorData
&EndTime=2018-05-21T12:22:00Z
&InstanceId=myInstance
&RegionId=cn-hangzhou
&StartTime=2018-05-21T12:19:00Z
&EniId=eni-myENI
&Period=60
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeEniMonitorDataResponse>
  <RequestId>5A03C2BA-3BCE-4A87-8076-7DC1629</RequestId>
  <TotalCount>4</TotalCount>
  <MonitorData>
    <EniMonitorData>
      <PacketTx>0</PacketTx>
      <TimeStamp>2018-05-21T03:22:00Z</TimeStamp>
      <IntranetOut>0</IntranetOut>
      <DropPacketRx>0</DropPacketRx>
      <IntranetIn>0</IntranetIn>
```

```

    < EniId > eni - myENI </ EniId >
    < DropPacket Tx > 0 </ DropPacket Tx >
    < PacketRx > 0 </ PacketRx >
  </ EniMonitor Data >
  < EniMonitor Data >
    < PacketTx > 0 </ PacketTx >
    < TimeStamp > 2018 - 05 - 21T03 : 21 : 00Z </ TimeStamp >
    < IntranetOut > 0 </ IntranetOut >
    < DropPacket Rx > 0 </ DropPacket Rx >
    < IntranetIn > 0 </ IntranetIn >
    < EniId > eni - myENI </ EniId >
    < DropPacket Tx > 0 </ DropPacket Tx >
    < PacketRx > 0 </ PacketRx >
  </ EniMonitor Data >
  < EniMonitor Data >
    < PacketTx > 52240 </ PacketTx >
    < TimeStamp > 2018 - 05 - 21T03 : 19 : 00Z </ TimeStamp >
    < IntranetOut > 73344 </ IntranetOut >
    < DropPacket Rx > 0 </ DropPacket Rx >
    < IntranetIn > 467 </ IntranetIn >
    < EniId > eni - myENI </ EniId >
    < DropPacket Tx > 0 </ DropPacket Tx >
    < PacketRx > 6603 </ PacketRx >
  </ EniMonitor Data >
  < EniMonitor Data >
    < PacketTx > 34925 </ PacketTx >
    < TimeStamp > 2018 - 05 - 21T03 : 20 : 00Z </ TimeStamp >
    < IntranetOut > 48871 </ IntranetOut >
    < DropPacket Rx > 0 </ DropPacket Rx >
    < IntranetIn > 350 </ IntranetIn >
    < EniId > eni - myENI </ EniId >
    < DropPacket Tx > 0 </ DropPacket Tx >
    < PacketRx > 4888 </ PacketRx >
  </ EniMonitor Data >
</ MonitorData >
</ DescribeEniMonitorDataResponse >

```

### JSON format

```

{
  "RequestId ":" 5A03C2BA - 3BCE - 4A87 - 8076 - 7DC1629 ",
  "MonitorData ":{
    "EniMonitor Data ":[
      {
        "TimeStamp ":" 2018 - 05 - 21T03 : 22 : 00Z ",
        "PacketTx ": 0 ,
        "IntranetOut ": 0 ,
        "DropPacket Rx ": 0 ,
        "EniId ":" eni - myENI ",
        "IntranetIn ": 0 ,
        "PacketRx ": 0 ,
        "DropPacket Tx ": 0
      },
      {
        "TimeStamp ":" 2018 - 05 - 21T03 : 21 : 00Z ",
        "PacketTx ": 0 ,
        "IntranetOut ": 0 ,
        "DropPacket Rx ": 0 ,
        "EniId ":" eni - myENI ",
        "IntranetIn ": 0 ,
        "PacketRx ": 0 ,
        "DropPacket Tx ": 0
      }
    ],
  },
}

```

```

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

```

### Error codes

| HTTP status code | Error code                               | Error message                                                       | Description                                                                             |
|------------------|------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 403              | InvalidInstanceType.<br>NotSupportCredit | The InstanceType of the specified instance does not support credit. | The error message returned when the instance type does not support burstable instances. |
| 403              | InvalidParameter.EndTime                 | The specified parameter EndTime is earlier than StartTime.          | The error message returned when the end time is earlier than the start time.            |
| 4,003            | InvalidParam.<br>Malformed               | The specified parameter "EniId" and "InstanceId" are not valid      | The error message returned when the specified parameter is invalid.                     |

[View error codes](#)

## 19.2 DescribeDiskMonitorData

Queries the monitoring data of a specified disk. The monitoring data includes read IOPS, write IOPS, read bandwidth (Byte/s), write bandwidth (Byte/s), read latency (ms), and write latency (ms) of the disk. Some portion may be missing from the monitoring data information. This is because the system cannot obtain the relevant information, such as when the disk is not in the In\_Use state.

### Description

When you call this operation, note that:

- You can only query monitoring information for the disks that are in the In\_use state. For more information, see [Basic cloud disk status](#).
- Up to 400 monitoring data entries can be returned at a time. If the value of (EndTime - StartTime)/Period is greater than 400, an error is returned.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name    | Type   | Required | Example              | Description                                                                                                                                                                                                                                                      |
|---------|--------|----------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DiskId  | String | Yes      | d-myDisk             | The ID of the disk.                                                                                                                                                                                                                                              |
| EndTime | String | Yes      | 2014-07-23T12:09:00Z | The end time of the query. The time format follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-mm-ddThh:mm:ssZ. If the specified number of seconds (ss) is not 00, the time will be automatically rounded up to the next minute. |

| Name      | Type    | Required | Example                 | Description                                                                                                                                                                                                                                                        |
|-----------|---------|----------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| StartTime | String  | Yes      | 2014-07-23T12:07:00Z    | The start time of the query. The time format follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-mm-ddThh:mm:ssZ. If the specified number of seconds (ss) is not 00, the time will be automatically rounded up to the next minute. |
| Action    | String  | No       | DescribeDiskMonitorData | The operation that you want to perform. Set the value to DescribeDiskMonitorData.                                                                                                                                                                                  |
| Period    | Integer | No       | 60                      | The granularity of the retrieved monitoring data. Unit: seconds. Valid values: <ul style="list-style-type: none"> <li>• 60</li> <li>• 600</li> <li>• 3600</li> </ul> Default value: 60.                                                                            |

## Response parameters

| Name        | Type    | Example | Description                                             |
|-------------|---------|---------|---------------------------------------------------------|
| MonitorData |         |         | A collection consisting of disk monitoring data.        |
| └BPSRead    | Integer | 0       | The system disk read bandwidth. Unit: Byte/s.           |
| └BPSTotal   | Integer | 204     | The system disk read and write bandwidth. Unit: Byte/s. |

| Name                       | Type    | Example                              | Description                                                                                                                                               |
|----------------------------|---------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└BPSWrite</code>     | Integer | 204                                  | The system disk write bandwidth.<br>Unit: Byte/s.                                                                                                         |
| <code>└DiskId</code>       | String  | d-mydisk001                          | The ID of the disk.                                                                                                                                       |
| <code>└IOPSRead</code>     | Integer | 0                                    | The system disk read I/O operations<br>. Unit: times/s.                                                                                                   |
| <code>└IOPSTotal</code>    | Integer | 0                                    | The system disk read and write I/O<br>operations. Unit: times/s.                                                                                          |
| <code>└ IOPSWrite</code>   | Integer | 0                                    | The system disk write I/O<br>operations. Unit: times/s.                                                                                                   |
| <code>└LatencyRead</code>  | Integer | 0                                    | The read latency of the disk. Unit: $\mu$<br>s.                                                                                                           |
| <code>└LatencyWrite</code> | Integer | 0                                    | The write latency of the disk. Unit:<br>$\mu$ s.                                                                                                          |
| <code>└TimeStamp</code>    | String  | 2014-07-23T12:07:00Z                 | The time of the data query. The<br>time format follows the <a href="#">ISO 8601</a><br>standard and uses UTC time. The<br>format is yyyy-MM-ddTHH:mm:ssZ. |
| RequestId                  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                                    |
| TotalCount                 | Integer | 3                                    | The total number of disk<br>monitoring data entries.                                                                                                      |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeDiskMonitorData
&DiskId=d-myDisk
&EndTime=2014-07-23T12:09:00Z
&StartTime=2014-07-23T12:07:00Z
```

```
& Period = 60
&< Common request parameters >
```

## Successful response examples

### XML format

```
< DescribeDiskMonitorDataResponse >
  < MonitorData >
    < DiskMonitorData >
      < BPSRead > 0 </ BPSRead >
      < BPSTotal > 0 </ BPSTotal >
      < BPSWrite > 0 </ BPSWrite >
      < DiskId > d-23b3p4r8b </ DiskId >
      < IOPSRead > 0 </ IOPSRead >
      < IOPSTotal > 0 </ IOPSTotal >
      < IOPSWrite > 0 </ IOPSWrite >
      < Timestamp > 2014-07-23T12:07:00Z </ Timestamp >
    </ DiskMonitorData >
    < DiskMonitorData >
      < BPSRead > 0 </ BPSRead >
      < BPSTotal > 204 </ BPSTotal >
      < BPSWrite > 204 </ BPSWrite >
      < DiskId > d-23b3p4r8b </ DiskId >
      < IOPSRead > 0 </ IOPSRead >
      < IOPSTotal > 0 </ IOPSTotal >
      < IOPSWrite > 0 </ IOPSWrite >
      < Timestamp > 2014-07-23T12:08:00Z </ Timestamp >
    </ DiskMonitorData >
    < DiskMonitorData >
      < BPSRead > 0 </ BPSRead >
      < BPSTotal > 819 </ BPSTotal >
      < BPSWrite > 819 </ BPSWrite >
      < DiskId > d-23b3p4r8b </ DiskId >
      < IOPSRead > 0 </ IOPSRead >
      < IOPSTotal > 0 </ IOPSTotal >
      < IOPSWrite > 0 </ IOPSWrite >
      < Timestamp > 2014-07-23T12:09:00Z </ Timestamp >
    </ DiskMonitorData >
  </ MonitorData >
  < RequestId > BF666447-B171-4076-BCBA-48437C18FD76 </
RequestId >
  < TotalCount > 3 </ TotalCount >
</ DescribeDiskMonitorDataResponse >
```

### JSON format

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



```

    },
    {
      "TimeStamp ":" 2014 - 07 - 23T12 : 08 : 00Z ",
      "BPSRead ": 0 ,
      "IOPSTotal ": 0 ,
      "IOPSRead ": 0 ,
      "BPSTotal ": 204 ,
      "BPSWrite ": 204 ,
      "IOPSWrite ": 0 ,
      "DiskId ":" d - 23b3p4r8b "
    },
    {
      "TimeStamp ":" 2014 - 07 - 23T12 : 09 : 00Z "
      "BPSRead ": 0 ,
      "IOPSTotal ": 0 ,
      "IOPSRead ": 0 ,
      "BPSTotal ": 819 ,
      "BPSWrite ": 819 ,
      "IOPSWrite ": 0 ,
      "DiskId ":" d - 23b3p4r8b "
    }
  ]
}
}

```

#### Error codes

| HTTP status code | Error code                           | Error message                                                                      | Description                                                                             |
|------------------|--------------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 400              | InvalidInstanceType.NotSupportCredit | The InstanceType of the specified instance does not support credit.                | The error message returned when the instance type does not support burstable instances. |
| 400              | InvalidParameter.EndTime             | The specified parameter EndTime is earlier than StartTime.                         | The error message returned when the end time is earlier than the start time.            |
| 500              | InternalError                        | The request processing has failed due to some unknown error, exception or failure. | The error message returned when an unknown error occurs.                                |

[View error codes](#)

## 19.3 DescribeInstanceMonitorData

Queries all the monitoring data about an ECS instance. The returned monitoring data includes the CPU usage, received data traffic, sent data traffic, network traffic,

and average bandwidth of the ECS instance. If some of the traffic data information is missing, it is because the system is unable to obtain the relevant information, such as when an instance is in the Stopped state.

### Description

When you call this operation, note that:

- Up to 400 monitored data entries can be returned per query. If the value of (EndTime - StartTime)/Period is greater than 400, an error is returned.
- You can only query the monitoring data in the last 30 days. If the value of the StartTime parameter is earlier than 30 days, an error is returned.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type   | Required | Example              | Description                                                                                                                                                                                                                                                                          |
|------------|--------|----------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EndTime    | String | Yes      | 2014-10-30T08:00:00Z | The end time of the retrieved monitoring data: The time format follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is YYYY-MM-DDThh:mm:ssZ. If the specified number of seconds (ss) is not 00, the time will be automatically rounded up to the next minute. |
| InstanceId | String | Yes      | i-instnace1          | The ID of the instance.                                                                                                                                                                                                                                                              |

| Name      | Type    | Required | Example                     | Description                                                                                                                                                                                                                                                                                   |
|-----------|---------|----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| StartTime | String  | Yes      | 2014-10-29T23:00:00Z        | The start time of the retrieved monitoring data. The time format follows the <a href="#">ISO 8601</a> standard and the UTC time is used. The format is YYYY-MM-DDThh:mm:ssZ. If the specified number of seconds (ss) is not 00, the time will be automatically rounded up to the next minute. |
| Action    | String  | No       | DescribeInstanceMonitorData | The operation that you want to perform. Set the value to DescribeInstanceMonitorData.                                                                                                                                                                                                         |
| Period    | Integer | No       | 60                          | The interval of the retrieved monitoring data. Unit: seconds.<br>. Valid values: <ul style="list-style-type: none"><li>• 60</li><li>• 600</li><li>• 3600</li></ul> Default value: 60.                                                                                                         |

#### Response parameters

| Name              | Type    | Example | Description                                          |
|-------------------|---------|---------|------------------------------------------------------|
| MonitorData       |         |         | A collection consisting of instance monitoring data. |
| $\angle$ BPSRead  | Integer | 1000    | The system disk read bandwidth.<br>Unit: Byte/s.     |
| $\angle$ BPSWrite | Integer | 200     | The system disk write bandwidth.<br>Unit: Byte/s.    |

| Name                          | Type    | Example     | Description                                                                                |
|-------------------------------|---------|-------------|--------------------------------------------------------------------------------------------|
| └CPU                          | Integer | 2           | The CPU utilization. Unit: percent (%).                                                    |
| └CPUAdvanceCreditBalance      | Float   | 0.4         | The excess credits consumed by the t5 instance.                                            |
| └CPUCreditBalance             | Float   | 120         | The total credits of the t5 instance.                                                      |
| └CPUCreditUsage               | Float   | 30          | The number of credits consumed by the t5 instance.                                         |
| └CPUNotpaidSurplusCreditUsage | Float   | 0.5         | The unpaid excess credits.                                                                 |
| └IOPSRead                     | Integer | 1000        | The system disk read I/O operations . Unit: times/s.                                       |
| └IOPSWrite                    | Integer | 200         | The system disk write I/O operations. Unit: times/s.                                       |
| └InstanceId                   | String  | i-instnace1 | The ID of the instance.                                                                    |
| └InternetBandwidth            | Integer | 10          | The Internet traffic of the instance. Unit: Kbit/s.                                        |
| └InternetRX                   | Integer | 122         | The Internet traffic received by the instance at the time of traffic query . Unit: Kbit/s. |
| └InternetTX                   | Integer | 343         | The Internet traffic sent by the instance at the time of traffic query . Unit: Kbit/s.     |

| Name                            | Type    | Example                              | Description                                                                                                                                     |
|---------------------------------|---------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└IntranetBandwidth</code> | Integer | 10                                   | The intranet bandwidth of the instance. Unit: Kbit/s.                                                                                           |
| <code>└IntranetRX</code>        | Integer | 122                                  | The intranet traffic received by the instance at the time of traffic query . Unit: Kbit/s.                                                      |
| <code>└IntranetTX</code>        | Integer | 343                                  | The intranet traffic sent by the instance at the time of traffic query . Unit: Kbit/s.                                                          |
| <code>└TimeStamp</code>         | String  | 2010-01-21T09:50:23Z                 | The time of traffic query. The time format follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. |
| <code>RequestId</code>          | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. This parameter is returned regardless of whether the operation is successful .                                           |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceMonitorData
&EndTime=2014-10-30T08:00:00Z
&InstanceId=i-instance1
&StartTime=2014-10-29T23:00:00Z
&Period=60
&<Common request parameters>
```

### Successful response examples

#### 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 >
    < IntranetFl  ow > 675 </ IntranetFl  ow >
    < IntranetBa ndwidth > 10 </ IntranetBa ndwidth >
    < InternetRX > 122 </ InternetRX >
    < InternetTX > 343 </ InternetTX >
    < InternetFl  ow > 675 </ InternetFl  ow >
    < InternetBa ndwidth > 10 </ InternetBa ndwidth >
    < IOPSRead > 1000 </ IOPSRead >
    < IOPSWrite > 200 </ IOPSWrite >
    < BPSRead > 1000 </ BPSRead >
    < BPSWrite > 200 </ BPSWrite >
    < TimeStamp > 2010 - 01 - 21T09 : 50 : 23Z </ TimeStamp >
  </ InstanceMo nitorData >
</ MonitorDat a >
</ DescribeIn stanceMoni torDataRes ponse >

```

### JSON format

```

{
  "RequestId ":" C8B26B44 - 0189 - 443E - 9816 - D951F59623 A9 ",
  "MonitorDat a ":{
    "InstanceMo nitorData ":[
      {
        " IOPSRead ": 1000 ,
        " BPSWrite ": 200 ,
        " IntranetBa ndwidth ": 10 ,
        " IntranetTX ": 343 ,
        " IntranetRX ": 122 ,
        " InstanceId ":" Bc0102 - 23xYm09 ",
        " InternetFl  ow ": 675 ,
        " CPU ": 0 ,
        " TimeStamp ":" 2010 - 01 - 21T09 : 50 : 23Z ",
        " BPSRead ": 1000 ,
        " InternetRX ": 122 ,
        " IntranetFl  ow ": 675 ,
        " InternetBa ndwidth ": 10 ,
        " IOPSWrite ": 200 ,
        " InternetTX ": 343
      }
    ]
  }
}

```

### Error codes

| HTTP status code | Error code                             | Error message                                            | Description                                                                  |
|------------------|----------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------|
| 400              | InvalidStartTime<br>.ValueNotSupported | The specified parameter StartTime is later than EndTime. | The error message returned when the end time is earlier than the start time. |

### [View error codes](#)

## 19.4 GetInstanceScreenshot

Obtains screenshot information of an instance.

### Description

The system returns an instance screenshot in JPG format, encoded in Base64.

However, you must decode the screenshot yourself. We recommend that you use this operation for troubleshooting and diagnosis, and take note of the following points:

- The instance must be in the Running state.
- For [phased-out instance types](#), you cannot obtain screenshot information.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name       | Type    | Required | Example                   | Description                                                                                                                                   |
|------------|---------|----------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String  | Yes      | i-myInstance              | The ID of the instance.                                                                                                                       |
| RegionId   | String  | Yes      | cn-shenzhen               | The ID of the region where the instance is located. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action     | String  | No       | GetInstanc<br>eScreenshot | The operation that you want to perform. Set the value to GetInstanceScreenshot.                                                               |
| WakeUp     | Boolean | No       | false                     | Indicates whether to wake up instances in sleep mode.<br><br>Default value: false.                                                            |

**Response parameters**

| Name       | Type   | Example                              | Description                                                     |
|------------|--------|--------------------------------------|-----------------------------------------------------------------|
| InstanceId | String | i-myInstance                         | The ID of the instance.                                         |
| RequestId  | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                          |
| Screenshot | String | iVBORw0KGgoA...AAABJRU5ErkJggg==     | The JPG format instance screenshot, which is encoded in Base64. |

**Examples****Sample requests**

```
http :// ecs - cn - hangzhou . example . com /? Action = GetInstanc
eScreensho t
& InstanceId = i - myInstance
& RegionId = cn - shenzhen
& WakeUp = false
&< Common request parameters >
```

**Successful response examples****XML format**

```
< GetInstanc eScreensho tResponse >
  < RequestId > 22A1933F - AD02 - 4560 - A6A7 - 53CF2231D9 42 </
  RequestId >
  < InstanceId > i - j5e42sbbth lokka11ech </ InstanceId >
  < Screenshot > iVBORw0KGg oA ... AAABJRU5Er kJggg ==</ Screenshot
  >
</ GetInstanc eScreensho tResponse >
```

**JSON format**

```
{
  " Screenshot ":" iVBORw0KGg oA ... AAABJRU5Er kJggg ==",
  " InstanceId ":" i - j5e42sbbth lokka11ech ",
  " RequestId ":" 22A1933F - AD02 - 4560 - A6A7 - 53CF2231D9 42 "
```



```
}
```

### Error codes

| HTTP status code | Error code             | Error message | Description                                                                                                       |
|------------------|------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter       | %s            | The error message returned when a required parameter is not specified .                                           |
| 404              | InvalidParameter       | %s            | The error message returned when the parameter format is invalid.                                                  |
| 405              | IncorrectInstanceState | %s            | The error message returned when the specified resource is in a state that does not support the current operation. |

[View error codes](#)

## 19.5 GetInstanceConsoleOutput

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

### Description

ECS is a virtualized cloud-based service that cannot be connected to any display devices. However, the command output for the last start, restart, or shutdown of the instance is cached. You can call `GetInstanceConsoleOutput` to obtain this information .

For [phased-out instance types](#), you cannot obtain the command output.

You cannot obtain the command output of Windows-based instances.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name       | Type   | Required | Example                  | Description                                                                                                                                   |
|------------|--------|----------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId | String | Yes      | i-myInstance             | The ID of the instance.                                                                                                                       |
| RegionId   | String | Yes      | cn-shenzhen-finance-1    | The ID of the region where the instance is located. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action     | String | No       | GetInstanceConsoleOutput | The operation that you want to perform. Set the value to GetInstanceConsoleOutput.                                                            |

## Response parameters

| Name          | Type   | Example                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Description                                             |
|---------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| ConsoleOutput | String | V2VsY29tZS<br>B0byBDZW50<br>T1MgCgpDaG<br>Vja2luZyBm<br>aWxl3lzdG<br>VtcwpDaGVj<br>a2luZyBhbG<br>wgZmlsZSBz<br>eXN0ZW1zLg<br>pbL3NiaW4v<br>ZnNjay5leH<br>Q0ICgxKSA<br>LSAvXSBmc2<br>NrLmV4dDQg<br>LWEgL2Rldi<br>92ZGExIAov<br>ZGV2L3ZkYT<br>E6IGNsZWFu<br>LCAzMjAxNi<br>8yNjIxNDQw<br>IGZpbGVzLC<br>A0NDc5NzQv<br>MTA0ODU1MD<br>QgYmxvY2tz<br>CgpFbnRlcm<br>luZyBub24t<br>aW50ZXJhY3<br>RpdmUgc3Rh<br>cnR1cApDYW<br>xsaW5nIHRo<br>ZSBzeXN0ZW<br>0gYWN0aXZp<br>dHkgZGF0YS<br>Bjb2xsZWN0<br>b3IgKHNhZG<br>Mpli4uIAoK<br>QnJpbmdpbm<br>cgdXAgaW50<br>ZXJmYWNIIG<br>V0aDA6ICAK<br>RGV0ZXJtaW<br>5pbmcgSVAg<br>aW5mb3JtYX<br>Rpb24gZm9y<br>IGV0aDAuLi<br>4gZG9uZS4K | The command output of the instance, in Base64 encoding. |

| Name            | Type   | Example                              | Description                                                                                                                                                                           |
|-----------------|--------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId      | String | i-myInstance                         | The ID of the instance.                                                                                                                                                               |
| LastUpdate Time | String | 2018-03-22 10:04:57                  | The time the instance was last started, restarted, or shut down. The time format follows the <a href="#">ISO 8601</a> standard and uses UTC time. The format is yyyy-MM-ddTHH:mm:ssZ. |
| RequestId       | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                                                                                |

## Examples

### Sample requests

```
http :// ecs - cn - hangzhou . aliyuncs . com /? Action = GetInstanc
eConsoleOu tput
& InstanceId = i - myInstance
& RegionId = cn - shenzhen - finance - 1
&< Common request parameters >
```

### Successful response examples

#### XML format

```
< GetInstanc eConsoleOu tputRespon se >
  < RequestId > 22A1933F - AD02 - 4560 - A6A7 - 53CF2231D9 42 </
RequestId >
  < InstanceId > i - j5e42sbbth lokka11ech </ InstanceId >
  < LastUpdate Time > 2018 - 03 - 22 10 : 04 : 57 </ LastUpdate
Time >
  < ConsoleOut put > V2VsY29tZS B0byBDZW50 T1MgCgpDaG Vja2luZyBm
aWxlc3lzdG VtcwpDaGVj a2luZyBhbG wgZmlsZSBz eXN0ZW1zLg
pbL3NiaW4v ZnNjay5leH Q0ICgxKSA t LSAvXSBmc2 NrLmV4dDQg
LWEgL2Rldi 92ZGE xIAov ZGV2L3ZkYT E6IGNsZW Fu LCAzMjAxNi
8yNjIxNDQw IGZpbGVzLC A0NDc5NzQv MTA0ODU1MD QgYmxvY2tz
CgpFbnRlcm luZyBub24t aW50ZXJhY3 RpdmUgc3Rh cnRlcApDYW
xsaW5nIHRo ZSBzeXN0ZW 0gYWN0aXZp dHkgZGF0YS Bjb2xsZWN0
b3IgaXN0ZG Mpl4uIAoK QnJpbmdpbm cgdXAgW50 ZXJmYWNlIG
V0aDA6ICAK RGV0ZXJtaW 5pbmcgSVAg aW5mb3JtYX Rpb24gZm9y
IGV0aDAuLi 4gZG9uZS4K CmFsaXl1bi 1zZXJ2aWNl IHN0YXJ0L3
J1bm5pbmcs IHByb2Nlc3 MgMTczMwpm aW5pc2hlZA oKQ2VudE9T
IHJlbGVhc2 Ugni44ICg aW5hbCkKS2 VybmVsIDIu Ni4zMj02OT
YuMy4yLmVs Ni5pNjg2IG 9uIGFuIGk2 ODYKCmlaMn plZDk2ZTQ2
MmF5cjBxem w2czhaIGxv Z2lu0g ==</ ConsoleOut put >
```

```
</ GetInstanc eConsoleOut putResponse >
```

### JSON format

```
{
  " ConsoleOut put ":" V2VsY29tZS B0byBDZW50 T1MgCgpDaG Vja2luZyBm
  aWxlc3lzdG VtcwpDaGVj a2luZyBhbG wgZmlsZSBz eXN0ZW1zLg
  pbL3NiaW4v ZnNjay5leH Q0ICgxKSAt LSAvXSBmc2 NrLmV4dDQg
  LWEgL2Rldi 92ZGExIAov ZGV2L3ZkYT E6IGNsZWFu LCAzMjAxNi
  8yNjIxNDQw IGZpbGVzLC A0NDc5NzQv MTA0ODU1MD QgYmxvY2tz
  CgpFbnRlcm luZyBub24t aW50ZXJhY3 Rpdmc3Rh cnRlcApDYW
  xsaW5nIHRo ZSBzeXN0ZW 0gYWN0aXZp dHkgZGF0YS Bjb2xsZWNO
  b3IgKHhhZG MpLi4uIAoK QnJpbmdpbm cgdXAgaw50 ZXJmYWNLIG
  V0aDA6ICAK RGV0ZXJtaW 5pbmcgSVAg aW5mb3JtYX Rpb24gZm9y
  IGV0aDAuLi 4gZG9uZS4K CmFsaXl1bi 1zZXJ2aWNl IHN0YXJ0L3
  J1bm5pbmcs IHByb2Nlc3 MgMTczMwpm aW5pc2hlZA oKQ2VudE9T
  IHJlbGVhc2 UgNi44ICGg aW5hbCkKS2 VybmVsIDIu Ni4zMj02OT
  YuMy4yLmVs Ni5pNjg2IG 9uIGFuIGk2 ODYKCmlaMn plZDk2ZTQ2
  MmF5cjBxem w2czhaIGxv Z2lu0g ==",
  " InstanceId ":" i - j5e42sbbth lokka1lech ",
  " RequestId ":" 22A1933F - AD02 - 4560 - A6A7 - 53CF2231D9 42 ",
  " LastUpdate Time ":" 2018 - 03 - 22 10 : 04 : 57 "
}
```

### Error codes

| HTTP status code | Error code             | Error message | Description                                                                                                       |
|------------------|------------------------|---------------|-------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter       | %s            | The error message returned when a required parameter is not specified.                                            |
| 404              | InvalidParameter       | %s            | The error message returned when the parameter format is invalid.                                                  |
| 405              | IncorrectInstanceState | %s            | The error message returned when the specified resource is in a state that does not support the current operation. |

[View error codes](#)

## 20 Cloud assistants

---

### 20.1 CreateCommand

Creates a cloud assistant command.

#### Description

- You can create commands of the following types:
  - Bat scripts for Windows-based instances (RunBatScript)
  - PowerShell scripts for Windows-based instances (RunPowerShellScript)
  - Shell scripts for Linux-based instances (RunShellScript)
- You can specify the Timeout parameter to set the maximum timeout period for command invocations on ECS instances. When a command invocation times out, the [cloud assistant client](#) will force the command process to stop.
  - For one-time invocation: After an invocation times out, the state of the command invocation ([InvokeRecordStatus](#)) on the specified ECS instance becomes Failed.
  - For periodic invocation:
    - The timeout period of periodic invocation is effective for every invocation record.
    - After an invocation times out, the state of the invocation record ([InvokeRecordStatus](#)) becomes Failed.
    - The timeout of last invocation does not affect the next invocation.
- You can use the WorkingDir parameter to specify the invocation path of the command. For Linux-based instances, the default path is /root. For Windows-based instances, the default path is the one where the cloud assistant client process is located, such as C:\ProgramData\aliyun\assist\\$(version).
- You can create up to 100 cloud assistant commands in a region. You can also [submit a ticket](#) to adjust the upper limit.
- You can enable variables in a script by setting EnableParameter to true . Cloud assistant supports the format of `{{&( parameter )}}` in the CommandContent parameter, while you run the script via the InvokeCommand method, you can enter the value of variables. Imagine that you create a script of `echo {{`

`name }}`, then you can set the `Parameter` to `< name , Jack >` and the like in the `InvokeCommand` method, in the actual invocation, the cloud assistant uses `echo Jack`.

## Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name           | Type   | Required | Example      | Description                                                                                                                                                                                                                                                          |
|----------------|--------|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CommandContent | String | Yes      | ZWNobyAxMjM= | The Base64-encoded content of the command. When you specify the <code>Type</code> parameter, you must specify this parameter. The parameter value must be Base64-encoded for transmission, and the size of the script after the Base64 encoding cannot exceed 16 KB. |
| Name           | String | Yes      | Test         | The name of the command, which supports all the character sets. It can be a maximum of 128 characters in length.                                                                                                                                                     |
| RegionId       | String | Yes      | cn-hangzhou  | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                      |

| Name                | Type    | Required | Example           | Description                                                                                                                                                                                                                                                                                             |
|---------------------|---------|----------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                | String  | Yes      | RunShellScript    | <p>The type of the command.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>RunBatScript: Bat script for Windows-based instances</li> <li>RunPowerShellScript: PowerShell script for Windows-based instances</li> <li>RunShellScript: Shell script for Linux-based instances</li> </ul> |
| Action              | String  | No       | CreateComm<br>and | The operation that you want to perform. Set the value to CreateCommand.                                                                                                                                                                                                                                 |
| Descriptio<br>n     | String  | No       | Test1             | The description of the command, which supports all character sets. It can be a maximum of 512 characters in length.                                                                                                                                                                                     |
| EnablePara<br>meter | Boolean | No       | false             | Whether to use variables in a script or not. Default value: false.                                                                                                                                                                                                                                      |
| Timeout             | Long    | No       | 3600              | <p>The value of the invocation timeout period of a command on ECS instances. Unit: seconds . When the command fails to run, the invocation times out, and the cloud assistant client forces to terminate the command process afterward.</p> <p>Default value: 3600.</p>                                 |



| Name       | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                               |
|------------|--------|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WorkingDir | String | No       | /home/  | <p>The directory where the created command runs on the ECS instances. Default value:</p> <ul style="list-style-type: none"> <li>For Linux-based instances, the default path is /root.</li> <li>For Windows-based instances, the default path is the one where the cloud assistant client process is located, such as C:\ProgramData\aliyun\assist\\$(version).</li> </ul> |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| CommandId | String | c-7d2a745b412b4601b2d47f6a768d3a14   | The ID of the command. |
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=CreateCommand
&CommandContent=ZWNobyAxMjM=
&Name=test
&RegionId=cn-hangzhou
&Type=RunShellScript
&Description=Test1
&WorkingDir=/home/
&Timeout=3600
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

```
< CommandId > c - 7d2a745b41 2b4601b2d4 7f6a768d3a 14 </
CommandId >
</ CreateComm andRespons e >
```

**JSON format**

```
{
  "RequestId ":" E69EF3CC - 94CD - 42E7 - 8926 - F133B86387 C0 ",
  "CommandId ":" c - 7d2a745b41 2b4601b2d4 7f6a768d3a 14 "
}
```

**Error codes**

| HTTP status code | Error code                   | Error message                                                         | Description                                                                                                            |
|------------------|------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 500              | InternalServerError.Dispatch | An error occurred when you dispatched the request.                    | The error message returned when an unknown error occurs.                                                               |
| 403              | InvalidCmdType.NotFound      | The specified command type does not exist.                            | The error message returned when the specified command type does not exist.                                             |
| 403              | CmdName.ExceedLimit          | The length of the command name exceeds the upper limit.               | The error message returned when the command name exceeds the maximum length. Use a shorter command name.               |
| 403              | CmdDesc.ExceedLimit          | The length of the command description exceeds the upper limit.        | The error message returned when the command description exceeds the maximum length. Use a shorter command description. |
| 403              | CmdCount.ExceedQuota         | The total number of commands in the current region exceeds the quota. | The error message returned when the number of cloud assistant commands in the region exceeds the upper limit.          |

[View error codes](#)

## 20.2 InstallCloudAssistant

Installs the cloud assistant client on one or more instances.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name              | Type       | Required | Example                | Description                                                                                                                                                                                                                                                                                                               |
|-------------------|------------|----------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId<br>. N | RepeatList | Yes      | i-bp1iudwa5b1tqaxxxxxx | The ID of the instance. Valid values of N: 1 to 20.                                                                                                                                                                                                                                                                       |
| RegionId          | String     | Yes      | cn-hangzhou            | The ID of the region where the instance is located. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                             |
| Action            | String     | No       | InstallCloudAssistant  | The operation that you want to perform. Set the value to InstallCloudAssistant.<br><br> <b>Note:</b><br>After you call InstallCloudAssistant and <a href="#">RebootInstance</a> in sequence, the cloud assistant client takes effect. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=InstallCloudAssistant
&InstanceId.1=i-bp11f7trr4hbi1*****
&InstanceId.2=i-bp1iudwa5b1tqa*****
&RegionId=cn-hangzhou
&<Common request parameters>
```

### Successful response examples

#### XML format

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

#### JSON format

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

### Error codes

| HTTP status code | Error code                   | Error message                                      | Description                                                            |
|------------------|------------------------------|----------------------------------------------------|------------------------------------------------------------------------|
| 500              | InternalServerError.Dispatch | An error occurred when you dispatched the request. | The error message returned when an unknown error occurs.               |
| 404              | InvalidInstance.NotFound     | The specified instance does not exist.             | The error message returned when the specified instance does not exist. |

[View error codes](#)

## 20.3 InvokeCommand

Triggers a cloud assistant command on one or more ECS instances.

### Description

- You can call the InvokeCommand operation in a region up to 5000 times a day. To adjust the maximum number of daily calls, [submit a ticket](#).
- The target instance type must be [VPC](#).
- The target instance must be in the Running state.
- The target instance must be pre-installed with the [cloud assistant client](#).
- Before you run PowerShell commands, make sure that the target Windows-based instance has the PowerShell feature configured.
- One-time invocations will run the commands only once.
- Periodic invocations will run the commands at the frequency specified by the Frequency parameter. The result of previous invocation does not affect the next invocation.
- Periodic invocation can only be scheduled in UTC+8. If the system time of your ECS instances are not UTC+8, make sure that you have made adjustments to ensure that your commands are executed at the correct time. For more information, see [Time setting: Synchronize NTP servers and change time zone for Linux instances](#) or [Time setting: Synchronize NTP servers for Windows instances](#).
- You can specify multiple ECS instances in this command. When one of these instances does not comply with the invocation conditions, you need to specify another instance.
- Command invocations may fail because of target instance status exceptions, network exceptions, or cloud assistant client exceptions. If an invocation fails, no invocation information is generated.
- If you added `EnableParameter = true` while creating a script, you should specify value for the variables in the InvokeCommand method.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name              | Type       | Required | Example                                 | Description                                                                                                                                                                                                                                                                                        |
|-------------------|------------|----------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CommandId         | String     | Yes      | c-e996287206324975b5fb<br>e1dxxxxxxxxxx | The ID of the command. You can call <a href="#">DescribeCommands</a> to view all available command IDs.                                                                                                                                                                                            |
| InstanceId<br>. N | RepeatList | Yes      | i-bp185dy2o3<br>o6nxxxxxxxx             | The list of instances where the command need to be executed . You can specify up to 50 instance IDs in each request. Valid values of N: 1 to 50.                                                                                                                                                   |
| RegionId          | String     | Yes      | cn-hangzhou                             | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                                                    |
| Action            | String     | No       | InvokeCommand                           | The operation that you want to perform. Set the value to InvokeCommand.                                                                                                                                                                                                                            |
| Frequency         | String     | No       | 0 */20 * * * *                          | The frequency at which a periodic task is invoked. The frequency cannot be less than 10 seconds. When the Timed parameter is set to True, you must specify the Frequency parameter. The value of this parameter is expressed in Cron. For more information, see <a href="#">Cron expressions</a> . |

| Name       | Type    | Required | Example                                                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------|---------|----------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameters | Json    | No       | <code>{"name": "Jack", "accessKey": "LTAIdyv*****aRY"}</code> | <p>Specifies value for variables previously added in the script. The number of variables cannot be greater than 10. Use the format of <code>{" key " : " value "}</code> to set the values.</p> <p>Note that:</p> <ul style="list-style-type: none"> <li>• The key can support up to 64 characters, but it cannot be a null string.</li> <li>• The value can be a null string, which indicates that no values is set for this invocation.</li> <li>• After Base-64 encoded, the collective length of the <code>Parameters</code> and the <code>CommandContent</code> cannot exceed 16 KB.</li> </ul> |
| Timed      | Boolean | No       | <code>true</code>                                             | Indicates whether the command invocation is periodic. Default value: False.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### Response parameters

| Name      | Type   | Example                                           | Description                       |
|-----------|--------|---------------------------------------------------|-----------------------------------|
| InvokeId  | String | <code>t-7d2a745b412b4601b2d47f6a768d3a14</code>   | The invocation ID of the command. |
| RequestId | String | <code>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</code> | The ID of the request.            |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=InvokeComm
&CommandId=c-e996287206324975b5fbeldxxxxxxx
&InstanceId.i-1=i-bp185dy2o3o6nxxxxxxx
&RegionId=cn-hangzhou
```

```
& Timed = true
& Frequency = 0 */ 20 * * * *
&< Common request parameters >
```

## Successful response examples

### XML format

```
< InvokeComm andRespons e >
  < RequestId > E69EF3CC - 94CD - 42E7 - 8926 - F133B86387 C0 </
  RequestId >
  < InvokeId > t - 7d2a745b41 2b4601b2d4 7f6a768d3a 14 </ InvokeId
  >
</ InvokeComm andRespons e >
```

### JSON format

```
{
  " RequestId ":" E69EF3CC - 94CD - 42E7 - 8926 - F133B86387 C0 ",
  " InvokeId ":" t - 7d2a745b41 2b4601b2d4 7f6a768d3a 14 "
}
```

## Error codes

| HTTP status code | Error code                       | Error message                                                 | Description                                                                |
|------------------|----------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------|
| 500              | InternalServerError.<br>Dispatch | An error occurred when you dispatched the request.            | The error message returned when an unknown error occurs.                   |
| 404              | InvalidInstance.<br>NotFound     | The specified instance does not exist.                        | The error message returned when the specified instance does not exist.     |
| 403              | MissingParam.<br>Frequency       | The frequency must be specified when you create a timed task. | The error message returned when no frequency is set for the periodic task. |

[View error codes](#)



## 20.4 StopInvocation

Stops the process of a running cloud assistant command on one or more ECS instances.

### Description

- If you stop the process of a one-time invocation command, the invocations that have already started are not interrupted. Invocations that have not started are canceled.
- If you stop the process of a periodic invocation command, the invocations that have already started are not interrupted. However, the invocation does not start in the next period.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example                            | Description                                                                                                                |
|----------|--------|----------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| InvokeId | String | Yes      | t-7d2a745b412b4601b2d47f6a768d3a14 | The invocation ID of the command process. You can call <a href="#">DescribeInvocations</a> to view all the invocation IDs. |
| RegionId | String | Yes      | cn-hangzhou                        | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.            |
| Action   | String | No       | StopInvocation                     | The operation that you want to perform. Set the value to StopInvocation.                                                   |

| Name              | Type       | Required | Example                | Description                                                                                                                                          |
|-------------------|------------|----------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId<br>. N | RepeatList | No       | i-uf614fhehh<br>zmxdqx | The list of instances where the command needs to be stopped. You can specify up to 50 instance IDs in each request.<br>. Valid values of N: 1 to 50. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=StopInvocation
&InvokeId=t-7d2a745b412b4601b2d47f6a768d3a14
&RegionId=cn-hangzhou
&InstanceId.1=i-uf614fhehhzmxdqx
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

## Error codes

| HTTP status code | Error code                   | Error message                                      | Description                                                                      |
|------------------|------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------|
| 500              | InternalServerError.Dispatch | An error occurred when you dispatched the request. | The error message returned when an unknown error occurs.                         |
| 404              | InvalidInvokeId.NotFound     | The specified invoke ID does not exist.            | The error message returned when the specified InvokeId parameter does not exist. |

[View error codes](#)

## 20.5 DeleteCommand

Deletes a cloud assistant command.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name      | Type   | Required | Example                            | Description                                                                                                     |
|-----------|--------|----------|------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| CommandId | String | Yes      | c-4d34302d02424c5c8e10281e3a315a05 | The ID of the command. You can call <a href="#">DescribeCommands</a> to view all available command IDs.         |
| RegionId  | String | Yes      | cn-hangzhou                        | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name   | Type   | Required | Example           | Description                                                             |
|--------|--------|----------|-------------------|-------------------------------------------------------------------------|
| Action | String | No       | DeleteComm<br>and | The operation that you want to perform. Set the value to DeleteCommand. |

### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

### Examples

#### Sample requests

```
https://ecs.aliyuncs.com/?Action=DeleteComm  
&CommandId=c-4d34302d02424c5c8e10281e3a315a05  
&RegionId=cn-hangzhou  
&<Common request parameters>
```

#### Successful response examples

##### XML format

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

##### JSON format

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

### Error codes

| HTTP status code | Error code                       | Error message                                      | Description                                              |
|------------------|----------------------------------|----------------------------------------------------|----------------------------------------------------------|
| 500              | InternalServerError.<br>Dispatch | An error occurred when you dispatched the request. | The error message returned when an unknown error occurs. |

| HTTP status code | Error code               | Error message                    | Description                                                          |
|------------------|--------------------------|----------------------------------|----------------------------------------------------------------------|
| 403              | InvalidRegionId.NotFound | Current region is not available. | The error message returned when the specified region is unavailable. |

[View error codes](#)

## 20.6 DescribeCloudAssistantStatus

Views whether the cloud assistant client is installed on one or more instances.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name              | Type       | Required | Example                      | Description                                                                                                                                   |
|-------------------|------------|----------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceId<br>: N | RepeatList | Yes      | i-bp1iudwa5b1tqaxxxxxx       | The list of instance IDs. You can query up to 50 instances in each request. Valid values of N : 1 to 50.                                      |
| RegionId          | String     | Yes      | cn-hangzhou                  | The ID of the region where the instance is located. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action            | String     | No       | DescribeCloudAssistantStatus | The operation that you want to perform. Set the value to DescribeCloudAssistantStatus.                                                        |

## Response parameters

| Name                 | Type   | Example                              | Description                                                                     |
|----------------------|--------|--------------------------------------|---------------------------------------------------------------------------------|
| InstanceIdSet        |        |                                      | A set of installation statuses of the cloud assistant clients on the instances. |
| CloudAssistantStatus | String | true                                 | Indicates whether the cloud assistant client is installed on the instance.      |
| InstanceId           | String | i-bp1iudwa5b1tqaxxxxxx               | The ID of the instance.                                                         |
| RequestId            | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                          |

## Examples

## Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeCloudAssistantStatus
&InstanceId.1=i-bp1iudwa5b1tqaxxxxxx
&RegionId=cn-hangzhou
&<CommonRequestParameters>
```

## Successful response examples

## XML format

```
<DescribeCloudAssistantStatusResponse>
  <InstanceIdSet>
    <InstanceId>i-bp1lf7trr4hb1lxxxxxx</InstanceId>
    <CloudAssistantStatus>True</CloudAssistantStatus>
  </InstanceIdSet>
  <InstanceId>i-bp1iudwa5b1tqaxxxxxx</InstanceId>
  <CloudAssistantStatus>True</CloudAssistantStatus>
</DescribeCloudAssistantStatusResponse>
```

## JSON format

```
{
  "InstanceIdSet":{
    "InstanceId":[
      {
```

```
    " InstanceId ":" i - bp11f7trr4 hbi1xxxxxx ",
    " CloudAssit antStatus ":" True "
  },
  {
    " InstanceId ":" i - bp1iudwa5b 1tqaxxxxxx ",
    " CloudAssit antStatus ":" True "
  }
]
}
```

### Error codes

| HTTP status code | Error code                       | Error message                                    | Description                                                            |
|------------------|----------------------------------|--------------------------------------------------|------------------------------------------------------------------------|
| 500              | InternalServerError.<br>Dispatch | An error occurs when you dispatched the request. | The error message returned when an unknown error occurs.               |
| 404              | InvalidInstance.<br>NotFound     | The specified instance does not exist.           | The error message returned when the specified instance does not exist. |

[View error codes](#)

## 20.7 DescribeCommands

Views the cloud assistant commands that you have created. If you only specify the Action and RegionId parameters, the system queries all available commands by default.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name        | Type   | Required | Example                            | Description                                                                                                     |
|-------------|--------|----------|------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| RegionId    | String | Yes      | cn-hangzhou                        | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action      | String | No       | DescribeCommands                   | The operation that you want to perform. Set the value to DescribeCommands.                                      |
| CommandId   | String | No       | c-7d2a745b412b4601b2d47f6a768d3a14 | The ID of the command.                                                                                          |
| Description | String | No       | test                               | The description of the command.                                                                                 |
| Name        | String | No       | Test1                              | The name of the command. Partial command names are not supported.                                               |
| PageNumber  | Long   | No       | 1                                  | The current page number. Starting value: 1. Default value: 1.                                                   |
| PageSize    | Long   | No       | 10                                 | The number of entries per page. Maximum value: 50. Default value: 10                                            |



| Name | Type   | Required | Example        | Description                                                                                                                                                                                                                                                                                                   |
|------|--------|----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type | String | No       | RunShellScript | <p>The type of the command.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>• RunBatScript: Bat script for Windows-based instances</li> <li>• RunPowerShellScript: PowerShell script for Windows-based instances</li> <li>• RunShellScript: Shell script for Linux-based instances</li> </ul> |

### Response parameters

| Name             | Type   | Example                            | Description                                          |
|------------------|--------|------------------------------------|------------------------------------------------------|
| Commands         |        |                                    | An array of CommandSetType data.                     |
| └ CommandContent | String | Y2QgL3Jvb3Q=                       | The content of the command, which is Base64-encoded. |
| └ CommandId      | String | c-7d2a745b412b4601b2d47f6a768d3a14 | The ID of the command.                               |
| └ Description    | String | test                               | The description of the command.                      |
| └ Name           | String | Test1                              | The name of the command.                             |
| └ Timeout        | Long   | 3600                               | The timeout period.                                  |
| └ Type           | String | RunShellScript                     | The type of the command.                             |
| └ WorkingDir     | String | /home/                             | The directory path for command invocation.           |
| PageNumber       | Long   | 1                                  | The page number of the command list.                 |
| PageSize         | Long   | 10                                 | The number of entries per page.                      |

| Name       | Type   | Example                              | Description                   |
|------------|--------|--------------------------------------|-------------------------------|
| RequestId  | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.        |
| TotalCount | Long   | 5                                    | The total number of commands. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeCommands
&RegionId=cn-hangzhou
&CommandId=c-7d2a745b41-2b4601b2d4-7f6a768d3a-14
&Name=Test1
&Description=test
&Type=RunShellScript
&PageNumber=1
&PageSize=10
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeCommandsResponse>
  <TotalCount>5</TotalCount>
  <Commands>
    <Command>
      <Name>Test</Name>
      <WorkingDir></WorkingDir>
      <CommandContent>ZWNobyAxMjM=</CommandContent>
      <Timeout>3600</Timeout>
      <Type>RunShellScript</Type>
      <CommandId>c-7d2a745b41-2b4601b2d4-7f6a768d3a-14</CommandId>
      <Description>test</Description>
    </Command>
    <Command>
      <Name>Test1</Name>
      <WorkingDir></WorkingDir>
      <CommandContent>Y2QgL3Jvb3Q=</CommandContent>
      <Timeout>3600</Timeout>
      <Type>RunShellScript</Type>
      <CommandId>c-7d2a745b41-2b4601b2d4-7f6a768d3a-15</CommandId>
      <Description>test1</Description>
    </Command>
    <Command>
      <Name>Test2</Name>
      <WorkingDir></WorkingDir>
      <CommandContent>eXVtIHVwZGF0ZQ==</CommandContent>
      <Timeout>3600</Timeout>
      <Type>RunShellScript</Type>
```

```

        < CommandId > c - 7d2a745b41 2b4601b2d4 7f6a768d3a
16 </ CommandId >
        < Descriptio n > test2 </ Descriptio n >
    </ Command >
    < Command >
        < Name > Test3 </ Name >
        < WorkingDir ></ WorkingDir >
        < CommandCon tent > c2VydmVjZS BuZ2lueCBy ZWxvYWQ
=</ CommandCon tent >
        < Timeout > 3600 </ Timeout >
        < Type > RunShellSc ript </ Type >
        < CommandId > c - 7d2a745b41 2b4601b2d4 7f6a768d3a
17 </ CommandId >
        < Descriptio n > test3 </ Descriptio n >
    </ Command >
    < Command >
        < Name > Test4 </ Name >
        < WorkingDir ></ WorkingDir >
        < CommandCon tent > bHM =</ CommandCon tent >
        < Timeout > 120 </ Timeout >
        < Type > RunShellSc ript </ Type >
        < CommandId > c - 7d2a745b41 2b4601b2d4 7f6a768d3a
18 </ CommandId >
        < Descriptio n > test4 </ Descriptio n >
    </ Command >
    < PageNumber > 1 </ PageNumber >
    < RequestId > E69EF3CC - 94CD - 42E7 - 8926 - F133B86387 C0 </
RequestId >
    < PageSize > 10 </ PageSize >
</ DescribeCo mmandsResp onse >

```

## JSON format

```

{
  " PageNumber ": 1 ,
  " TotalCount ": 5 ,
  " PageSize ": 10 ,
  " RequestId ":" E69EF3CC - 94CD - 42E7 - 8926 - F133B86387 C0 ",
  " Commands ":{
    " Command ":[
      {
        " Name ":" Test ",
        " Descriptio n ":" test ",
        " Timeout ": 3600 ,
        " CommandCon tent ": " ZWNobyAxMj M =",
        " Type ":" RunShellSc ript ",
        " CommandId ":" c - 7d2a745b41 2b4601b2d4 7f6a768d3a 14 ",
        " WorkingDir ":""
      },
      {
        " Name ":" Test1 ",
        " Descriptio n ":" test1 ",
        " Timeout ": 3600 ,
        " CommandCon tent ":" Y2QgL3Jvb3 Q =",
        " Type ":" RunShellSc ript ",
        " CommandId ":" c - 7d2a745b41 2b4601b2d4 7f6a768d3a 15 ",
        " WorkingDir ":""
      },
      {
        " Name ":" Test2 ",
        " Descriptio n ":" test2 ",
        " Timeout ": 3600 ,
        " CommandCon tent ":" eXVtIHVwZG F0ZQ ==",

```

```

    " Type ":" RunShellScript ",
    " CommandId ":" c - 7d2a745b41 2b4601b2d4 7f6a768d3a 16 ",
    " WorkingDir ":" "
  },
  {
    " Name ":" Test3 ",
    " Description ":" test3 ",
    " Timeout ": 3600 ,
    " CommandContent ":" c2VydmJjZS BuZ2lueCBy ZWxvYWQ =",
    " Type ":" RunShellScript ",
    " CommandId ":" c - 7d2a745b41 2b4601b2d4 7f6a768d3a 17 ",
    " WorkingDir ":" "
  },
  {
    " Name ":" Test4 ",
    " Description ":" test4 ",
    " Timeout ": 3600 ,
    " CommandContent ":" bHM =",
    " Type ":" RunShellScript ",
    " CommandId ":" c - 7d2a745b41 2b4601b2d4 7f6a768d3a 18 ",
    " WorkingDir ":" "
  }
]
}
}
}

```

## Error codes

| HTTP status code | Error code                     | Error message                                      | Description                                                          |
|------------------|--------------------------------|----------------------------------------------------|----------------------------------------------------------------------|
| 500              | InternalServerError.Dispatch   | An error occurred when you dispatched the request. | The error message returned when an unknown error occurs.             |
| 403              | InvalidParam.PageNumber        | The specified parameter is invalid.                | The error message returned when the specified parameter is invalid.  |
| 403              | InvalidParam.PageSize          | The specified parameter is invalid.                | The error message returned when the specified parameter is invalid.  |
| 403              | InvalidRegionId.CloudAssistant | Current region is not available.                   | The error message returned when the specified region is unavailable. |

[View error codes](#)

## 20.8 DescribeInvocations

Views the invocation list and status of cloud assistant commands.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name        | Type   | Required | Example                            | Description                                                                                                                      |
|-------------|--------|----------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| RegionId    | String | Yes      | cn-hangzhou                        | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                  |
| Action      | String | No       | DescribeInvocations                | The operation that you want to perform. Set the value to DescribeInvocations.                                                    |
| CommandId   | String | No       | c-4d34302d02424c5c8e10281e3a315a05 | The ID of the command. You can call <a href="#">DescribeCommands</a> to view all available command IDs.                          |
| CommandName | String | No       | Test1                              | The name of the command.                                                                                                         |
| CommandType | String | No       | RunShellScript                     | The type of the command.                                                                                                         |
| InstanceId  | String | No       | i-uf614fhehhzxx                    | The ID of the instance. When you specify this parameter, the system queries all the invocations of the commands in the instance. |

| Name     | Type   | Required | Example                                    | Description                       |
|----------|--------|----------|--------------------------------------------|-----------------------------------|
| InvokeId | String | No       | t-7d2a745b41<br>2b4601b2d4<br>7f6a768d3b53 | The invocation ID of the command. |

| Name         | Type   | Required | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|--------|----------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InvokeStatus | String | No       | Finished | <p>The overall invocation status of the command. The overall invocation status depends on the invocation status of command processes on all target instances. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>Running:</b> The command process is running. <ul style="list-style-type: none"> <li>- <b>Periodic invocation:</b> Before you manually stop a command on periodic invocation, the command process is always in the Running state.</li> <li>- <b>One-time execution:</b> The overall invocation state is Running, as long as the command process is in the Running state in any target instance.</li> </ul> </li> <li>• <b>Finished:</b> The invocation of the command process is completed. <ul style="list-style-type: none"> <li>- <b>Periodic invocation:</b> The command process can never be in the Finished state.</li> <li>- <b>One-time execution:</b> When invocations of command processes on all the target instances is completed, the overall invocation state is Finished. Or when you manually stop invocations of the command processes on some target instances and command invocations on other target instances are completed, the overall invocation state is Finished.</li> </ul> </li> <li>• <b>Failed:</b> The command</li> </ul> |

| Name       | Type    | Required | Example | Description                                                                   |
|------------|---------|----------|---------|-------------------------------------------------------------------------------|
| PageNumber | Long    | No       | 1       | The current page number.<br>Starting value: 1.<br>Default value: 1.           |
| PageSize   | Long    | No       | 10      | The number of entries per page.<br>. Maximum value: 50.<br>Default value: 10. |
| Timed      | Boolean | No       | true    | Indicates whether the command invocation is periodic. Default value: False.   |

### Response parameters

| Name          | Type   | Example                                    | Description                                                                                                                          |
|---------------|--------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Invocations   |        |                                            | An array of InvocationSetType data.                                                                                                  |
| └ CommandId   | String | c-4d34302d02<br>424c5c8e10<br>281e3a315a05 | The ID of the command.                                                                                                               |
| └ CommandName | String | Test1                                      | The name of the command.                                                                                                             |
| └ CommandType | String | RunShellScript                             | The type of the command.                                                                                                             |
| └ Frequency   | String | 0 */20 * * * *                             | The invocation cycle of a periodic task. For more information about the value specifications, see <a href="#">Cron expressions</a> . |
| └ InvokeId    | String | t-7d2a745b41<br>2b4601b2d4<br>7f6a768d3b53 | The invocation ID of the command.                                                                                                    |



| Name                         | Type   | Example         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------|--------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>↳InvokeInstances</b>      |        |                 | An array of InvokeInstanceSetType data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>↳InstanceId</b>           | String | i-uf614fhehhzxx | The ID of the instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>↳InstanceInvokeStatus</b> | String | Finished        | <p>The command process status in the specified instance.</p> <ul style="list-style-type: none"> <li>• <b>Running:</b> The command process is running. <ul style="list-style-type: none"> <li>- <b>Periodic invocation:</b> Before you manually stop a command on periodic invocation, the command process is always in the Running state.</li> <li>- <b>One-time execution:</b> The command process state in the specified instance is Running.</li> </ul> </li> <li>• <b>Finished:</b> The invocation of the command process is completed. <ul style="list-style-type: none"> <li>- <b>Periodic invocation:</b> The command process can never be in the Finished state.</li> <li>- <b>One-time execution:</b> The command process state in the specified instance is Finished.</li> </ul> </li> <li>• <b>Failed:</b> The command invocation failed, timed out, or encountered other exceptions. <ul style="list-style-type: none"> <li>- <b>Periodic invocation:</b> The command process can never be in the Failed state.</li> <li>- <b>One-time execution:</b> The command process state in the specified instance is Failed.</li> </ul> </li> <li>• <b>Stopped:</b> The command process is manually stopped.</li> </ul> |

| Name                      | Type   | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>InvokeStatus</code> | String | Finished | <p>The overall invocation status of the specified commands. The overall invocation status depends on the invocation status of command processes on all target instances.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>Running: The command process is running. <ul style="list-style-type: none"> <li>Periodic invocation: Before you manually stop a command on periodic invocation, the command process is always in the Running state.</li> <li>One-time execution: The overall invocation state is Running, as long as the command process is in the Running state in any target instance.</li> </ul> </li> <li>Finished: The invocation of the command process is completed. <ul style="list-style-type: none"> <li>Periodic invocation: The command process can never be in the Finished state.</li> <li>One-time execution: When invocations of command processes on all the target instances are completed, the overall invocation state is Finished. Or when you manually stop invocations of command processes on some target instances and the invocations on other target instances is completed, the overall invocation state is Finished.</li> </ul> </li> <li>Failed: The command invocation failed, timed out, or encountered other exceptions.</li> </ul> |

| Name              | Type    | Example                              | Description                                           |
|-------------------|---------|--------------------------------------|-------------------------------------------------------|
| <b>Timed</b>      | Boolean | false                                | Indicates whether the command invocation is periodic. |
| <b>PageNumber</b> | Long    | 1                                    | The page number of the query result.                  |
| <b>PageSize</b>   | Long    | 10                                   | The number of entries per page.                       |
| <b>RequestId</b>  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                |
| <b>TotalCount</b> | Long    | 2                                    | The total number of commands.                         |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInvocations
&RegionId=cn-hangzhou
&InvokeId=t-7d2a745b412b4601b2d47f6a768d3b53
&CommandId=c-4d34302d02424c5c8e10281e3a315a05
&CommandName=Test1
&CommandType=RunShellScript
&Timed=true
&InvokeStatus=Finished
&InstanceId=i-uf614fhehhzxx
&PageNumber=1
&PageSize=10
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeInvocationsResponse>
  <TotalCount>2</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <Invocations>
    <Invocation>
      <InvokeStatus>Running</InvokeStatus>
      <InvokeId>t-7d2a745b412b4601b2d47f6a768d3b53</InvokeId>
      <CommandName>Test1</CommandName>
      <CommandType>RunShellScript</CommandType>
      <Frequency>0*/20* * * * </Frequency>
      <InvocationInstances>
        <InvocationInstance>
          <InstanceId>i-uf614fhehhzmx</InstanceId>
```

```

        < InstanceIn  vokeStatus > Finished </ InstanceIn
vokeStatus >
        </ InvokeInst  ance >
        < InvokeInst  ance >
        < InstanceId > i - uf614fhehh  zmy </ InstanceId >
        < InstanceIn  vokeStatus > Running </ InstanceIn  vokeStatus
>
        </ InvokeInst  ance >
    </ InvokeInst  ances >
    < Timed > True </ Timed >
    < CommandId > c - 7d2a745b41  2b4601b2d4  7f6a768d3a  14 </
CommandId >
    </ Invocation >
    < Invocation >
        < InvokeStat  us > Finished </ InvokeStat  us >
        < InvokeId > t - 7d2a745b41  2b4601b2d4  7f6a768d3b  55 </
InvokeId >
        < CommandNam  e > Test3 </ CommandNam  e >
        < CommandTyp  e > RunShellSc  ript </ CommandTyp  e >
        < Frequency />
        < InvokeInst  ances >
        < InvokeInst  ance >
            < InstanceId > i - uf614fhehh  zmx </ InstanceId >
            < InstanceIn  vokeStatus > Finished </ InstanceIn
vokeStatus >
        </ InvokeInst  ance >
        < InvokeInst  ance >
            < InstanceId > i - uf64isakb7  13x </ InstanceId >
            < InstanceIn  vokeStatus > Finished </ InstanceIn
vokeStatus >
        </ InvokeInst  ance >
    </ InvokeInst  ances >
    < Timed > False </ Timed >
    < CommandId > c - 7d2a745b41  2b4601b2d4  7f6a768d3a  16 </
CommandId >
    </ Invocation >
</ Invocation  s >
< RequestId > E69EF3CC - 94CD - 42E7 - 8926 - F133B86387  C0 </
RequestId >
</ DescribeIn  vocationsR  esponse >

```

### JSON format

```

{
  " PageNumber ": 1 ,
  " Invocation  s ": {
    " Invocation ": [
      {
        " CommandTyp  e ": " RunShellSc  ript ",
        " CommandNam  e ": " Test1 ",
        " InvokeStat  us ": " Running ",
        " InvokeId ": " t - 7d2a745b41  2b4601b2d4  7f6a768d3b  53 ",
        " CommandId ": " c - 7d2a745b41  2b4601b2d4  7f6a768d3a  14 ",
        " Timed ": true ,
        " InvokeInst  ances ": {
          " InvokeInst  ance ": [
            {
              " InstanceIn  vokeStatus ": " Finished ",
              " InstanceId ": " i - uf614fhehh  zmx "
            },
            {
              " InstanceIn  vokeStatus ": " Running ",
              " InstanceId ": " i - uf64isakb7  13x "
            }
          ]
        }
      }
    ]
  }
}

```

```

    }
  ],
  },
  "Frequency ":" 0 */ 20 * * * *",
},
{
  " CommandType e ":" RunShellSc ript ",
  " CommandNam e ":" Test3 ",
  " InvokeStat us ":" Finished ",
  " InvokeId ":"> t - 7d2a745b41 2b4601b2d4 7f6a768d3b 55 ",
  " CommandId ":" c - 7d2a745b41 2b4601b2d4 7f6a768d3a 16 ",
  " Timed ":" false ,
  " InvokeInst ances ":{
    " InvokeInst ance ":[
      {
        " InstanceIn vokeStatus ":" Finished ",
        " InstanceId ":" i - uf614fhehh zmx "
      },
      {
        " InstanceIn vokeStatus ":" Finished ",
        " InstanceId ":" i - uf64isakb7 13x "
      }
    ]
  }
}
}
}
},
" TotalCount ":" 2 ,
" PageSize ":" 10 ,
" RequestId ":" E69EF3CC - 94CD - 42E7 - 8926 - F133B86387 C0 "
}

```

## Error codes

| HTTP status code | Error code                  | Error message                                      | Description                                                         |
|------------------|-----------------------------|----------------------------------------------------|---------------------------------------------------------------------|
| 500              | InternalError.<br>Dispatch  | An error occurred when you dispatched the request. | The error message returned when an unknown error occurs.            |
| 403              | InvalidParam.<br>PageNumber | The specified parameter is invalid.                | The error message returned when the specified parameter is invalid. |
| 403              | InvalidParam.<br>PageSize   | The specified parameter is invalid.                | The error message returned when the specified parameter is invalid. |

| HTTP status code | Error code                         | Error message                    | Description                                                          |
|------------------|------------------------------------|----------------------------------|----------------------------------------------------------------------|
| 403              | InvalidRegionId.<br>CloudAssistant | Current region is not available. | The error message returned when the specified region is unavailable. |

[View error codes](#)

## 20.9 DescribeInvocationResults

Views the command output of a cloud assistant command in the specified ECS instance.

### Description

After you invoke a command, it may not succeed. You can call [DescribeInvocationResults](#) to view the command output of command invocation. The command output shall prevail.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example                   | Description                                                                                                     |
|----------|--------|----------|---------------------------|-----------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou               | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| Action   | String | No       | DescribeInvocationResults | The operation that you want to perform. Set the value to DescribeInvocationResults.                             |

| Name               | Type   | Required | Example                            | Description                                                                                                                                              |
|--------------------|--------|----------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| CommandId          | String | No       | c-4d34302d02424c5c8e10281e3a315a05 | The ID of the command.                                                                                                                                   |
| InstanceId         | String | No       | i-uf614fhehhzmxqdx                 | The ID of the instance.                                                                                                                                  |
| InvokeId           | String | No       | t-7d2a745b412b4601b2d47f6a768d3a14 | The invocation ID of the command. The invocation ID of the command process. You can call <a href="#">DescribeInvocations</a> to view the invocation IDs. |
| InvokeRecordStatus | String | No       | Finished                           | The status of the command invocation.                                                                                                                    |
| PageNumber         | Long   | No       | 1                                  | The current page number.<br>Starting value: 1.<br>Default value: 1.                                                                                      |
| PageSize           | Long   | No       | 5                                  | The number of entries per page.<br>. Maximum value: 50.<br>Default value: 10.                                                                            |

### Response parameters

| Name                 | Type   | Example                            | Description                        |
|----------------------|--------|------------------------------------|------------------------------------|
| Invocation           |        |                                    | The command invocation data.       |
| ↳ Invocation Results |        |                                    | The results of command invocation. |
| ↳ CommandId          | String | c-4d34302d02424c5c8e10281e3a315a05 | The ID of the command.             |

| Name                        | Type   | Example                            | Description                                                                                                                                                                                                                                                      |
|-----------------------------|--------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ↳ <b>ExitCode</b>           | Long   | 0                                  | The exit code of the command process: <ul style="list-style-type: none"> <li>For Linux-based instances, the exit code is the Shell process exit code.</li> <li>For Windows-based instances, the exit code is the Bat or PowerShell process exit code.</li> </ul> |
| ↳ <b>FinishedTime</b>       | String | 2018-01-05 15:45:02                | The time when the command process is completed. If a command process times out, the command completion time is subject to the <b>TimedOut</b> parameter specified in the <a href="#">CreateCommand</a> operation.                                                |
| ↳ <b>InstanceId</b>         | String | i-uf614fhehhzmxdqx                 | The ID of the instance.                                                                                                                                                                                                                                          |
| ↳ <b>InvokeId</b>           | String | t-7d2a745b412b4601b2d47f6a768d3a14 | The invocation ID of the command. The invocation ID of the command process. You can call <a href="#">DescribeInvocations</a> to view the invocation IDs.                                                                                                         |
| ↳ <b>InvokeRecordStatus</b> | String | Finished                           | The status of the command invocation.                                                                                                                                                                                                                            |
| ↳ <b>Output</b>             | String | MTU6MzA6MDEK                       | The output of the command invocation, which is Base64-encoded.                                                                                                                                                                                                   |
| ↳ <b>PageNumber</b>         | Long   | 1                                  | The current page number. Starting value: 1.<br><br>Default value: 1.                                                                                                                                                                                             |



| Name                    | Type   | Example                              | Description                                                                 |
|-------------------------|--------|--------------------------------------|-----------------------------------------------------------------------------|
| <sup>L</sup> PageSize   | Long   | 5                                    | The number of entries per page.<br>Maximum value: 20.<br>Default value: 10. |
| <sup>L</sup> TotalCount | Long   | 5                                    | The total number of commands.                                               |
| RequestId               | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                      |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeInvocationResults
&RegionId=cn-hangzhou
&InvokeId=t-7d2a745b412b4601b2d47f6a768d3a14
&InstanceId=i-uf614fhehhzmxdqx
&CommandId=c-4d34302d02424c5c8e10281e3a315a05
&InvokeRecordStatus=Finished
&PageNumber=1
&PageSize=5
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeInvocationResultsResponse>
  <TotalCount>5</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>5</PageSize>
  <InvocationResults>
    <InvocationResult>
      <FinishedTime>2018-01-05 15:45:02</FinishedTime>
      <InstanceId>i-uf614fhehhzmxdqw</InstanceId>
      <Output>MTU6NDU6MD EK</Output>
    <InvokeRecordStatus>Finished<InvokeRecordStatus>
      <ExitCode>0</ExitCode>
    </InvocationResult>
    <InvocationResult>
      <FinishedTime>2018-01-05 15:40:02</FinishedTime>
      <InstanceId>i-uf614fhehhzmxdqw</InstanceId>
      <Output></Output>
    <InvokeRecordStatus>Finished<InvokeRecordStatus>
      <ExitCode>0</ExitCode>
    </InvocationResult>
    <InvocationResult>
      <FinishedTime>2018-01-05 15:30:02</FinishedTime>
```

```

        < InstanceId > i - uf614fhehh  zmxdqw </ InstanceId >
        < Output > MTU6MzA6MD  EK </ Output >
        < ExitCode > 0 </ ExitCode >
    </ Invocation Result >
    < Invocation Result >
        < FinishedTi me > 2018 - 01 - 05    15 : 20 : 02 </
FinishedTi me >
        < InstanceId > i - uf614fhehh  zmxdqw </ InstanceId >
        < Output > </ Output >
        < ExitCode > 0 </ ExitCode >
    </ Invocation Result >
    < Invocation Result >
        < FinishedTi me > 2018 - 01 - 05    15 : 15 : 02 </
FinishedTi me >
        < InstanceId > i - uf614fhehh  zmxdqw </ InstanceId >
        < Output > MTU6MTU6MD  EK </ Output >
        < ExitCode > 0 </ ExitCode >
    </ Invocation Result >
    </ Invocation Results >
< RequestId >" E69EF3CC - 94CD - 42E7 - 8926 - F133B86387  C0 </
RequestId >
</ DescribeIn vocationRe sultsRespo nse >

```

### JSON format

```

{
  "RequestId ":" E69EF3CC - 94CD - 42E7 - 8926 - F133B86387  C0 ",
  "Invocation ":{
    "PageNumber ": 1 ,
    "TotalCount ": 5 ,
    "Invocation Results ":{
      "Invocation Result ":[
        {
          "InvokeReco rdStatus ":" Finished ",
          "FinishedTi me ":" 2018 - 01 - 05    15 : 45 : 02 ",
          "ExitCode ": 0 ,
          "InstanceId ":" i - uf614fhehh  zmxdqw ",
          "Output ":" MTU6NDU6MD  EK "
        },
        {
          "InvokeReco rdStatus ":" Finished ",
          "FinishedTi me ":" 2018 - 01 - 05    15 : 40 : 02 ",
          "ExitCode ": 0 ,
          "InstanceId ":" i - uf614fhehh  zmxdqw ",
          "Output ":""
        },
        {
          "FinishedTi me ":" 2018 - 01 - 05    15 : 30 : 02 ",
          "ExitCode ": 0 ,
          "InstanceId ":" i - uf614fhehh  zmxdqw ",
          "Output ":" MTU6MzA6MD  EK "
        },
        {
          "FinishedTi me ":" 2018 - 01 - 05    15 : 20 : 02 ",
          "ExitCode ": 0 ,
          "InstanceId ":" i - uf614fhehh  zmd3zj4k74 ",
          "Output ":""
        },
        {
          "InvokeReco rdStatus ":" Finished ",
          "FinishedTi me ":" 2018 - 01 - 05    15 : 15 : 02 ",
          "ExitCode ": 0 ,
          "InstanceId ":" i - uf614fhehh  zmd3zj4k74 ",

```

```
    " Output ":" MTU6MTU6MD  EK "
  }
]
},
" PageSize ": 5
}
}
```

### Error codes

| HTTP status code | Error code                         | Error message                                      | Description                                                          |
|------------------|------------------------------------|----------------------------------------------------|----------------------------------------------------------------------|
| 500              | InternalError.<br>Dispatch         | An error occurred when you dispatched the request. | The error message returned when an unknown error occurs.             |
| 403              | InvalidParam.<br>PageNumber        | The specified parameter is invalid.                | The error message returned when the specified parameter is invalid.  |
| 403              | InvalidParam.<br>PageSize          | The specified parameter is invalid.                | The error message returned when the specified parameter is invalid.  |
| 403              | InvalidRegionId.<br>CloudAssistant | Current region is not available.                   | The error message returned when the specified region is unavailable. |

[View error codes](#)

# 21 Tags

---

## 21.1 TagResources

Creates and attaches tags to a list of specified ECS resources.

### Limits

Each Alibaba Cloud account has a quota of tags that can be used. If the quota is exceeded, an error message is returned. For more information, see [Limits](#).

### Debug

Go to [API Explorer](#) for online debugging. By using API Explorer, you can easily debug APIs, automatically generate SDK code examples, and quickly search for APIs.

### Request parameters

| Parameter         | Type       | Required? | Example value              | Description                                                                                                                                             |
|-------------------|------------|-----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String     | No        | TagResources               | The name of this action. Value: TagResources.                                                                                                           |
| RegionId          | String     | Yes       | cn-hangzhou                | The ID of the region to which the ECS resource belongs.<br>For more information, call <a href="#">DescribeRegions</a> to obtain the latest region list. |
| ResourceId<br>. N | RepeatList | Yes       | i-bp1j6qtvdm<br>8w0z1o0XXX | The ID of the ECS resource.<br>Value range of N: 1 to 50.                                                                                               |

| Parameter    | Type   | Required? | Example value                         | Description                                                                                                                                                                                                                                                           |
|--------------|--------|-----------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ResourceType | String | Yes       | ECS_INSTANCE("ALIYUN::ECS::INSTANCE") | The type of the ECS resource.<br>Optional values: <ul style="list-style-type: none"> <li>instance</li> <li>disk</li> <li>snapshot</li> <li>image</li> <li>securitygroup</li> <li>volume</li> <li>eni</li> <li>ddh</li> <li>keypair</li> <li>launchtemplate</li> </ul> |
| OwnerAccount | String | No        | ECSforCloud@Alibaba.com               | The logon account of the RAM user.                                                                                                                                                                                                                                    |
| Tag.N.Key    | String | No        | FinanceDept                           | The value of a tag. Value range of N: 1 to 20. The parameter cannot be a null string. The parameter must be 1 to 64 characters in length, and cannot start with aliyun, acs:, http://, or https://.                                                                   |
| Tag.N.Value  | String | No        | FinanceJoshua                         | The value of a tag. Value range of N: 1 to 20. The parameter can be a null string. The parameter must be 1 to 128 characters in length, and cannot start with aliyun, acs:, http://, or https://.                                                                     |

## Response parameters

| Parameter | Type   | Example value                        | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The request ID. |

## Examples

## Request example

```
https://ecs.aliyuncs.com/?Action=TagResources
&RegionId=cn-hangzhou
&ResourceId.1=i-bp1j6qtvdm8w0z1o0XXX
&ResourceType=instance
&Tag.1.Key=FinanceDept
&<CommonRequestParameters>
```

## Response example

## XML format

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

## JSON format

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

## Errors

| HTTP status code | Error codes                  | Error message                                  | Description                                 |
|------------------|------------------------------|------------------------------------------------|---------------------------------------------|
| 404              | MissingParameter.TagOwnerId  | The parameter - TagOwnerId should not be null  | The specified tag owner UID does not exist. |
| 404              | MissingParameter.TagOwnerBid | The parameter - TagOwnerBid should not be null | The specified tag owner BID does not exist. |
| 404              | MissingParameter.Tags        | The parameter - Tags should not be null        | The Tags parameter does not exist.          |

| HTTP status code | Error codes                    | Error message                                                        | Description                                                                                       |
|------------------|--------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 404              | MissingParameter.RegionId      | The parameter - RegionId should not be null                          | The specified region ID does not exist.                                                           |
| 403              | Permission Denied. TagOwnerUid | The specified operator not have permission to set TagOwnerUid value. | You do not have permission to set the tag owner.                                                  |
| 403              | Permission Denied.Scope        | The specified operator not have permission to set Scope value.       | You do not have permission to modify the scope value.                                             |
| 400              | NumberExceed.ResourceIds       | The ResourceIds parameter's number is exceed , Valid : 50            | The number of resource IDs cannot exceed 50.                                                      |
| 400              | NumberExceed.Tags              | The Tags parameter's number is exceed , Valid : 20                   | The number of tags cannot exceed 20.                                                              |
| 400              | Duplicate.TagKey               | The Tag.N.Key contain duplicate key.                                 | The tag key contains duplicate keys.                                                              |
| 404              | InvalidResourceId.NotFound     | The specified ResourceIds are not found in our records.              | The specified resource does not exist.                                                            |
| 404              | InvalidResourceType.NotFound   | The ResourceType provided does not exist in our records.             | The specified resource type does not exist.                                                       |
| 400              | InvalidTagValue.Malformed      | The specified Tag.n.Value is not valid.                              | The specified tag value is invalid.                                                               |
| 404              | InvalidRegionId.NotFound       | The specified RegionId does not exist.                               | The specified region ID does not exist. Please check if this product is available in this region. |
| 400              | Invalid.Scope                  | The specified scope is invalid.                                      | The specified scope is invalid.                                                                   |
| 403              | NoPermission.Tag               | The operator is not permission for the tag.                          | You do not have permission to use this resource tag.                                              |

For a list of error codes, visit the [API Error Center](#).

## 21.2 ListTagResources

Queries a list of tags that are attached to one or more ECS resources.

### Description

- To determine the search object, a request should include the parameter `ResourceId . N` or `Tag . N` (that is, `Tag . N . Key` and `Tag . N . Value`).
- `Tag . N` is a resource tag and consists of a key-value pair. When only `Tag . N . Key` is specified, all tag values associated with the tag key are returned. When only `Tag . N . Value` is specified, the error `InvalidParameter.TagValue` is reported.
- If you specify `Tag . N` and `Resource . N` simultaneously, `ResourceId . N` must match all the tag key-value inputs.
- If you specify multiple tag key-value pairs at the same time, the returned results are the resources that contain the specified multiple key-value pairs.

### Debug

By using API Explorer, you can easily debug APIs, automatically generate SDK code examples, and quickly search for APIs.

### Request parameters

| Parameter | Type   | Required<br>? | Example value | Description                                                                                                                                             |
|-----------|--------|---------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes           | cn-hangzhou   | The ID of the region to which the ECS resource belongs.<br>For more information, call <a href="#">DescribeRegions</a> to obtain the latest region list. |



| Parameter      | Type       | Required? | Example value                    | Description                                                                                                                                                                                                                                                           |
|----------------|------------|-----------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ResourceType   | String     | Yes       | instance                         | The type of the ECS resource.<br>Valid values:<br><ul style="list-style-type: none"> <li>instance</li> <li>disk</li> <li>snapshot</li> <li>image</li> <li>securitygroup</li> <li>volume</li> <li>eni</li> <li>ddh</li> <li>keypair</li> <li>launchtemplate</li> </ul> |
| Action         | String     | No        | ListTagResources                 | The name of this action. Value: ListTagResources.                                                                                                                                                                                                                     |
| NextToken      | String     | No        | caeba0bbb2be03f84eb48b699f0a4883 | The token for the next query.                                                                                                                                                                                                                                         |
| ResourceId . N | RepeatList | No        | i-instanceid1                    | The ID of the ECS resource.<br>Value range of N: 1 to 50.                                                                                                                                                                                                             |
| Tag . N . Key  | String     | No        | FinanceDept                      | The value of a tag. Value range of N: 1 to 20. The parameter cannot be a null string. The parameter must be 1 to 64 characters in length. It can neither start with aliyun or acs :, nor contain http:// or https://.                                                 |

| Parameter   | Type   | Required? | Example value | Description                                                                                                                                                                                                          |
|-------------|--------|-----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tag.N.Value | String | No        | FinanceJoshua | The value of a tag. Value range of N: 1 to 20. The parameter can be a null string. The parameter must be 1 to 128 characters in length. It can neither start with aliyun or acs :, nor contain http://, or https://. |

### Response parameters

| Parameter     | Type   | Example value                        | Description                                                                                                           |
|---------------|--------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| NextToken     | String | caeba0bbb2be03f84eb48b699f0a4883     | The token for the next query.                                                                                         |
| RequestId     | String | DE65F6B7-7566-4802-9007-96F2494AC5XX | The request ID.                                                                                                       |
| TagResources  |        |                                      | A collection of resources and their tags that contain information such as resource IDs, resource types, and tag keys. |
| └ResourceId   | String | i-bp1j6qtvdm8w0z1o0XXX               | The resource ID.                                                                                                      |
| └ResourceType | String | instance                             | The resource type.                                                                                                    |
| └TagKey       | String | FinanceDept                          | The tag key.                                                                                                          |
| └TagValue     | String | FinanceJoshua                        | The tag value.                                                                                                        |

### Examples

#### Request example

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

```
& RegionId = cn - hangzhou
& ResourceTy pe = instance
& ResourceId . 1 = i - bp1j6qtvdm 8w0z1o0XXX
&< Common Request Parameters >
```

## Response example

### XML format

```
< ListTagRes ourcesResp onse >
  < TagResourc es >
    < TagResourc e >
      < ResourceTy pe > instance </ ResourceTy pe >
      < TagValue > FinanceJos hua </ TagValue >
      < ResourceId > i - bp1j6qtvdm 8w0z1o0XXX </ ResourceId >
      < TagKey > FinanceDep t </ TagKey >
    </ TagResourc e >
  </ TagResourc es >
  < RequestId > DE65F6B7 - 7566 - 4802 - 9007 - 96F2494AC5 XX </
RequestId >
</ ListTagRes ourcesResp onse >
```

### JSON format

```
{
  " TagResourc es ":{
    " TagResourc e ":[
      {
        " ResourceTy pe ":" instance ",
        " TagValue ":" FinanceJos hua ",
        " ResourceId ":" i - bp1j6qtvdm 8w0z1o0XXX ",
        " TagKey ":" FinanceDep t "
      }
    ]
  },
  "RequestId ":" DE65F6B7 - 7566 - 4802 - 9007 - 96F2494AC5 12 "
}
```

## Errors

| HTTP status code | Error codes                       | Error message                                   | Description                         |
|------------------|-----------------------------------|-------------------------------------------------|-------------------------------------|
| 404              | MissingParameter.<br>TagOwnerId   | The parameter - TagOwnerId should not be null   | The tag owner UID is not specified. |
| 404              | MissingParameter.<br>TagOwnerBid  | The parameter - TagOwnerBid should not be null  | The tag owner BID is not specified. |
| 404              | MissingParameter.<br>ResourceType | The parameter - ResourceType should not be null | The resource type is not specified. |

| HTTP status code | Error codes                    | Error message                                                       | Description                                           |
|------------------|--------------------------------|---------------------------------------------------------------------|-------------------------------------------------------|
| 404              | MissingParameter.Tags          | The parameter - Tags should not be null                             | The tag is not specified.                             |
| 404              | MissingParameter.RegionId      | The parameter - RegionId should not be null                         | The region ID is not specified.                       |
| 403              | PermissionDenied.TagOwnerId    | The specified operator not have permission to set TagOwnerId value. | You do not have permission to set the tag owner.      |
| 403              | PermissionDenied.Scope         | The specified operator not have permission to set Scope value.      | You do not have permission to modify the scope value. |
| 400              | NumberExceed.ResourceIds       | The ResourceIds parameter's number is exceed , Valid : 50           | The number of resource IDs cannot exceed 50.          |
| 400              | NumberExceed.Tags              | The Tags parameter's number is exceed , Valid : 20                  | The number of tags cannot exceed 20.                  |
| 400              | Duplicate.TagKey               | The Tag.N.Key contain duplicate key.                                | Duplicate tag keys exist.                             |
| 404              | InvalidResourceId.NotFound     | The specified ResourceIds are not found in our records.             | The specified resource does not exist.                |
| 404              | InvalidResourceType.NotFound   | The ResourceType provided does not exist in our records.            | The specified resource type does not exist.           |
| 400              | InvalidTagKey.Malformed        | The specified Tag.n.Key is not valid.                               | The specified tag key is invalid.                     |
| 400              | InvalidTagValue.Malformed      | The specified Tag.n.Value is not valid.                             | The specified tag value is invalid.                   |
| 400              | OperationDenied.QuotaExceed    | The quota of tags on resource is beyond permitted range.            | The quota of resource tags is reached.                |
| 403              | InvalidResourceId.NotSupported | The specified ResourceId does not support tagging.                  | Tags are not supported by the specified resource ID.  |

| HTTP status code | Error codes              | Error message                                          | Description                                                                                       |
|------------------|--------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 400              | InvalidTag.Mismatch      | The specified Tag.n.Key and Tag.n.Value are not match. | The specified Tag.n.Key and Tag.n.Value do not match.                                             |
| 400              | InvalidTagCount          | The specified tags are beyond the permitted range.     | The specified number of tags exceeds the quota.                                                   |
| 404              | InvalidRegionId.NotFound | The specified RegionId does not exist.                 | The specified region ID does not exist. Please check if this product is available in this region. |
| 400              | Invalid.Scope            | The specified scope is invalid.                        | The specified scope is invalid.                                                                   |
| 403              | NoPermission.Tag         | The operator is not permission for the tag.            | You do not have permission to use this resource tag.                                              |

For a list of error codes, visit the [API Error Center](#).

## 21.3 UntagResources

Detaches and deletes tags from a list of specified ECS resources.

### Debug

By using API Explorer, you can easily debug APIs, automatically generate SDK code examples, and quickly search for APIs.

### Request parameters

| Parameter | Type   | Required ? | Example value | Description                                                                                                                                             |
|-----------|--------|------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes        | cn-hangzhou   | The ID of the region to which the ECS resource belongs.<br>For more information, call <a href="#">DescribeRegions</a> to obtain the latest region list. |

| Parameter      | Type       | Required? | Example value          | Description                                                                                                                                                                                                                                                        |
|----------------|------------|-----------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ResourceId . N | RepeatList | Yes       | i-bp1j6qtvdm8w0z1o0XXX | The ID of the ECS resource.<br>Value range of N: 1 to 50.                                                                                                                                                                                                          |
| ResourceType   | String     | Yes       | instance               | The type of the ECS resource.<br>Valid values: <ul style="list-style-type: none"> <li>instance</li> <li>disk</li> <li>snapshot</li> <li>image</li> <li>securitygroup</li> <li>volume</li> <li>eni</li> <li>ddh</li> <li>keypair</li> <li>launchtemplate</li> </ul> |
| Action         | String     | No        | UntagResources         | The name of this action. Value: UntagResources                                                                                                                                                                                                                     |
| All            | Boolean    | No        | false                  | Specifies whether to delete all the tags from the specified resources. This parameter is valid when TagKey.N is not specified in a request. Default value: false.                                                                                                  |
| TagKey . N     | RepeatList | No        | FinanceDept            | The value of a tag. Value range of N: 1 to 20. The parameter can be a null string, and must be 1 to 128 characters in length. It can neither start with aliyun or acs:, nor contain http:// or https://.                                                           |

## Response parameters

| Parameter | Type   | Example value                        | Description     |
|-----------|--------|--------------------------------------|-----------------|
| RequestId | String | C46FF5A8-C5F0-4024-8262-B16B639225A0 | The request ID. |

## Examples

### Request example

```
https://ecs.aliyuncs.com/?Action=UntagResources
&RegionId=cn-hangzhou
&ResourceType=instance
&ResourceId.1=i-bp1j6qtvdm8w0z1o0XXX
&TagKey.1=FinanceDept
&<CommonRequestParameters>
```

### Response example

#### XML format

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

#### JSON format

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

## Errors

| HTTP status code | Error codes                  | Error message                                  | Description                         |
|------------------|------------------------------|------------------------------------------------|-------------------------------------|
| 404              | MissingParameter.TagOwnerId  | The parameter - TagOwnerId should not be null  | The tag owner UID is not specified. |
| 404              | MissingParameter.TagOwnerBid | The parameter - TagOwnerBid should not be null | The tag owner BID is not specified. |

| HTTP status code | Error codes                   | Error message                                                       | Description                                           |
|------------------|-------------------------------|---------------------------------------------------------------------|-------------------------------------------------------|
| 404              | MissingParameter.ResourceType | The parameter - ResourceType should not be null                     | The resource type is not specified.                   |
| 404              | MissingParameter.Tags         | The parameter - Tags should not be null                             | The Tags parameter is not specified.                  |
| 404              | MissingParameter.RegionId     | The parameter - RegionId should not be null                         | The region ID is not specified.                       |
| 403              | PermissionDenied.TagOwnerId   | The specified operator not have permission to set TagOwnerId value. | You do not have permission to set the tag owner.      |
| 403              | PermissionDenied.Scope        | The specified operator not have permission to set Scope value.      | You do not have permission to modify the scope value. |
| 400              | NumberExceed.ResourceIds      | The ResourceIds parameter's number is exceed , Valid : 50           | The number of resource IDs cannot exceed 50.          |
| 400              | NumberExceed.Tags             | The Tags parameter's number is exceed , Valid : 20                  | The number of tags cannot exceed 20.                  |
| 400              | Duplicate.TagKey              | The Tag.N.Key contain duplicate key.                                | Duplicate tag keys exist.                             |
| 404              | InvalidResourceId.NotFound    | The specified ResourceIds are not found in our records.             | The specified resource does not exist.                |
| 404              | InvalidResourceType.NotFound  | The ResourceType provided does not exist in our records.            | The specified resource type does not exist.           |
| 400              | InvalidTagKey.Malformed       | The specified Tag.n.Key is not valid.                               | The specified tag key is invalid.                     |
| 400              | InvalidTagValue.Malformed     | The specified Tag.n.Value is not valid.                             | The specified tag value is invalid.                   |
| 400              | OperationDenied.QuotaExceed   | The quota of tags on resource is beyond permitted range.            | The quota of resource tags is reached.                |



| HTTP status code | Error codes                        | Error message                                          | Description                                                                                       |
|------------------|------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 403              | InvalidResourceId.<br>NotSupported | The specified ResourceId does not support tagging.     | The specified resource ID does not support tags.                                                  |
| 400              | InvalidTag.<br>Mismatch            | The specified Tag.n.Key and Tag.n.Value are not match. | The specified Tag.n.Key and Tag.n.Value do not match.                                             |
| 400              | InvalidTagCount                    | The specified tags are beyond the permitted range.     | The specified number of tags exceeds the quota.                                                   |
| 404              | InvalidRegionId.<br>NotFound       | The specified RegionId does not exist.                 | The specified region ID does not exist. Please check if this product is available in this region. |
| 400              | Invalid.Scope                      | The specified scope is invalid.                        | The specified scope is invalid.                                                                   |
| 403              | NoPermission.<br>Tag               | The operator is not permission for the tag.            | You do not have permission to use this resource tag.                                              |

For a list of error codes, visit the [API Error Center](#).

## 22 Regions

---

### 22.1 DescribeRegions

Views the Alibaba Cloud regions that you can use.

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

#### Request parameters

| Name           | Type   | Required | Example         | Description                                                                                                                                                                                                             |
|----------------|--------|----------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AcceptLanguage | String | No       | zh-CN           | The set of supported natural languages. For more information, see <a href="#">RFC 7231</a> .<br>Valid values: <ul style="list-style-type: none"><li>· zh-CN</li><li>· en-US</li><li>· ja</li></ul> Default value: null. |
| Action         | String | No       | DescribeRegions | The operation that you want to perform. Set the value to DescribeRegions.                                                                                                                                               |

| Name               | Type   | Required | Example  | Description                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|--------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InstanceChargeType | String | No       | PrePaid  | The billing method for the instance. For more information, see <a href="#">Pricing overview</a> . Valid values: <ul style="list-style-type: none"> <li>PrePaid: Subscription. You must ensure the balance of your account or credit balance can cover the cost of the subscription. Otherwise, the InvalidPayMethod error code will be returned.</li> <li>PostPaid: Pay-As-You-Go. This is the default value.</li> </ul> |
| ResourceType       | String | No       | Instance | The type of the resource.                                                                                                                                                                                                                                                                                                                                                                                                |

## Response parameters

| Name             | Type   | Example                              | Description                                  |
|------------------|--------|--------------------------------------|----------------------------------------------|
| Regions          |        |                                      | A array that consists of region information. |
| └ LocalName      | String | China (Qingdao)                      | The name of the region.                      |
| └ RegionEndpoint | String | ecs.aliyuncs.com                     | The endpoint of the region.                  |
| └ RegionId       | String | cn-shanghai-et2-bo1                  | The ID of the region.                        |
| └ Status         | String | available                            |                                              |
| RequestId        | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                       |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeRegions
&InstanceChargeType=PrePaid
&ResourceType=Instance
&AcceptLanguage=null
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeRegionsResponse>
  <RequestId>38EC7366-F5A9-46B1-BDB1-0FDC2E296397</RequestId>
  <Regions>
    <Region>
      <RegionId>cn-shanghai-et2-b01</RegionId>
      <RegionEndpoint>ecs.aliyuncs.com</RegionEndpoint>
      <LocalName>China (Qingdao)</LocalName>
    </Region>
    <Region>
      <RegionId>cn-qingdao-nebula</RegionId>
      <RegionEndpoint>ecs.cn-qingdao-nebula.aliyuncs.com</RegionEndpoint>
      <LocalName>cn-qingdao-nebula</LocalName>
    </Region>
  </Regions>
</DescribeRegionsResponse>
```

#### JSON format

```
{
  "RequestId": "38EC7366-F5A9-46B1-BDB1-0FDC2E296397",
  "Regions": {
    "Region": [
      {
        "RegionId": "cn-shanghai-et2-b01",
        "RegionEndpoint": "ecs.aliyuncs.com",
        "LocalName": "China (Qingdao)"
      },
      {
        "RegionId": "cn-qingdao-nebula",
        "RegionEndpoint": "ecs.cn-qingdao-nebula.aliyuncs.com",
        "LocalName": "cn-qingdao-nebula"
      }
    ]
  }
}
```

## Error codes

| HTTP status code | Error code                      | Error message                                                         | Description                                                              |
|------------------|---------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------|
| 404              | InvalidAccountLanguage.NotFound | Only Chinese (zh-CN), English (en-US), and Japanese (ja) are allowed. | The error message returned when the specified language is not supported. |

[View error codes](#)

## 22.2 DescribeZones

You can call this operation to query zones in a specified region.

## Description

Calling this operation only returns a list of zones and some resource inventory information related to each zone. If you want to query instance types and disk categories that are available for purchase in a zone, we recommend that you call the [DescribeAvailableResource](#) operation.

## Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter | Type   | Required | Example     | Description                                                                                                                                |
|-----------|--------|----------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes      | cn-hangzhou | The ID of the region for which to query zones. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list. |

| Parameter          | Type   | Required | Example       | Description                                                                                                                                                                                                                                                 |
|--------------------|--------|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AcceptLanguage     | String | No       | zh-CN         | The set of supported natural languages. For more information, see <a href="#">RFC 7231</a> .<br>Valid values: <ul style="list-style-type: none"><li>· zh-CN</li><li>· en-US</li><li>· ja</li></ul> Default value: zh-CN                                     |
| Action             | String | No       | DescribeZones | The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set the value to DescribeZones.                                                                                                 |
| InstanceChargeType | String | No       | PostPaid      | The billing method supported in the zone. For more information, see <a href="#">Billing overview</a> . Valid values: <ul style="list-style-type: none"><li>· PrePaid: subscription.</li><li>· PostPaid: pay-as-you-go. This is the default value.</li></ul> |

| Parameter    | Type   | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|--------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotStrategy | String | No       | NoSpot  | <p>The bidding policy for the pay-as-you-go instance. Specify this parameter when the InstanceChargeType parameter is set to PostPaid. For more information, see <a href="#">Preemptible instances</a>. Valid values:</p> <ul style="list-style-type: none"><li>• NoSpot: pay-as-you-go instance. This is the default value.</li><li>• SpotWithPriceLimit: preemptible instance with the maximum price</li><li>• SpotAsPriceGo: price automatically provided by the system with the pay-as-you-go instance price as the maximum value</li></ul> |

## Response parameters

| Parameter                   | Type   | Example                              | Description                                                                  |
|-----------------------------|--------|--------------------------------------|------------------------------------------------------------------------------|
| RequestId                   | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                       |
| Zones                       |        |                                      | An array that consists of ZoneType data.                                     |
| AvailableDedicatedHostTypes |        | Compute type                         | The supported types of DDHs. The data type of this parameter is List.        |
| AvailableDiskCategories     |        | cloud                                | A set of supported disk categories. The data type of this parameter is List. |

| Parameter                 | Type | Example          | Description                                                                                                                                                                                                                                                                                |
|---------------------------|------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AvailableInstanceTypes    |      | c5               | The types of the instances that can be created. The data type of this parameter is List.                                                                                                                                                                                                   |
| AvailableResourceCreation |      | DedicatedHost    | A set of the types of resources that can be created. The data type of this parameter is List.                                                                                                                                                                                              |
| AvailableResources        |      |                  | The resources that can be created. This parameter is an array of AvailableResourcesType data.                                                                                                                                                                                              |
| DataDiskCategories        |      | cloud_ssd        | The categories of data disks. The data type of this parameter is List.<br>Valid values: <ul style="list-style-type: none"> <li>cloud</li> <li>cloud_efficiency: ultra disk</li> <li>cloud_ssd: standard SSD</li> <li>cloud_essd: enhanced SSD</li> <li>ephemeral_ssd: local SSD</li> </ul> |
| InstanceGenerations       |      | I                | The generation number of the instance family. The data type of this parameter is List.                                                                                                                                                                                                     |
| InstanceTypeFamilies      |      | ["d1", "d1ne"]   | A list that consists of InstanceTypeFamilyItemType data.                                                                                                                                                                                                                                   |
| InstanceTypes             |      | ["ecs.g5.large"] | The type of the instance. The data type of this parameter is List.                                                                                                                                                                                                                         |



| Parameter                 | Type    | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IoOptimized               | Boolean | true      | <p>Indicates whether the instance is I/O optimized. Valid values:</p> <ul style="list-style-type: none"> <li>· none</li> <li>· optimized</li> </ul> <p>When the InstanceType parameter is <a href="#">Phased-out instance types</a>, the default value of the IoOptimized parameter is none.</p> <p>For instance types that do not belong to Generation I, the default value is optimized.</p> |
| NetworkTypes              |         | VPC       | <p>The type of the network. The data type of this parameter is List. Valid values:</p> <ul style="list-style-type: none"> <li>· VPC</li> <li>· Classic</li> </ul>                                                                                                                                                                                                                              |
| SystemDiskCategories      |         | cloud_ssd | <p>The category of the system disk. The data type of this parameter is List. Valid values:</p> <ul style="list-style-type: none"> <li>· cloud</li> <li>· cloud_efficiency: ultra disk</li> <li>· cloud_ssd: standard SSD</li> <li>· cloud_essd: enhanced SSD</li> <li>· ephemeral_ssd: local SSD</li> </ul>                                                                                    |
| AvailableVolumeCategories |         | san_ssd   | <p>The category of available shared storage. The data type of this parameter is List.</p>                                                                                                                                                                                                                                                                                                      |
| DedicatedHostGenerations  |         | I         | <p>The generation number of DDHs. The data type of this parameter is List.</p>                                                                                                                                                                                                                                                                                                                 |

| Parameter | Type   | Example         | Description                                 |
|-----------|--------|-----------------|---------------------------------------------|
| LocalName | String | Hangzhou Zone G | The name of the zone in the local language. |
| ZoneId    | String | cn-hangzhou-b   | The ID of the zone.                         |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeZones
&RegionId=cn-hangzhou
&InstanceChargeType=PostPaid
&SpotStrategy=NoSpot
&<Common request parameters>
```

### Sample success responses

#### XML format

```
<DescribeZonesResponse>
  <Zones>
    <Zone>
      <AvailableResourceCreation>
        <ResourceTypes>Instance</ResourceTypes>
        <ResourceTypes>Disk</ResourceTypes>
      </AvailableResourceCreation>
      <LocalName/>
      <ZoneId>cn-hangzhou-d</ZoneId>
      <AvailableDiskCategories>
        <DiskCategories>cloud</DiskCategories>
      </AvailableDiskCategories>
    </Zone>
    <Zone>
      <AvailableResourceCreation>
        <ResourceTypes>Instance</ResourceTypes>
        <ResourceTypes>Disk</ResourceTypes>
      </AvailableResourceCreation>
      <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": [
```

```

{
  "AvailableResourceCreation":{
    "ResourceTypes":[
      "Instance ",
      "Disk "
    ]
  },
  "ZoneId ":" cn - hangzhou - d ",
  "LocalName ":"",
  "AvailableDiskCategories":{
    "DiskCategories":[
      "cloud "
    ]
  }
},
{
  "AvailableResourceCreation":{
    "ResourceTypes":[
      "Instance ",
      "Disk "
    ]
  },
  "ZoneId ":" cn - hangzhou - b ",
  "LocalName ":"",
  "AvailableDiskCategories":{
    "DiskCategories":[
      "cloud "
    ]
  }
}
]
}
}

```

### Error codes

| HTTP status code | Error code                         | Error message                                        | Description                                                                                                               |
|------------------|------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidRegionId.NotFound           | The specified RegionId does not exist.               | The error message returned because the specified Region ID does not exist. Check whether ECS is available in that region. |
| 404              | InvalidInstanceChargeType.NotFound | The InstanceChargeType does not exist in our records | The error message returned because the specified instance type does not exist.                                            |

| HTTP status code | Error code                      | Error message                                                         | Description                                                                         |
|------------------|---------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 400              | InvalidSpotStrategy             | The specified SpotStrategy is not valid.                              | The error message returned because the specified SpotStrategy parameter is invalid. |
| 404              | InvalidAccountLanguage.NotFound | Only Chinese (zh-CN), English (en-US), and Japanese (ja) are allowed. | The error message returned because the specified language is not supported.         |

For more information about error codes, visit [API Error Center](#).

## 22.3 DescribeResourcesModification

Views the resources available in a zone before reconfiguring the instance specifications or the system disk capacity.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name                | Type   | Required | Example      | Description                                                                                                                         |
|---------------------|--------|----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------|
| DestinationResource | String | Yes      | InstanceType | The type of the target resource.<br>. Valid values: <ul style="list-style-type: none"><li>InstanceType</li><li>SystemDisk</li></ul> |
| RegionId            | String | Yes      | cn-hangzhou  | The ID of the target region.<br>You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.           |

| Name         | Type    | Required | Example                       | Description                                                                                                                                                                                                                                                                              |
|--------------|---------|----------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ResourceId   | String  | Yes      | i-instanceid                  | The ID of the resource. When the retrieved resources are instances, this parameter can be interpreted as InstanceId.                                                                                                                                                                     |
| Action       | String  | No       | DescribeResourcesModification | The operation that you want to perform. Set the value to DescribeResourcesModification.                                                                                                                                                                                                  |
| Cores        | Integer | No       | 2                             | The number of vCPU cores of the instance type. For more information, see <a href="#">Instance type families</a> . The Cores parameter is valid only when the DestinationResource parameter is set to InstanceType.                                                                       |
| InstanceType | String  | No       | ecs.g5.large                  | The type of the instance. For more information, see <a href="#">Instance type families</a> , or call <a href="#">DescribeInstanceTypes</a> to query the latest instance types. When the DestinationResource parameter is set to SystemDisk, you must specify the InstanceType parameter. |

| Name   | Type  | Required | Example | Description                                                                                                                                                                                                           |
|--------|-------|----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Memory | Float | No       | 8.0     | The memory size of the instance type. Unit: GiB. For more information, see <a href="#">Instance type families</a> . The Memory parameter is valid only when the DestinationResource parameter is set to InstanceType. |

| Name              | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|---------|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MigrateAcrossZone | Boolean | No       | true    | <p>Indicates whether instance specifications can be upgraded across clusters. Valid values:</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> <p>Default value: False.</p> <p>When the MigrateAcrossZone parameter is set to True, and you upgrade the ECS instance based on the returned information, you must make sure that:</p> <ul style="list-style-type: none"> <li>• Instances of classic network: <ul style="list-style-type: none"> <li>- For <a href="#">phased-out instance types</a>, when a non-I/O optimized instance is upgraded to an I/O optimized instance, the instance information, including the private IP address, software authorization code, and the device name of the disk, will be changed. For Linux-based instances, device names of basic disks (cloud) will be changed to the form of xvda or xvdb, while device names of ultra disks (cloud_efficiency) and SSDs (cloud_ssd) are changed to the form of vda or vdb.</li> <li>- For <a href="#">available instance types</a>, the private IP address of the instance will be changed.</li> </ul> </li> <li>• VPC-type instances: For <a href="#">phased-out instance types</a>, when a non-I/O optimized instance is upgraded to an</li> </ul> |

| Name          | Type   | Required | Example | Description                                                                                                                                                                                                                                           |
|---------------|--------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OperationType | String | No       | Upgrade | <p>The operation types for the Subscription-based instance.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>· Upgrade</li> <li>· Downgrade</li> <li>· RenewDowngrade</li> <li>· RenewModify</li> </ul> <p>Default value: Upgrade.</p> |

### Response parameters

| Name                | Type    | Example   | Description                                                                                                                       |
|---------------------|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------|
| AvailableZones      |         |           | An array of zone types.                                                                                                           |
| └AvailableResources |         |           | An array of available resource types.                                                                                             |
| └SupportedResources |         |           | A collection of supported resource types.                                                                                         |
| └Max                | Integer | 2         | The maximum value of the resource type. No value is returned when this parameter is null.                                         |
| └Min                | Integer | 1         | The minimum value of a resource type. No value is returned when the parameter is null.                                            |
| └Status             | String  | Available | <p>The status of the resource. Valid values:</p> <ul style="list-style-type: none"> <li>· Available</li> <li>· SoldOut</li> </ul> |



| Name                         | Type   | Example          | Description                                                                                                                                                                                                                    |
|------------------------------|--------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└StatusCategory</code> | String | WithStock        | The resource category based on the stock. Valid values: <ul style="list-style-type: none"> <li>WithStock: sufficient stock</li> <li>ClosedWithStock: insufficient stock</li> <li>WithoutStock: running out of stock</li> </ul> |
| <code>└Unit</code>           | String | null             | The unit of the resource type. No value is returned when the parameter is null.                                                                                                                                                |
| <code>└Value</code>          | String | ecs.sn1ne.xlarge | The value of the resource.                                                                                                                                                                                                     |
| <code>└Type</code>           | String | InstanceType     | The type of the resource. Valid values: <ul style="list-style-type: none"> <li>Zone</li> <li>IoOptimized</li> <li>InstanceType</li> <li>SystemDisk</li> <li>DataDisk</li> <li>Network</li> </ul>                               |
| <code>└RegionId</code>       | String | cn-hangzhou      | The ID of the region.                                                                                                                                                                                                          |
| <code>└Status</code>         | String | Available        | The status of the resource. Valid values: <ul style="list-style-type: none"> <li>Available</li> <li>SoldOut</li> </ul>                                                                                                         |
| <code>└StatusCategory</code> | String | WithStock        | The resource category based on the stock. Valid values: <ul style="list-style-type: none"> <li>WithStock: sufficient stock</li> <li>ClosedWithStock: insufficient stock</li> <li>WithoutStock: running out of stock</li> </ul> |

| Name                   | Type   | Example                              | Description            |
|------------------------|--------|--------------------------------------|------------------------|
| <code>ZoneId</code>    | String | cn-hangzhou-e                        | The ID of the zone.    |
| <code>RequestId</code> | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeResourcesModifications
&DestinationResource=InstanceType
&RegionId=cn-hangzhou
&ResourceId=i-instanceid
&MigrateAcrossZone=true
&OperationType=Upgrade
&InstanceType=["ecs.g5.large"]
&Cores=2
&Memory=8.0
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeResourcesModificationsResponse>
  <RequestId>994F2B60-B050-49E3-9283-44655FAC7A4X</RequestId>
  <AvailableZones>
    <AvailableZone>
      <Status>Available</Status>
      <RegionId>cn-hangzhou-dg-a01</RegionId>
      <AvailableResources>
        <AvailableResource>
          <Type>InstanceType</Type>
          <SupportedResources>
            <SupportedResource>
              <Status>Available</Status>
              <Value>ecs.g5.xlarge</Value>
            </SupportedResource>
            <SupportedResource>
              <Status>Available</Status>
              <Value>ecs.t5-lc1m2.large</Value>
            </SupportedResource>
            <SupportedResource>
              <Status>Available</Status>
              <Value>ecs.t5-c1m4.2xlarge</Value>
            </SupportedResource>
            <SupportedResource>
              <Status>Available</Status>
              <Value>ecs.c5.xlarge</Value>
            </SupportedResource>
            <SupportedResource>
              <Status>Available</Status>
              <Value>ecs.hfg5.large</Value>
            </SupportedResource>
          </SupportedResources>
        </AvailableResource>
      </AvailableResources>
    </AvailableZone>
  </AvailableZones>
</DescribeResourcesModificationsResponse>
```

```

</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfc5 . 3xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfg5 . 4xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfg5 . 6xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . c5 . 4xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - c1m2 . xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - c1m1 . 2xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . ic5 . xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - lc1m4 . large </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfg5 . 3xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - c1m2 . 4xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . ic5 . 3xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . g5 . 6xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . ic5 . large </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . ic5 . 2xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfc5 . large </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . r5 . large </ Value >

```

```

</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . g5 . large </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfg5 . xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . r5 . 4xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
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</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfc5 . 4xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
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  < Value > ecs . t5 - lc1m2 . small </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - c1m1 . large </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . g5 . 2xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . r5 . 6xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - c1m2 . 2xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
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</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - c1m1 . xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfc5 . 6xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . t5 - c1m4 . xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfg5 . 2xlarge </ Value >
</ SupportedR esource >
< SupportedR esource >
  < Status > Available </ Status >
  < Value > ecs . hfc5 . 2xlarge </ Value >

```

```

    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . c5 . large </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . c5 . 6xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . t5 - c1m4 . large </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . r5 . 2xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . r5 . xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
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    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . ic5 . 4xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . t5 - lc1m1 . small </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . c5 . 2xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . t5 - c1m1 . 4xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . t5 - lc2m1 . nano </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . g5 . 4xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . r5 . 3xlarge </ Value >
    </ SupportedR esource >
    < SupportedR esource >
      < Status > Available </ Status >
      < Value > ecs . t5 - c1m2 . large </ Value >
    </ SupportedR esource >
  </ SupportedR esources >
</ AvailableR esource >
</ AvailableR esources >
< ZoneId > cn - hangzhou - h </ ZoneId >
</ AvailableZ one >
</ AvailableZ ones >

```

```
</ DescribeRe sourcesMod ificationR esponse >
```

### JSON format

```
{
  "RequestId ":" 994F2B60 - B050 - 49E3 - 9283 - 44655FAC7A 4X ",
  "AvailableZ ones ":{
    "AvailableZ one ":[
      {
        "Status ":" Available ",
        "RegionId ":" cn - hangzhou - dg - a01 ",
        "AvailableR esources ":{
          "AvailableR esource ":[
            {
              "Type ":" InstanceTy pe ",
              "SupportedR esources ":{
                "SupportedR esource ":[
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . g5 . xlarge "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . t5 - lc1m2 . large "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . t5 - c1m4 . 2xlarge "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . c5 . xlarge "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . hfg5 . large "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . hfc5 . 3xlarge "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . hfg5 . 4xlarge "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . hfg5 . 6xlarge "
                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . c5 . 4xlarge "
                  },
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                  },
                  {
                    "Status ":" Available ",
                    "Value ":" ecs . t5 - c1m1 . 2xlarge "
                  },
                  {
                    "Status ":" Available ",
```

```

    " Value ":" ecs . ic5 . xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - lc1m4 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfg5 . 3xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - c1m2 . 4xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . ic5 . 3xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . g5 . 6xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . ic5 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . ic5 . 2xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfc5 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . r5 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . g5 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfg5 . xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . r5 . 4xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfc5 . xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfc5 . 4xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - lc1m2 . small "
  },
  {
    " Status ":" Available ",

```

```

    " Value ":" ecs . t5 - c1m1 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . g5 . 2xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . r5 . 6xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - c1m2 . 2xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . g5 . 3xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - c1m1 . xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfc5 . 6xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - c1m4 . xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfg5 . 2xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . hfc5 . 2xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . c5 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . c5 . 6xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - c1m4 . large "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . r5 . 2xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . r5 . xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . c5 . 3xlarge "
  },
  {
    " Status ":" Available ",

```



```

    " Value ":" ecs . ic5 . 4xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - lc1m1 . small "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . c5 . 2xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - c1m1 . 4xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - lc2m1 . nano "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . g5 . 4xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . r5 . 3xlarge "
  },
  {
    " Status ":" Available ",
    " Value ":" ecs . t5 - c1m2 . large "
  }
]
}
}
}
},
" ZoneId ":" cn - hangzhou - h "
}
]
}
}
}

```

## Error codes

| HTTP status code | Error code            | Error message                             | Description                                                             |
|------------------|-----------------------|-------------------------------------------|-------------------------------------------------------------------------|
| 404              | Invalid.RegionId      | The specified RegionId does not exist.    | The error message returned when the RegionId parameter is invalid.      |
| 400              | Invalid.OperationType | The specified operationType is not valid. | The error message returned when the operationType parameter is invalid. |

| HTTP status code | Error code                  | Error message                                                                                          | Description                                                                                     |
|------------------|-----------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 400              | Invalid.Param               | The input parameter DestinationResource that is mandatory for processing this request is not supplied. | The error message returned when the DestinationResource parameter is invalid.                   |
| 404              | Invalid.ResourceType        | The ResourceType provided does not exist in our records.                                               | The error message returned when the ResourceType parameter is invalid.                          |
| 404              | Invalid.DestinationResource | The specified DestinationResource is not valid.                                                        | The error message returned when the DestinationResource parameter is invalid.                   |
| 404              | Invalid.IoOptimized         | The specified IoOptimized is not valid.                                                                | The error message returned when the IoOptimized parameter is invalid.                           |
| 404              | Invalid.NetworkCategory     | The specified NetworkCategory is not valid.                                                            | The error message returned when the NetworkCategory parameter is invalid.                       |
| 404              | Invalid.SpotStrategy        | The specified SpotStrategy is not valid.                                                               | The error message returned when the SpotStrategy parameter is invalid.                          |
| 400              | Invalid.InstanceChargeType  | The specified InstanceChargeType is not valid.                                                         | The error message returned when the InstanceChargeType parameter is invalid.                    |
| 404              | Invalid.ResourceId          | The specified ResourceId is not valid.                                                                 | The error message returned when the resource does not exist in the region or has been released. |

| HTTP status code | Error code                          | Error message                                                                     | Description                                                                                     |
|------------------|-------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 404              | Invalid.InstancePayType             | The specified InstancePayType is not valid.                                       | The error message returned when the InstancePayType parameter is invalid.                       |
| 403              | InvalidDedicatedHostId.NotFound     | The specified DedicatedHostId does not exist in our records.                      | The error message returned when the resource does not exist in the region or has been released. |
| 404              | InvalidInstanceId.NotFound          | The specified InstanceId provided does not exist in our records.                  | The error message returned when the resource does not exist in the region or has been released. |
| 404              | InvalidResourceId.NotFound          | The specified ResourceId is not found in our records                              | The error message returned when the specified ResourceId does not exist.                        |
| 403              | InvalidParam.TypeAndCpuMem.Conflict | The specified 'InstanceType' and 'Cores','Memory' are not blank at the same time. | The error message returned when the specified ResourceId does not exist.                        |
| 403              | InvalidParam.Cores                  | The specified parameter 'Cores' should be empty                                   | The error message returned when the Cores parameter is invalid.                                 |
| 403              | InvalidParam.Memory                 | The specified parameter 'Memory' should be empty                                  | The error message returned when the resource does not exist in the region or has been released. |

[View error codes](#)

## 22.4 DescribeAvailableResource

You can call this operation to query resources in a zone. For example, you can query resources before creating an ECS instance (RunInstances) or modifying instance specifications (ModifyInstanceSpec) in a zone.

### Description

When you call this operation, note that:

- When the ZoneId parameter is not specified, the system returns the resources that match the other criteria of all zones within the region.
- You can specify the DestinationResource parameter to retrieve different types of resources, and specify other parameters to refine your search. Options for the DestinationResource parameter have dependencies. When you select an option in the following chain, the options to the left of this option are all required.
  - Sequence: (Zone) > IoOptimized > InstanceType > SystemDisk > DataDisk
  - For example:
    - If you set the DestinationResource parameter to SystemDisk, you must specify the IoOptimized and InstanceType parameters.
    - If you set the DestinationResource parameter to InstanceType, you must specify the IoOptimized parameter.
    - If you set the DestinationResource parameter to DataDisk, you must specify the IoOptimized, InstanceType, and SystemDiskCategory parameters.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter           | Type    | Required | Example                   | Description                                                                                                                                                                                                                     |
|---------------------|---------|----------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DestinationResource | String  | Yes      | InstanceType              | <p>The resource types to be queried. Valid values:</p> <ul style="list-style-type: none"> <li>• Zone</li> <li>• IoOptimized</li> <li>• InstanceType</li> <li>• SystemDisk</li> <li>• DataDisk</li> <li>• Network</li> </ul>     |
| RegionId            | String  | Yes      | cn-hangzhou               | <p>The ID of the region for which to query resources. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list.</p>                                                                           |
| Action              | String  | No       | DescribeAvailableResource | <p>The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set the value to <code>DescribeAvailableResource</code>.</p>                                     |
| Cores               | Integer | No       | 2                         | <p>The number of vCPU cores of the instance type. For more information, see <a href="#">Instance type families</a>.</p> <p>The Cores parameter is valid only when the DestinationResource parameter is set to InstanceType.</p> |

| Parameter          | Type   | Required | Example            | Description                                                                                                                                                                                                                                                                                                               |
|--------------------|--------|----------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDiskCategory   | String | No       | cloud_ssd          | The category of the data disk.<br>Valid values: <ul style="list-style-type: none"> <li>cloud</li> <li>cloud_efficiency: ultra disk</li> <li>cloud_ssd: standard SSD</li> <li>ephemeral_ssd: local SSD</li> <li>cloud_essd: enhanced SSD</li> </ul>                                                                        |
| DedicatedHostId    | String | No       | dh-dedicatedhostid | The ID of the DDH.                                                                                                                                                                                                                                                                                                        |
| InstanceChargeType | String | No       | PrePaid            | The billing method of resources. For more information, see <a href="#">Billing overview</a> . Valid values: <ul style="list-style-type: none"> <li>PrePaid: subscription</li> <li>PostPaid: pay-as-you-go</li> </ul> Default value: PostPaid                                                                              |
| InstanceType       | String | No       | ecs.g5.large       | The type of the instance.<br>For more information, see <a href="#">Instance type families</a> or call the <a href="#">DescribeInstanceTypes</a> operation to query the latest instance type list.<br><br>When the DestinationResource parameter is set to SystemDisk or DataDisk, the InstanceType parameter is required. |

| Parameter       | Type   | Required | Example   | Description                                                                                                                                                                                                                                                                                                         |
|-----------------|--------|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IoOptimized     | String | No       | optimized | <p>Specifies whether the instance is I/O optimized. Valid values:</p> <ul style="list-style-type: none"> <li>· none</li> <li>· optimized</li> </ul> <p>When the DestinationResource parameter is set to InstanceType, SystemDisk, or DataDisk, the IoOptimized parameter is required. Default value: optimized.</p> |
| Memory          | Float  | No       | 8.0       | <p>The memory size of the instance type. Unit: GiB. For more information, see <a href="#">Instance type families</a>.</p> <p>The Memory parameter is valid only when the DestinationResource parameter is set to InstanceType.</p>                                                                                  |
| NetworkCategory | String | No       | vpc       | <p>The type of the network. Valid values:</p> <ul style="list-style-type: none"> <li>· vpc</li> <li>· classic</li> </ul>                                                                                                                                                                                            |
| ResourceType    | String | No       | Instance  | <p>The type of the resource. Valid values:</p> <ul style="list-style-type: none"> <li>· instance</li> <li>· disk</li> <li>· reservedinstance</li> <li>· ddh</li> </ul>                                                                                                                                              |

| Parameter          | Type   | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------|--------|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SpotStrategy       | String | No       | NoSpot    | <p>The bidding policy for the pay-as-you-go instance. Valid values :</p> <ul style="list-style-type: none"> <li>• NoSpot: pay-as-you-go instance</li> <li>• SpotWithPriceLimit: preemptible instance with the maximum price</li> <li>• SpotAsPriceGo: price automatically provided by the system with the pay-as-you-go instance price as the maximum value</li> </ul> <p>Default value: NoSpot</p> <p>The SpotStrategy parameter is valid only when the InstanceChargeType parameter is set to PostPaid.</p> |
| SystemDiskCategory | String | No       | cloud_ssd | <p>The category of the system disk . Valid values:</p> <ul style="list-style-type: none"> <li>• cloud</li> <li>• cloud_efficiency: ultra disk</li> <li>• cloud_ssd: standard SSD</li> <li>• ephemeral_ssd: local SSD</li> <li>• cloud_essd: enhanced SSD</li> </ul> <p>When the DestinationResource parameter is set to SystemDisk , InstanceType, or DataDisk , the SystemDiskCategory parameter is optional. Default value: cloud_efficiency.</p>                                                           |



| Parameter | Type   | Required | Example       | Description                                                                                                                                                                                           |
|-----------|--------|----------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZoneId    | String | No       | cn-hangzhou-e | <p>The ID of the zone for which to query resources.</p> <p>When the ZoneId parameter is not specified, the system returns resources that match the other criteria of all zones within the region.</p> |

### Response parameters

| Parameter                       | Type    | Example   | Description                                                                                                                 |
|---------------------------------|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------|
| AvailableZones                  |         |           | An array of zone types.                                                                                                     |
| <sup>⌞</sup> AvailableResources |         |           | An array of available resource types.                                                                                       |
| <sup>⌞</sup> SupportedResources |         |           | An array of supported resource types.                                                                                       |
| <sup>⌞</sup> Max                | Integer | 2         | The maximum number of resources of a specific type that can be created. No value is returned when this parameter is null.   |
| <sup>⌞</sup> Min                | Integer | 1         | The minimum value of resources of a specific type that can be created. No value is returned when the parameter is null.     |
| <sup>⌞</sup> Status             | String  | Available | <p>The type of the resource. Valid values:</p> <ul style="list-style-type: none"> <li>Available</li> <li>SoldOut</li> </ul> |

| Parameter                    | Type   | Example         | Description                                                                                                                                                                                                                    |
|------------------------------|--------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└StatusCategory</code> | String | WithStock       | The resource category based on the stock. Valid values: <ul style="list-style-type: none"> <li>WithStock: sufficient stock</li> <li>ClosedWithStock: insufficient stock</li> <li>WithoutStock: running out of stock</li> </ul> |
| <code>└Unit</code>           | String | null            | The unit of the resource type. No value is returned when the parameter is null.                                                                                                                                                |
| <code>└Value</code>          | String | ecs.d1ne.xlarge | The value of the resource.                                                                                                                                                                                                     |
| <code>└Type</code>           | String | InstanceType    | The type of the resource. Valid values: <ul style="list-style-type: none"> <li>Zone</li> <li>IoOptimized</li> <li>InstanceType</li> <li>SystemDisk</li> <li>DataDisk</li> <li>Network</li> </ul>                               |
| <code>└RegionId</code>       | String | cn-hangzhou     | The ID of the region.                                                                                                                                                                                                          |
| <code>└Status</code>         | String | Available       | The type of the resource. Valid values: <ul style="list-style-type: none"> <li>Available</li> <li>SoldOut</li> </ul>                                                                                                           |
| <code>└StatusCategory</code> | String | WithStock       | The resource category based on the stock. Valid values: <ul style="list-style-type: none"> <li>WithStock: sufficient stock</li> <li>ClosedWithStock: insufficient stock</li> <li>WithoutStock: running out of stock</li> </ul> |

| Parameter              | Type   | Example                              | Description            |
|------------------------|--------|--------------------------------------|------------------------|
| <code>ZoneId</code>    | String | cn-hangzhou-e                        | The ID of the zone.    |
| <code>RequestId</code> | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeAvailableResource
&DestinationResource=InstanceType
&RegionId=cn-hangzhou
&InstanceChargeType=PrePaid
&SpotStrategy=NoSpot
&ZoneId=cn-hangzhou-e
&IoOptimized=optimized
&DedicatedHostId=dh-dedicatedhostid
&InstanceType="ecs.g5.large"
&SystemDiskCategory=cloud_ssd
&DataDiskCategory=cloud_ssd
&NetworkCategory=vpc
&Cores=2
&Memory=8.0
&ResourceType=Instance
&<Common request parameters>
```

### Sample success responses

#### XML format

```
<DescribeAvailableResourceResponse>
  <RequestId>5272B7D8-F366-4781-AF7B-63E735FBC09A</RequestId>
  <AvailableZones>
    <AvailableZone>
      <Status>Available</Status>
      <RegionId>cn-hangzhou</RegionId>
      <ZoneId>cn-hangzhou-h</ZoneId>
    </AvailableZone>
    <AvailableZone>
      <Status>Available</Status>
      <RegionId>cn-hangzhou</RegionId>
      <ZoneId>cn-hangzhou-g</ZoneId>
    </AvailableZone>
    <AvailableZone>
      <Status>Available</Status>
      <RegionId>cn-hangzhou</RegionId>
      <ZoneId>cn-hangzhou-f</ZoneId>
    </AvailableZone>
    <AvailableZone>
      <Status>Available</Status>
      <RegionId>cn-hangzhou</RegionId>
      <ZoneId>cn-hangzhou-b</ZoneId>
    </AvailableZone>
  </AvailableZones>
```

```

    < AvailableZ   one >
      < Status > Available </ Status >
      < RegionId > cn - hangzhou </ RegionId >
      < ZoneId > cn - hangzhou - e </ ZoneId >
    </ AvailableZ   one >
  </ AvailableZ   ones >
</ DescribeAv   ailableRes   ourceRespo   nse >

```

### JSON format

```

{
  "RequestId ":" 5272B7D8 - F366 - 4781 - AF7B - 63E735FBC0   9A ",
  "AvailableZ   ones ":{
    "AvailableZ   one ":[
      {
        "Status ":" Available ",
        "RegionId ":" cn - hangzhou ",
        "ZoneId ":" cn - hangzhou - h "
      },
      {
        "Status ":" Available ",
        "RegionId ":" cn - hangzhou ",
        "ZoneId ":" cn - hangzhou - g "
      },
      {
        "Status ":" Available ",
        "RegionId ":" cn - hangzhou ",
        "ZoneId ":" cn - hangzhou - f "
      },
      {
        "Status ":" Available ",
        "RegionId ":" cn - hangzhou ",
        "ZoneId ":" cn - hangzhou - b "
      },
      {
        "Status ":" Available ",
        "RegionId ":" cn - hangzhou ",
        "ZoneId ":" cn - hangzhou - e "
      }
    ]
  }
}

```

### Error codes

| HTTP status code | Error code       | Error message                          | Description                                                                     |
|------------------|------------------|----------------------------------------|---------------------------------------------------------------------------------|
| 404              | Invalid.RegionId | The specified RegionId does not exist. | The error message returned because the specified RegionId parameter is invalid. |

| HTTP status code | Error code                  | Error message                                                                                          | Description                                                                                |
|------------------|-----------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 404              | Unavailable.Regions         | The available regions does not exists                                                                  | The error message returned because the specified RegionId parameter is invalid.            |
| 400              | Invalid.InstanceChargeType  | The specified InstanceChargeType is not valid.                                                         | The error message returned because the specified InstanceChargeType parameter is invalid.  |
| 400              | Invalid.Param               | The input parameter DestinationResource that is mandatory for processing this request is not supplied. | The error message returned because the specified DestinationResource parameter is invalid. |
| 404              | Invalid.ResourceType        | The ResourceType provided does not exist in our records.                                               | The error message returned because the specified ResourceType parameter is invalid.        |
| 404              | Invalid.DestinationResource | The specified DestinationResource is not valid.                                                        | The error message returned because the specified DestinationResource parameter is invalid. |
| 404              | Invalid.IoOptimized         | The specified IoOptimized is not valid.                                                                | The error message returned because the specified IoOptimized parameter is invalid.         |
| 404              | Invalid.NetworkCategory     | The specified NetworkCategory is not valid.                                                            | The error message returned because the specified NetworkCategory parameter is invalid.     |
| 404              | Invalid.SpotStrategy        | The specified SpotStrategy is not valid.                                                               | The error message returned because the specified SpotStrategy parameter is invalid.        |

| HTTP status code | Error code                          | Error message                                                                     | Description                                                                                                            |
|------------------|-------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 403              | InvalidDedicatedHostId.NotFound     | The specified DedicatedHostId does not exist.                                     | The error message returned because the specified DDH ID does not exist.                                                |
| 404              | Invalid.NetworkType                 | The specified NetworkType is not valid.                                           | The error message returned because the specified NetworkType parameter is invalid.                                     |
| 404              | InvalidResourceId.NotFound          | The specified ResourceId is not found in our records                              | The error message returned because the specified ResourceId parameter is invalid.                                      |
| 403              | InvalidParam.TypeAndCpuMem.Conflict | The specified 'InstanceType' and 'Cores','Memory' are not blank at the same time. | The error message returned because the specified InstanceType , Cores, and Memory parameters conflict with each other. |
| 403              | InvalidParam.Cores                  | The specified parameter 'Cores' should be empty                                   | The error message returned because the specified Cores parameter is invalid.                                           |
| 403              | InvalidParam.Memory                 | The specified parameter 'Memory' should be empty                                  | The error message returned because the specified Memory parameter is invalid.                                          |
| 400              | InvalidRegionId.MalFormed           | The specified parameter RegionId is not valid.                                    | The error message returned because the specified RegionId parameter is invalid.                                        |

[View error codes](#)

## 23 Others

---

### 23.1 CancelTask

Cancels a running task. You can cancel the running ImportImage and ExportImage tasks.

#### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

#### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                     |
|----------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |
| TaskId   | String | Yes      | t-23ym6mvro | The ID of the task. You can call <a href="#">DescribeTasks</a> to view the list of task IDs.                    |
| Action   | String | No       | CancelTask  | The operation that you want to perform. Set the value to CancelTask.                                            |

#### Response parameters

| Name      | Type   | Example                              | Description            |
|-----------|--------|--------------------------------------|------------------------|
| RequestId | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request. |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=CancelTask
&RegionId=cn-hangzhou
&TaskId=t-23ym6mvro
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<CancelTaskResponse>
  <RequestId>4BE2C7FE-C7A4-4675-A153-174E032AABFB</RequestId>
</CancelTaskResponse>
```

#### JSON format

```
{
  "RequestId": "4BE2C7FE-C7A4-4675-A153-174E032AABFB"
}
```

### Error codes

| HTTP status code | Error code               | Error message                                                                               | Description                                                                                                                    |
|------------------|--------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter         | An input parameter "RegionId" that is mandatory for processing the request is not supplied. | The error message returned when the RegionId parameter is not specified.                                                       |
| 400              | MissingParameter         | An input parameter "TaskId" that is mandatory for processing the request is not supplied.   | The error message returned when the TaskId parameter is null.                                                                  |
| 400              | InvalidRegionId.NotFound | The specified RegionId does not exist.                                                      | The error message returned when the specified Region ID does not exist. Check whether the service is available in this region. |



| HTTP status code | Error code             | Error message                                                   | Description                                                                                           |
|------------------|------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 400              | InvalidTaskId.NotFound | The specified "TaskId" is not found.                            | The error message returned when the specified task ID does not exist.                                 |
| 403              | CancelTaskFailed       | The task is failed to cancel, Please contact the administrator. | The error message returned when the system failed to cancel the task. Contact a system administrator. |

[View error codes](#)

## 23.2 DescribeTasks

You can call this operation to query the progress of one or more asynchronous requests.

### Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Parameter | Type   | Required | Example     | Description                                                                                                                                                   |
|-----------|--------|----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes      | cn-hangzhou | The ID of the region for which to query the progress of requests. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list. |

| Parameter  | Type    | Required | Example              | Description                                                                                                                                                                       |
|------------|---------|----------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action     | String  | No       | DescribeTasks        | The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set the value to DescribeTasks.                       |
| EndTime    | String  | No       | 2015-11-23T15:16:00Z | The end of the time range where the data is queried. Specify the time in the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC.       |
| PageNumber | Integer | No       | 1                    | The number of the page to return. Pages start from page 1. Default value: 1.                                                                                                      |
| PageSize   | Integer | No       | 2                    | The number of entries to return on each page. Valid values: 1 to 100. Default value: 10.                                                                                          |
| StartTime  | String  | No       | 2015-11-23T15:10:00Z | The beginning of the time range where the data is queried. Specify the time in the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC. |
| TaskAction | String  | No       | ImportImage          | The operation name of the task. Valid values: <ul style="list-style-type: none"> <li>ImportImage</li> <li>ExportImage</li> <li>RedeployInstance</li> </ul>                        |

| Parameter  | Type   | Required | Example                                          | Description                                                                                                                                                                                                                                                                                                                                             |
|------------|--------|----------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TaskIds    | String | No       | ["t-bp10e8or*****74o8x"; "t-bp10e8or*****74o8y"] | The task IDs. You can specify up to 100 task IDs at a time. Separate multiple tasks IDs with commas (,).                                                                                                                                                                                                                                                |
| TaskStatus | String | No       | Finished                                         | <p>The status of the task. Valid values:</p> <ul style="list-style-type: none"> <li>• Finished</li> <li>• Processing</li> <li>• Waiting</li> <li>• Deleted</li> <li>• Paused</li> <li>• Failed</li> </ul> <p>Default value: null. The system only retrieves tasks in the Finished, Processing, and Failed states. The request ignores other values.</p> |

### Response parameters

| Parameter  | Type    | Example                              | Description                                 |
|------------|---------|--------------------------------------|---------------------------------------------|
| PageNumber | Integer | 1                                    | The number of the page returned.            |
| PageSize   | Integer | 2                                    | The number of entries returned on the page. |
| RegionId   | String  | cn-hangzhou                          | The region ID.                              |
| RequestId  | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                      |
| TaskSet    |         |                                      | A set of tasks.                             |

| Parameter                  | Type    | Example              | Description                                 |
|----------------------------|---------|----------------------|---------------------------------------------|
| <code>CreationTime</code>  | String  | 2015-11-24T12:50Z    | The time when the task was created.         |
| <code>FinishedTime</code>  | String  | 2015-11-24T12:50Z    | The time when the task was finished.        |
| <code>SupportCancel</code> | String  | true                 | Indicates whether the task can be canceled. |
| <code>TaskAction</code>    | String  | IMPORT_IMAGE         | The name of the task.                       |
| <code>TaskId</code>        | String  | t-bp10e8or*****74o8X | The ID of the task.                         |
| <code>TaskStatus</code>    | String  | Finished             | The status of the task.                     |
| <code>TotalCount</code>    | Integer | 2                    | The total number of tasks.                  |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeTasks
&RegionId=cn-hangzhou
&PageNumber=1
&PageSize=2
&TaskIds=t-bp10e8or*****74o8X
&TaskAction=ImportImage
&TaskStatus=Finished
&StartTime=2015-11-23T15:10:00Z
&EndTime=2015-11-23T15:16:00Z
&<Common request parameters>
```

### Sample success responses

#### XML format

```
<DescribeTasksResponse>
  <PageNumber>1</PageNumber>
  <TotalCount>2</TotalCount>
  <PageSize>2</PageSize>
  <RegionId>cn-hangzhou</RegionId>
  <RequestId>E5C82807-5588-4661-9A96-350B206A7623</RequestId>
  <TaskSet>
    <Task>
      <CreationTime>2015-11-24T12:50Z</CreationTime>
      <FinishedTime>2015-11-24T12:50Z</FinishedTime>
      <SupportCancel>true</SupportCancel>
```

```

    < TaskAction > IMPORT_IMA GE </ TaskAction >
    < TaskStatus > Finished </ TaskStatus >
    < TaskId > t - bp10e8or ***** 74o8X </ TaskId >
  </ Task >
  < Task >
    < CreationTi me > 2015 - 11 - 23T15 : 10Z </ CreationTi me >
    < FinishedTi me > 2015 - 11 - 23T15 : 16Z </ FinishedTi me >
    < SupportCan cel > true </ SupportCan cel >
    < TaskAction > IMPORT_IMA GE </ TaskAction >
    < TaskStatus > Finished </ TaskStatus >
    < TaskId > t - 23sgu0dyj </ TaskId >
  </ Task >
</ TaskSet >
</ DescribeTa sksRespons e >

```

### JSON format

```

{
  " PageNumber ": 1 ,
  " TotalCount ": 2 ,
  " TaskSet ":[
    {
      " Task ":[
        {
          " CreationTi me ":" 2015 - 11 - 24T12 : 50Z ",
          " FinishedTi me ":" 2015 - 11 - 24T12 : 50Z ",
          " SupportCan cel ": true ,
          " TaskAction ":" ImportImag e ",
          " TaskStatus ":" Finished ",
          " TaskId ":" t - bp10e8or ***** 74o8X "
        },
        {
          " CreationTi me ":" 2015 - 11 - 23T15 : 10Z ",
          " FinishedTi me ":" 2015 - 11 - 23T15 : 16Z ",
          " SupportCan cel ": true ,
          " TaskAction ":" ImportImag e ",
          " TaskStatus ":" Finished ",
          " TaskId ":" t - 23sgu0dyj "
        }
      ]
    }
  ],
  " PageSize ": 2 ,
  " RequestId ":" F746C690 - D9EA - 4F87 - AF31 - 8E1910FAB5 41 ",
  " RegionId ":" cn - hangzhou "
}

```

## Error codes

| HTTP status code | Error code               | Error message                                                                               | Description                                                                                                               |
|------------------|--------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 400              | MissingParameter         | An input parameter "RegionId" that is mandatory for processing the request is not supplied. | The error message returned because the RegionId parameter is not specified.                                               |
| 400              | InvalidRegionId.NotFound | The specified RegionId does not exist.                                                      | The error message returned because the specified Region ID does not exist. Check whether ECS is available in that region. |

[View error codes](#)

## 23.3 DescribeTaskAttribute

Views the details about asynchronous tasks. You can query the ImportImage and ExportImage tasks.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

### Request parameters

| Name     | Type   | Required | Example     | Description                                                                                                     |
|----------|--------|----------|-------------|-----------------------------------------------------------------------------------------------------------------|
| RegionId | String | Yes      | cn-hangzhou | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud. |

| Name   | Type   | Required | Example               | Description                                                                     |
|--------|--------|----------|-----------------------|---------------------------------------------------------------------------------|
| TaskId | String | Yes      | t-taskid              | The ID of the task. You can call DescribeTasks to obtain the list of task IDs.  |
| Action | String | No       | DescribeTaskAttribute | The operation that you want to perform. Set the value to DescribeTaskAttribute. |

### Response parameters

| Name                 | Type    | Example                                      | Description                                                               |
|----------------------|---------|----------------------------------------------|---------------------------------------------------------------------------|
| CreationTime         | String  | 2015-11-23T02:13Z                            | The creation time of the task.                                            |
| FailedCount          | Integer | 0                                            | The number of failed tasks.                                               |
| FinishedTime         | String  | 2015-11-23T02:19Z                            | The completion time of the task.                                          |
| OperationProgressSet |         |                                              | The returned task-related information such as the status of each subtask. |
| ↳ ErrorCode          | String  | ParameterInvalid                             | The error code.                                                           |
| ↳ ErrorMessage       | String  | The specified RegionId parameter is invalid. | Error message                                                             |
| ↳ OperationStatus    | String  | Success                                      | The status of the operation.                                              |
| ↳ RelatedItemSet     |         |                                              | The type of the resource information.                                     |
| ↳ Name               | String  | OSSObject                                    | The name of the related item.                                             |
| ↳ Value              | String  | MYOSSPRE_m-23f8tcp8y_t-23ym6mvro.vhd         | The value of the related item.                                            |

| Name          | Type    | Example                              | Description                                                                                                                         |
|---------------|---------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| RegionId      | String  | cn-hangzhou                          | The ID of the region.                                                                                                               |
| RequestId     | String  | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E | The ID of the request.                                                                                                              |
| SuccessCount  | Integer | 1                                    | The number of tasks that were completed.                                                                                            |
| SupportCancel | String  | true                                 | Indicates whether the task can be canceled. Valid values: <ul style="list-style-type: none"> <li>· True</li> <li>· False</li> </ul> |
| TaskAction    | String  | ExportImage                          | The operation name of the task.                                                                                                     |
| TaskId        | String  | t-taskid                             | The ID of the task.                                                                                                                 |
| TaskProcess   | String  | 100%                                 | The progress of the task.                                                                                                           |
| TaskStatus    | String  | Finished                             | The status of the task.                                                                                                             |
| TotalCount    | Integer | 1                                    | The total number of tasks.                                                                                                          |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeTaskAttribute
&RegionId=cn-hangzhou
&TaskId=t-taskid
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribeTaskAttributeResponse>
  <CreationTime>2015-11-23T02:13Z</CreationTime>
  <OperationProgressSet>
    <OperationProgress>
      <RelatedItemSet>
        <RelatedItem>
          <Name>OSSBucket</Name>
          <Value>image-temp</Value>
        </RelatedItem>
      </RelatedItemSet>
    </OperationProgress>
  </OperationProgressSet>
</DescribeTaskAttributeResponse>
```



```

        < RelatedItem m >
        < Name > OSSObject </ Name >
        < Value > MYOSSPRE_m - 23f8tcp8y_ t - 23ym6mvro . vhd </
Value >
        </ RelatedItem m >
        < RelatedItem m >
        < Name > ImageForma t </ Name >
        < Value > vhd </ Value >
        </ RelatedItem m >
    </ RelatedItem mSet >
    < ErrorMessage />
    < ErrorCode />
    < OperationStatus > Success </ OperationStatus >
</ OperationProgress >
</ OperationProgressSet >
< FinishedTime > 2015 - 11 - 23T02 : 19Z </ FinishedTime >
< FailedCount > 0 </ FailedCount >
< SupportCan cel > true </ SupportCan cel >
< TotalCount > 1 </ TotalCount >
< SuccessCount > 1 </ SuccessCount >
< RequestId > EF0C5969 - 279B - 49C8 - AD83 - BACCC74DD3 8C </
RequestId >
< RegionId > cn - hangzhou </ RegionId >
< TaskAction > ExportImage </ TaskAction >
< TaskStatus > Finished </ TaskStatus >
< TaskProgress > 100 %</ TaskProgress >
< TaskId > t - 23ym6mvro </ TaskId >
</ DescribeTaskAttributeResponse >

```

### JSON format

```

{
  "OperationProgressSet": {
    "OperationProgress": [
      {
        "RelatedItemSet": {
          "RelatedItem": [
            {
              "Name": "OSSBucket ",
              "Value": "image - temp "
            },
            {
              "Name": "OSSObject ",
              "Value": "MYOSSPRE_m - 23f8tcp8y_ t - 23ym6mvro . vhd "
            },
            {
              "Name": "ImageForma t ",
              "Value": "vhd "
            }
          ]
        }
      }
    ],
    "ErrorMessage": "",
    "ErrorCode": "",
    "OperationStatus": "Success "
  }
},
"FailedCount": 0,
"SupportCan cel": true,
"TotalCount": 1,
"TaskAction": "ExportImage ",
"TaskProgress": "100 %",
"TaskId": "t - 23ym6mvro ",

```

```

" CreationTime ":" 2015 - 11 - 23T02 : 13Z ",
" FinishedTime ":" 2015 - 11 - 23T02 : 19Z ",
" SuccessCount ": 1 ,
" RequestId ":" 4BE2C7FE - C7A4 - 4675 - A153 - 174E032AAB FB ",
" RegionId ":" cn - hangzhou ",
" TaskStatus ":" Finished "
}

```

### Error codes

| HTTP status code | Error code               | Error message                                                                                | Description                                                                                                                    |
|------------------|--------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 400              | InvalidRegionId.NotFound | The specified RegionId does not exist.                                                       | The error message returned when the specified Region ID does not exist. Check whether the service is available in this region. |
| 400              | MissingParameter         | An input parameter "RegionId" that is mandatory for processing the request is not supplied . | The error message returned when the required RegionId parameter is not specified .                                             |
| 400              | MissingParameter         | An input parameter "TaskId" that is mandatory for processing the request is not supplied.    | The error message returned when the TaskId parameter is not specified .                                                        |
| 400              | InvalidTaskId.NotFound   | The specified "TaskId" is not found.                                                         | The error message returned when the specified task ID does not exist.                                                          |

[View error codes](#)

## 23.4 DescribeAccountAttributes

You can call this operation to query the upper limit of ECS resources that you can create in a region. You can query the maximum number of security groups, ENIs, pay-as-you-go instance vCPUs, preemptible instance vCPUs, and Dedicated Hosts (DDHs). You can also obtain information such as network types available in the region and whether an account has passed real-name authentication.

## Description

After [registering](#) for an Alibaba Cloud account, you can create a certain number of ECS resources in different regions. For more information, see [Limits](#).

You can also [submit a ticket](#) to raise the resource usage limit.

## Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Parameter | Type   | Required | Example                   | Description                                                                                                                                                                           |
|-----------|--------|----------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId  | String | Yes      | cn-hangzhou               | The ID of the region for which to query the upper limit of ECS resources. You can call the <a href="#">DescribeRegions</a> operation to query the latest region list.                 |
| Action    | String | No       | DescribeAccountAttributes | The operation that you want to perform. For API requests using the HTTP and HTTPS methods, <code>Action</code> is required. Set the value to <code>DescribeAccountAttributes</code> . |
| ZoneId    | String | No       | cn-hangzhou-b             | The ID of the zone.                                                                                                                                                                   |

| Parameter             | Type       | Required | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------|------------|----------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AttributeN<br>ame . N | RepeatList | No       | max-security-groups | <p>The types of resources whose upper limit is to be queried. Valid values of N: 1 to 8. Valid values:</p> <ul style="list-style-type: none"> <li>• instance-network-type: the available network types in the current region</li> <li>• max-security-groups: the number of security groups</li> <li>• max-elastic-network-interfaces: the number of ENIs in the current region</li> <li>• max-postpaid-instance-vcpu-count: the number of vCPU cores of pay-as-you-go instances in the current region</li> <li>• max-spot-instance-vcpu-count: the number of vCPU cores of preemptible instances in the current region</li> <li>• max-dedicated-hosts: the number of DDHs in the current region</li> <li>• supported-postpaid-instance-types: the types of pay-as-you-go I/O optimized instances in the current region</li> <li>• max-axt-command-count : the number of Cloud Assistant commands in the current region</li> <li>• max-axt-invocation-daily : the number of Cloud Assistant commands that can be run per day in the current region</li> <li>• real-name-authentication: whether the account has passed real-name authentication</li> </ul> |

## Response parameters

| Parameter             | Type   | Example             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|--------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AccountAttributeItems |        |                     | A set of information about account privileges in a specified region.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| └AttributeName        | String | max-security-groups | <p>The returned resource types. Valid values:</p> <ul style="list-style-type: none"> <li>• instance-network-type: the available network types in the current region</li> <li>• max-security-groups: the number of security groups</li> <li>• max-elastic-network-interfaces : the number of ENIs in the current region</li> <li>• max-postpaid-instance-vcpu-count: the number of vCPU cores of pay-as-you-go instances in the current region</li> <li>• max-spot-instance-vcpu-count : the number of vCPU cores of preemptible instances in the current region</li> <li>• max-dedicated-hosts: the number of DDHs in the current region</li> <li>• supported-postpaid-instance-types: the types of pay-as-you-go I/O optimized instances in the current region</li> <li>• real-name-authentication: whether the account has passed real-name authentication</li> <li>• max-axt-command-count: the number of Cloud Assistant commands in the current region</li> <li>• max-axt-invocation-daily: the number of Cloud Assistant commands that can be run per day in the current region</li> </ul> |

| Parameter                        | Type    | Example              | Description                                                                                                                                                                                                                                  |
|----------------------------------|---------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>⌞AttributeValues</code>    |         |                      | The upper limit of resources.                                                                                                                                                                                                                |
| <code>⌞Count</code>              | Integer | 3                    | The number of resource types.                                                                                                                                                                                                                |
| <code>⌞ExpiredTime</code>        | String  | 2019-01-01T12:30:00Z | The time when the privileges expired. This parameter is only returned when account privileges have an expiration time. The time follows the <a href="#">ISO 8601</a> standard in the yyyy-MM-ddThh:mmZ format. The time is displayed in UTC. |
| <code>⌞InstanceChargeType</code> | String  | PrePaid              | The billing method of the instance.                                                                                                                                                                                                          |
| <code>⌞InstanceType</code>       | String  | ["ecs.g5.large"]     | The instance type.                                                                                                                                                                                                                           |

| Parameter              | Type   | Example                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|--------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>└Value</code>    | String | 800                                               | <p>The upper limit of the resource type in the current region or all regions. Valid values:</p> <ul style="list-style-type: none"> <li>When the value of the <code>AttributeName</code> parameter is <code>max-security-groups</code>, <code>max-elastic-network-interfaces</code>, <code>max-postpaid-instance-vcpu-count</code>, <code>max-dedicated-hosts</code>, or <code>max-spot-instance-vcpu-count</code>, 0 or a positive integer is returned.</li> <li>When the value of the <code>AttributeName</code> parameter is <code>supported-postpaid-instance-types</code>, the instance type is returned. For more information, see <a href="#">Instance type families</a>.</li> <li>When the value of the <code>AttributeName</code> parameter is <code>real-name-authentications</code>, <code>yes</code>, <code>none</code>, or <code>unnecessary</code> is returned.</li> <li>When the value of the <code>AttributeName</code> parameter is <code>instance-network-type</code>, <code>vpc</code> or <code>classic</code> is returned.</li> </ul> |
| <code>└ZoneId</code>   | String | <code>cn-hangzhou-b</code>                        | The ID of the zone.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <code>RequestId</code> | String | <code>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</code> | The ID of the request.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribeAccountAttributes
&RegionId=cn-hangzhou
&ZoneId=cn-hangzhou-b
&AttributeName.1=max-security-groups
&<Common request parameters>
```

### Sample success responses

**XML format**

```

< DescribeAc  countAttri  butesRespo  nse >
  < AccountAtt  ributeItem s >
    < AccountAtt  ributeItem >
      < AttributeN  ame > max - security - groups </ AttributeN
ame >
      < AttributeV  alues >
        < ValueItem >
          < Value > 800 </ Value >
        < ValueItem >
        </ AttributeV  alues >
      </ AccountAtt  ributeItem >
    < AccountAtt  ributeItem >
      < AttributeN  ame > instance - network - type </
AttributeN  ame >
      < AttributeV  alues >
        < ValueItem >
          < Value > vpc </ Value >
          < Value > classic </ Value >
        < ValueItem >
        </ AttributeV  alues >
      </ AccountAtt  ributeItem >
    </ AccountAtt  ributeItem s >
    < RequestId > 675B6D89 - A3EB - 4987 - BAF3 - 610591E0D0 19 </
RequestId >
</ DescribeAc  countAttri  butesRespo  nse >

```

**JSON format**

```

{
  "AccountAtt  ributeItem s":{
    "AccountAtt  ributeItem ":[
      {
        "AttributeV  alues ":{
          "ValueItem ":[
            {
              "Value ":" 100 "
            }
          ]
        },
        "AttributeN  ame ":" max - security - groups "
      },
      {
        "AttributeV  alues ":{
          "ValueItem ":[
            {
              "Value ":" 2 "
            }
          ]
        },
        "AttributeN  ame ":" max - dedicated - hosts "
      },
      {
        "AttributeV  alues ":{
          "ValueItem ":[
            {
              "Value ":" 1000 "
            }
          ]
        },
        "AttributeN  ame ":" max - postpaid - instance - vcpu - count "
      }
    ]
  }
}

```



```

    },
    {
      "AttributeV alues ":{
        "ValueItem ":[
          {
            "Value ":" 1000 "
          }
        ]
      },
      "AttributeN ame ":" max - spot - instance - vcpu - count "
    },
    {
      "AttributeV alues ":{
        "ValueItem ":[
          {
            "Value ":" 5000 "
          }
        ]
      },
      "AttributeN ame ":" max - elastic - network - interfaces "
    },
    {
      "AttributeV alues ":{
        "ValueItem ":[
          {
            "Value ":" yes "
          }
        ]
      },
      "AttributeN ame ":" real - name - authentica tion "
    },
    {
      "AttributeV alues ":{
        "ValueItem ":[
          {
            "Value ":" vpc "
          }
        ]
      },
      "AttributeN ame ":" instance - network - type "
    },
    {
      "AttributeV alues ":{
        "ValueItem ":[
          {
            "Value ":" ecs . f3 - c16f1 . 4xlarge "
          },
          {
            "Value ":" ecs . g5 . 2xlarge "
          }
        ]
      },
      "AttributeN ame ":" supported - postpaid - instance - types "
    }
  ]
},
"RequestId ":" 8CE45CD5 - 31FB - 47C2 - 959D - CA8144CE9F 42 "
}

```

## Error codes

| HTTP status code | Error code            | Error message                                     | Description                                                               |
|------------------|-----------------------|---------------------------------------------------|---------------------------------------------------------------------------|
| 403              | Invalid.<br>Parameter | The required parameter regionId must be not null. | The error message returned because a required parameter is not specified. |

[View error codes](#)

## 23.5 DescribePrice

Views the latest price of ECS resources.

### Description

When you query the prices for different types of resources, the required parameters are also different:

- When the ResourceType parameter is set to instance, you must specify the InstanceType parameter.
- When the ResourceType parameter is set to disk, you must specify the DataDisk 1. Category and DataDisk. 1. Size parameters. When you query the price of disks, the PriceUnit parameter can be set to Hour only, and the system only returns the [Pay-As-You-Go](#) price of the disks.
- When you query the price of bandwidths, the system only returns the PayByTraffic price of bandwidths.

### Debugging

You can use [API Explorer](#) to perform debugging. API Explorer allows you to perform various operations to simplify API usage. For example, you can retrieve APIs, call APIs, and dynamically generate SDK example code.

## Request parameters

| Name                        | Type    | Required | Example       | Description                                                                                                                                                                                                                                                    |
|-----------------------------|---------|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId                    | String  | Yes      | cn-hangzhou   | The ID of the region. You can call <a href="#">DescribeRegions</a> to view the latest regions of Alibaba Cloud.                                                                                                                                                |
| Action                      | String  | No       | DescribePrice | The operation that you want to perform. Set the value to DescribePrice.                                                                                                                                                                                        |
| Amount                      | Integer | No       | 1             | The number of ECS instances that you want to purchase. You can specify this parameter when you want to query the prices of multiple instances with certain specifications. Valid values: 1 to 1000. Default value: 1.                                          |
| DataDisk.<br>N.<br>Category | String  | No       | cloud_ssd     | The category of data disk N, valid range of N is 1 to 5. Valid values: <ul style="list-style-type: none"><li>cloud: basic disk</li><li>cloud_efficiency: ultra disk</li><li>cloud_ssd: SSD</li><li>ephemeral_ssd: local SSD</li><li>cloud_essd: ESSD</li></ul> |

| Name                   | Type    | Required | Example                                 | Description                                                                                                                                                                                                                                                                                               |
|------------------------|---------|----------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DataDisk .<br>N . Size | Integer | No       | 2000                                    | <p>The size of the data disk, valid range of N is 1 to 5. Unit: GiB.</p> <p>Valid values:</p> <ul style="list-style-type: none"> <li>cloud: 5 to 2000</li> <li>cloud_efficiency: 20 to 32768</li> <li>cloud_ssd: 20 to 32768</li> <li>cloud_essd: 20 to 32768</li> <li>ephemeral_ssd: 5 to 800</li> </ul> |
| ImageId                | String  | No       | centos_7_05_64_20G_alibase_20181212.vhd | <p>The ID of the image to be used to create the instances. You can call <a href="#">DescribeImages</a> to view the available images. If you do not specify the parameter, the system queries the price of the Linux images by default.</p>                                                                |
| InstanceNetworkType    | String  | No       | vpc                                     | <p>The network type of the instance. Valid values:</p> <ul style="list-style-type: none"> <li>classic</li> <li>vpc</li> </ul> <p>Default value: vpc.</p>                                                                                                                                                  |
| InstanceType           | String  | No       | ecs.n1.tiny                             | <p>The instance type. For more information, see <a href="#">Instance type families</a>, or call <a href="#">DescribeInstanceTypes</a> to query the latest instance types.</p>                                                                                                                             |
| InternetChargeType     | String  | No       | PayByTraffic                            | <p>The billing method of network bandwidth. Valid values:</p> <ul style="list-style-type: none"> <li>PayByBandwidth: You are billed based on the fixed amount of bandwidth.</li> </ul> <p>Default value: PayByTraffic.</p>                                                                                |

| Name                    | Type    | Required | Example | Description                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|---------|----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| InternetMaxBandwidthOut | Integer | No       | 5       | <p>The maximum value of public network outbound bandwidth. Unit: Mbit/s. Valid values: 0 to 100.</p> <p>Default value: 0.</p>                                                                                                                                                                                                                                                                                                       |
| IoOptimized             | String  | No       | none    | <p>Indicates whether the instance is I/O optimized. Valid values:</p> <ul style="list-style-type: none"> <li>· none</li> <li>· optimized</li> </ul> <p>If the value of the InstanceType parameter indicates a <b>Generation I type</b>, the instance is non-I/O optimized by default.</p> <p>If the value of the InstanceType parameter does not indicate a <b>Generation I type</b>, the instance is I/O optimized by default.</p> |
| Period                  | Integer | No       | 1       | <p>The billing duration of an ECS instance. Valid values:</p> <ul style="list-style-type: none"> <li>· The value range is 1 to 9 when the PriceUnit parameter is set to Month.</li> <li>· The value range is 1 to 3 when the PriceUnit parameter is set to Year.</li> <li>· The value is 1 when the PriceUnit parameter is set to Hour.</li> </ul> <p>Default value: 1.</p>                                                         |

| Name                    | Type   | Required | Example   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------|----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PriceUnit               | String | No       | Year      | The pricing unit for ECS instance usage. Valid values: <ul style="list-style-type: none"> <li>Month</li> <li>Year</li> <li>Hour: This is the default value.</li> </ul>                                                                                                                                                                                                                                                                                                       |
| ResourceType            | String | No       | instance  | The type of the resource. Valid values: <ul style="list-style-type: none"> <li>instance</li> <li>disk</li> <li>bandwidth</li> </ul> Default value: instance.                                                                                                                                                                                                                                                                                                                 |
| SystemDisk.<br>Category | String | No       | cloud_ssd | The category of the system disk. When the InstanceType parameter is set to one of the <a href="#">Phased-out instance types</a> and the IoOptimized parameter is set to none, the default value is cloud. In other cases, the default value is cloud_efficiency. Valid values: <ul style="list-style-type: none"> <li>cloud: basic disk</li> <li>cloud_efficiency: ultra disk</li> <li>cloud_ssd: SSD</li> <li>ephemeral_ssd: local SSD</li> <li>cloud_essd: ESSD</li> </ul> |

| Name                 | Type    | Required | Example | Description                                                                                                                                                                                                                                          |
|----------------------|---------|----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SystemDisk<br>• Size | Integer | No       | 80      | <p>The size of the system disk.<br/>Unit: GiB. Valid values: 20 to 500.</p> <p>The value of this parameter must be at least 20 GiB, or greater than or equal to the value of ImageSize. Default value: Max{40, the size of the specified image}.</p> |

## Response parameters

| Name           | Type   | Example                                 | Description                                                    |
|----------------|--------|-----------------------------------------|----------------------------------------------------------------|
| PriceInfo      |        |                                         | An array of PriceInfoType data, including price and discounts. |
| └Price         |        |                                         | The price.                                                     |
| └Currency      | String | CNY                                     | The currency unit.                                             |
| └DetailInfos   |        |                                         | The details of the price information.                          |
| └DiscountPrice | Float  | 655.2                                   | The discount.                                                  |
| └OriginalPrice | Float  | 4368                                    | The original price.                                            |
| └Resource      | String | instance                                | The name of the resource.                                      |
| └SubRules      |        |                                         | A subset of pricing rules.                                     |
| └Description   | String | Get 15% discount on 1-year subscription | The description of the rule subset.                            |
| └RuleId        | Long   | 587                                     | The ID of the rule.                                            |

| Name                       | Type   | Example                                 | Description                                                                     |
|----------------------------|--------|-----------------------------------------|---------------------------------------------------------------------------------|
| <code>TradePrice</code>    | Float  | 3712.8                                  | The transaction price.                                                          |
| <code>DiscountPrice</code> | Float  | 655.2                                   | The discount.                                                                   |
| <code>OriginalPrice</code> | Float  | 4368                                    | The original price.                                                             |
| <code>TradePrice</code>    | Float  | 3712.8                                  | The transaction price, which is equal to the original price minus the discount. |
| <code>Rules</code>         |        |                                         | The promotion rules.                                                            |
| <code>Description</code>   | String | Get 15% discount on 1-year subscription | The description of the promotion rule.                                          |
| <code>RuleId</code>        | Long   | 587                                     | The ID of the promotion rule.                                                   |
| <code>RequestId</code>     | String | 473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E    | The ID of the request.                                                          |

## Examples

### Sample requests

```
https://ecs.aliyuncs.com/?Action=DescribePrice
&RegionId=cn-hangzhou
&InstanceType=ecs.n1.tiny
&<Common request parameters>
```

### Successful response examples

#### XML format

```
<DescribePriceResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
  <PriceInfo>
    <Price>
      <Currency>CNY</Currency>
      <DiscountPrice>655.2</DiscountPrice>
      <OriginalPrice>4368</OriginalPrice>
      <TradePrice>3712.8</TradePrice>
    </Price>
    <Rules>
      <Rule>
```



```

    < Descriptio n > Get 15 % discount on 1 - year
    subscripti on </ Descriptio n >
    < RuleId > ONE_YEAR_8 5_PERCENT </ RuleId >
  </ Rule >
</ Rules >
</ PriceInfo >
</ DescribePr iceRespons e >

```

### JSON format

```

{
  " PriceInfo ":{
    " Price ":{
      " DiscountPr ice ": 655 . 2 ,
      " OriginalPr ice ": 4368 ,
      " TradePrice ": 3712 . 8 ,
      " Currency ":" CNY "
    },
    " Rules ":{
      " Rule ":[
        {
          " Descriptio n ":" Get 15 % discount on 1 - year
          subscripti on ",
          " Code ":" ONE_YEAR_8 5_PERCENT "
        }
      ]
    }
  },
  " RequestId ":" 04F0F334 - 1335 - 436C - A1D7 - 6C044FE733 68 "
}

```

### Error codes

| HTTP status code | Error code                                    | Error message                                                                                                                                | Description                                                                                  |
|------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 400              | InvalidInstanceType.<br>ValueNotSupported     | The specified InstanceType does not exist or beyond the permitted range.                                                                     | The error message returned when the specified instance type is not supported                 |
| 400              | InvalidDataDiskSize.<br>ValueNotSupported     | The specified DataDisk.n.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category. | The error message returned when the size of the specified data disk exceeds the upper limit. |
| 400              | InvalidDataDiskCategory.<br>ValueNotSupported | The specified parameter "DataDisk.n.Category" is not valid.                                                                                  | The error message returned when the DataDisk.n.Category parameter is invalid.                |

| HTTP status code | Error code                  | Error message                                                                                                                                                                                                                                              | Description                                                                                                                   |
|------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 403              | OperationDenied             | The specified Image is disabled or is deleted.                                                                                                                                                                                                             | The error message returned when the specified image is disabled or deleted.                                                   |
| 403              | ImageRemovedInMarket        | The specified market image is not available, Or the specified user defined image includes product code because it is based on an image subscribed from marketplace, and that image in marketplace includeing exact the same product code has been removed. | The error message returned when the specified image from Alibaba Cloud Marketplace is unavailable.                            |
| 400              | InvalidDiskCategoryMismatch | The specified disk categories' combination is not supported.                                                                                                                                                                                               | The error message returned when the combination of specified disk categories is not supported.                                |
| 403              | Forbidden                   | User not authorized to operate on the specified resource.                                                                                                                                                                                                  | The error message returned when you are not authorized to access the specified resource.                                      |
| 404              | InvalidImageId.NotFound     | The specified ImageId does not exist.                                                                                                                                                                                                                      | The error message returned when the specified image does not exist under this account. Check whether the image ID is correct. |
| 403              | InvalidDiskSize.TooSmall    | Specified disk size is less than the size of snapshot.                                                                                                                                                                                                     | The error message returned when the capacity of the specified disk is smaller than that of the snapshot.                      |

| HTTP status code | Error code                                  | Error message                                                                                                                                 | Description                                                                                                         |
|------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 403              | OperationDenied                             | The type of the disk does not support the operation                                                                                           | The error message returned when the disk type does not support the specified operation.                             |
| 404              | InvalidInstanceChargeType.NotFound          | The InstanceChargeType does not exist in our records                                                                                          | The error message returned when the specified instance type does not exist.                                         |
| 400              | InvalidPeriod                               | The specified period is not valid.                                                                                                            | The error message returned when the specified period is invalid.                                                    |
| 400              | InvalidDataDiskCategory.ValueNotSupported   | The specified parameter "DataDisk.n.Category" is not valid.                                                                                   | The error message returned when the specified disk type is invalid.                                                 |
| 400              | InvalidSystemDiskCategory.ValueNotSupported | The specified parameter "SystemDisk.Category" is not valid.                                                                                   | The error message returned when the specified disk type is invalid.                                                 |
| 403              | InvalidDiskCategory.NotSupported            | The specified disk category is not support the specified instance type .                                                                      | The error message returned when the specified disk type does not support the instance type.                         |
| 403              | InvalidDiskCategory.NotSupported            | The upgrade operation of instance does not support this category of disk.                                                                     | The error message returned when the disks attached to the instance do not support instance specifications upgrades. |
| 400              | InstanceDiskCategoryLimitExceed             | The specified DataDisk.n. Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category. | The error message returned when the size of the specified data disk exceeds the upper limit.                        |

| HTTP status code | Error code                              | Error message                                                        | Description                                                                                           |
|------------------|-----------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 404              | InvalidSystemDiskSize.LessThanImageSize | The specified parameter SystemDisk.Size is less than the image size. | The error message returned when the size of the specified system disk is smaller than the image size. |
| 403              | InvalidParameter.ResourceOwnerAccount   | ResourceOwnerAccount is Invalid.                                     | The error message returned when the specified ResourceOwnerAccount parameter is invalid.              |
| 403              | RegionUnauthorized                      | There is no authority to create instance in the specified region.    | The error message returned when you are not authorized to create instances in the specified region.   |
| 404              | InvalidSystemDiskSize.ValueNotSupported | The specified parameter SystemDisk.Size is invalid.                  | The error message returned when the specified value of the SystemDisk.Size parameter is invalid.      |
| 400              | InstanceDiskNumber.LimitExceed          | The total number of specified disk in an instance exceeds.           | The error message returned when the number of disks attached to the instance exceeds the upper limit. |
| 400              | InvalidDiskCategory.ValueNotSupported   | The specified parameter "DiskCategory" is not valid.                 | The error message returned when the specified DiskCategory parameter is invalid.                      |
| 403              | OperationDenied                         | The resource is out of usage.                                        | The error message returned when the instance is not in the running state. Start the instance.         |

| HTTP status code | Error code                                       | Error message | Description                                                                                      |
|------------------|--------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------|
| 400              | InvalidInternetMaxBandwidthOut.ValueNotSupported | %s            | The error message returned when the setting of the InternetMaxBandwidthOut parameter is invalid. |
| 400              | InvalidDataDiskCategory.ValueNotSupported        | %s            | The error message returned when the parameter is not supported.                                  |
| 400              | InvalidSystemDiskCategory.ValueNotSupported      | %s            | The error message returned when the parameter is not supported.                                  |
| 400              | InvalidParameter.Conflict                        | %s            | The error message returned when the parameter conflicts with another parameter.                  |
| 400              | InvalidInternetChargeType.ValueNotSupported      | %s            | The error message returned when the parameter is not supported.                                  |
| 400              | InvalidInstanceType.ValueNotSupported            | %s            | The error message returned when the instance type is incorrect.                                  |
| 403              | InstanceType.Offline                             | %s            | The error message returned when the instance type is unavailable.                                |
| 500              | InternalError                                    | %s            | The error message returned when an unknown internal error occurs.                                |
| 400              | InvalidSystemDiskSize.ValueNotSupported          | %s            | The error message returned when the parameter is not supported.                                  |

| HTTP status code | Error code                                | Error message                                                                        | Description                                                                                    |
|------------------|-------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 400              | InvalidDataDiskSize.<br>ValueNotSupported | %s                                                                                   | The error message returned when the parameter is not supported.                                |
| 400              | PriceNotFound                             | The price of your queried resource is not available now, please try other resources. | The error message returned when the price of the resource cannot be queried. Try again later.  |
| 400              | InvalidResourceType.<br>ValueNotSupported | The specified parameter ResourceType is not valid.                                   | The error message returned when the specified resource type is invalid.                        |
| 400              | InvalidPriceUnit.<br>ValueNotSupported    | The specified parameter PriceUnit is not valid.                                      | The error message returned when the specified pricing unit is invalid.                         |
| 403              | OperationDenied                           | The specified parameter InstanceNetworkType is not authorized.                       | The error message returned when the specified instance network type is unauthorized.           |
| 403              | InvalidAmount.<br>Malformed               | The specified parameter Amount is not valid.                                         | The error message returned when the format of the Amount parameter is invalid.                 |
| 400              | EncryptedOption.<br>Conflict              | %s                                                                                   | The error message returned when the parameter does not support encrypted disks.                |
| 404              | Invalid.<br>InstanceId.<br>NotFound       | The Instance provided does not exist.                                                | The error message returned when the specified instance does not exist.                         |
| 403              | InvalidDiskSize.<br>TooSmall              | Specified system disk size is less than the size of image                            | The error message returned when the size of the system disk is smaller than that of the image. |

| HTTP status code | Error code                       | Error message                                                                            | Description                                                                                                        |
|------------------|----------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 404              | InvalidMarketImage.NotFound      | The specified marketplace image does not exist, please change the imageId and try again. | The error message returned when the specified image does not exist in Alibaba Cloud Marketplace.                   |
| 400              | IncorrectImageStatus             | The specified marketplace image is not available.                                        | The error message returned when the specified image from Alibaba Cloud Marketplace is unavailable.                 |
| 403              | InvalidChargeType.MarketImage    | The specified chargeType of marketplace image is invalid                                 | The error message returned when the billing method for the images from Alibaba Cloud Marketplace is not supported. |
| 403              | InvalidDiskCategory.NotSupported | The specified disk category is not supported.                                            | The error message returned when the cloud disk type is not supported.                                              |

[View error codes](#)

## 24 Appendix

### 24.1 Error code table

#### Client errors

For the remaining client errors, see the interface-specific error codes.

#### 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. |
| InternalServerError | The request processing has failed due to some unknown error, exception or failure . | 500              | Internal error.             |

### 24.2 Instance states

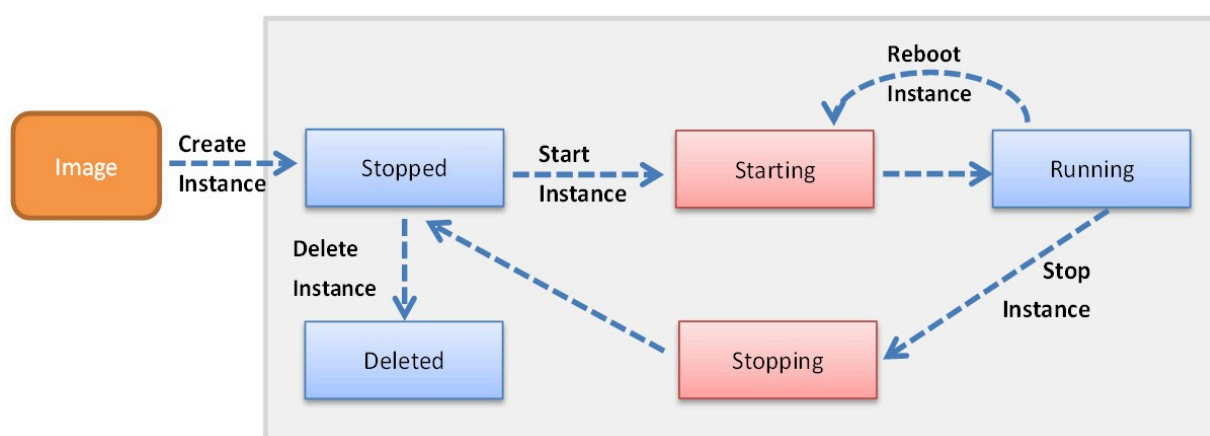
This topic describes the possible states of ECS instances.

| State    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pending  | <p>The initial state of an ECS instance when you create the ECS instance through the ECS console or by calling <a href="#">RunInstances</a>. Instances are only in the <code>pending</code> state during the creation process, and this state only lasts for a few seconds.</p> <div> <b>Note:</b><br/>If the instance is being created by calling <a href="#">#unique_381</a>, you must then call <a href="#">#unique_382</a> to manually change the instance state from <code>pending</code> to <code>starting</code> . If the instance is being created by calling <a href="#">RunInstances</a>, the instance automatically enters the <code>starting</code> state.</div> |
| Starting | The transient state when an instance is enabled through the ECS console or by calling <a href="#">StartInstance</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



| State    | Description                                                                                                                                                                                                                                  |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Running  | The stable state after an instance is enabled through the ECS console or by calling <code>StartInstance</code> . The instance owner can use, manage, and modify business and applications on an instance when the instance is in this state. |
| Stopping | The transient state when an instance is stopped through the ECS console or by calling <code>StopInstance</code> .                                                                                                                            |
| Stopped  | The stable state after an instance has been stopped.                                                                                                                                                                                         |

## 24.3 Instance status chart

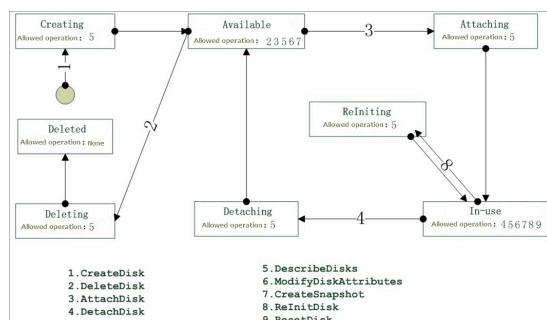


## 24.4 Basic cloud disk status table

| 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.

## 24.5 Cloud disk status chart



## 24.6 ISO 8601 Time Format

*ISO 8601 Data elements and interchange formats – Information interchange – Representation of dates and times* is an international standard covering the exchange of date and time-related data. It was issued by the International Organization for Standardization (ISO). For more information, see [ISO8601](#).

## 24.7 Disk category

See the following table for the disks provided by ECS.

| Name              | Code             | Maximum capacity per disk (GiB) | Volume limit per instance | Maximum capacity of disks allowed per instance (GiB) |
|-------------------|------------------|---------------------------------|---------------------------|------------------------------------------------------|
| Basic cloud disk  | cloud            | 2000                            | 17                        | 2000 * 17                                            |
| Ultra cloud disks | cloud_efficiency | 32768                           | 17                        | 32768 * 17                                           |
| SSD cloud disks   | cloud_ssd        | 32768                           | 17                        | 32768 * 17                                           |
| ESSD*             | essd             | 32768                           | 17                        | 32768 * 17                                           |

\* Currently, the ESSD disk cannot be managed by calling the Alibaba Cloud ECS API.

For more information, see [Storage parameters and performance test](#).

## 24.8 API behavior for accounts with overdue payment

When payment is overdue, the `OperationLocks` in the outgoing parameters returned by the `DescribeInstances` or `DescribeDisks` will include `LockReason : financial`.

### API request consequence with overdue payment

In the following tables, "Normal Logic" indicates that the interface is executed and result returned based on the normal logic of the interface.

Table 24-1: Instance with overdue payment

| Actions                                  | Disk Payment Overdue | Disk Normal  |
|------------------------------------------|----------------------|--------------|
| <code>AllocatePublicIpAddress</code>     | Error                | Error        |
| <code>AttachDisk</code>                  | Error                | Normal logic |
| <code>AuthorizeSecurityGroup</code>      | Normal logic         | Normal logic |
| <code>CreateDisk</code>                  | Error                | Normal logic |
| <code>CreateImage</code>                 | Normal logic         | Normal logic |
| <code>CreateInstance</code>              | Error                | Error        |
| <code>CreateSecurityGroup</code>         | Normal logic         | Normal logic |
| <code>CreateSnapshot</code>              | Normal logic         | Normal logic |
| <code>DeleteDisk</code>                  | Normal logic         | Normal logic |
| <code>DeleteImage</code>                 | Normal logic         | Normal logic |
| <code>DeleteInstance</code>              | Normal logic         | Normal logic |
| <code>DeleteSecurityGroup</code>         | Normal logic         | Normal logic |
| <code>DeleteSnapshot</code>              | Normal logic         | Normal logic |
| <code>DescribeAutoSnapshot Policy</code> | Normal logic         | Normal logic |
| <code>DescribeDisks</code>               | Normal logic         | Normal logic |
| <code>DescribeImages</code>              | Normal logic         | Normal logic |
| <code>DescribeInstanceStatus</code>      | Normal logic         | Normal logic |
| <code>DescribeInstanceTypes</code>       | Normal logic         | Normal logic |
| <code>DescribeInstanceMonitorData</code> | Normal logic         | Normal logic |

| Actions                        | Disk Payment Overdue | Disk Normal  |
|--------------------------------|----------------------|--------------|
| 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        | Normal logic         | Normal logic |
| RebootInstance                 | -                    | -            |
| ReInitDisk                     | Error                | Error        |
| ReplaceSystemDisk              | Error                | Error        |
| ResetDisk                      | Error                | Error        |
| RevokeSecurityGroup            | Normal logic         | Normal logic |
| StartInstance                  | Error                | Error        |
| StopInstance                   | -                    | -            |

Table 24-2: Disk with overdue payment

| Actions                 | Instance Payment Overdue | Instance Normal |
|-------------------------|--------------------------|-----------------|
| 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    |

| Actions                        | Instance Payment Overdue | Instance Normal |
|--------------------------------|--------------------------|-----------------|
| 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    |
| DescribeAutoSnapshot Policy    | Normal logic             | Normal logic    |
| DescribeDisks                  | Normal logic             | Normal logic    |
| DescribeImages                 | 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           |

| Actions             | Instance Payment Overdue | Instance Normal |
|---------------------|--------------------------|-----------------|
| RevokeSecurityGroup | Normal logic             | Normal logic    |
| StartInstance       | Error                    | Normal logic    |
| StopInstance        | -                        | -               |

## 24.9 API behavior when an instance is locked for security reasons

This topic provides the API request consequence when your resource is frozen due to security concerns.

### API request consequence

When a security lock is indicated, the `OperationLocks` in the outgoing parameters returned by the `DescribeInstances` will include `LockReason : security`.



#### Note:

Disk-related activities in the `In_use` status reference the instance `OperationLocks`. Otherwise, the instance `OperationLocks` may be ignored.

In the following table, "Normal Logic" indicates that the interface is executed and result returned based on the normal logic of the interface.

| Interface               | Behavior                                                                           |
|-------------------------|------------------------------------------------------------------------------------|
| AllocatePublicIpAddress | Error                                                                              |
| AttachDisk              | Error                                                                              |
| AuthorizeSecurityGroup  | Normal logic                                                                       |
| CreateDisk              | Normal logic                                                                       |
| CreateImage             | Normal logic                                                                       |
| CreateInstance          | Normal logic                                                                       |
| CreateSecurityGroup     | Normal logic                                                                       |
| CreateSnapshot          | Error (Only for disks attached on this instance in the <code>In_use</code> status) |
| DeleteDisk              | Normal logic                                                                       |
| DeleteImage             | Normal logic                                                                       |

| Interface                      | Behavior                                                                                                                                                        |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DeleteInstance                 | Normal logic                                                                                                                                                    |
| DeleteSecurityGroup            | Normal logic                                                                                                                                                    |
| DeleteSnapshot                 | Normal logic                                                                                                                                                    |
| DescribeAutoSnapshotPolicy     | Normal logic                                                                                                                                                    |
| DescribeDisks                  | Normal logic                                                                                                                                                    |
| DescribeImages                 | 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                     | <ul style="list-style-type: none"> <li>When the disk is in the <code>In_use</code> :</li> <li>When the disk is in the other status:<br/>Normal Logic</li> </ul> |
| ReplaceSystemDisk              | Normal logic                                                                                                                                                    |
| ResetDisk                      | Error                                                                                                                                                           |
| RevokeSecurityGroup            | Normal logic                                                                                                                                                    |
| StartInstance                  | Error                                                                                                                                                           |
| StopInstance                   | Error                                                                                                                                                           |

## 24.10 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 the `ClientToken` 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 (`InternalServerError`) or (`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 indicates "try it later", retrying the operation will usually not be successful.



## 24.11 Call API actions from within an intranet environment

This topic describes how to configure PrivateZone so that you can call API actions for ECS instances in a VPC through the provided domain name system (DNS) service of PrivateZone.

### Background information

The endpoints provided by Alibaba Cloud ECS can be used to send API calls over the Internet. However, if your ECS instance is not assigned an Internet bandwidth package or a public IP address, the instance cannot initiate an API action request by using the Alibaba Cloud CLI or corresponding SDK. To ensure that your instance can send API requests from Alibaba Cloud intranet, Alibaba Cloud provides the PrivateZone solution. You can use PrivateZone to associate the VPC with the region to which your ECS instance belongs.

### Limits

- You can configure PrivateZone only for the region where your VPC-connected ECS instances are located. You cannot configure PrivateZone across multiple regions.
- We recommend that you create instances by using custom images that have been deployed with Alibaba Cloud CLI or SDK. This allows your ECS instances to load relevant dependencies even when they have no access to the Internet.
- Currently, only the following ECS endpoints support PrivateZone.

| Alibaba Cloud region | Region ID    | CNAME record value                     | Internet endpoint             |
|----------------------|--------------|----------------------------------------|-------------------------------|
| China (Beijing)      | cn-beijing   | popunify-vpc.cn-beijing.aliyuncs.com   | ecs.cn-beijing.aliyuncs.com   |
| China (Hangzhou)     | cn-hangzhou  | popunify-vpc.cn-hangzhou.aliyuncs.com  | ecs.cn-hangzhou.aliyuncs.com  |
| China (Shanghai)     | cn-shanghai  | popunify-vpc.cn-shanghai.aliyuncs.com  | ecs.cn-shanghai.aliyuncs.com  |
| China (Shenzhen)     | cn-shenzhen  | popunify-vpc.cn-shenzhen.aliyuncs.com  | ecs.cn-shenzhen.aliyuncs.com  |
| China (Hohhot)       | cn-huhehaote | popunify-vpc.cn-huhehaote.aliyuncs.com | ecs.cn-huhehaote.aliyuncs.com |

| Alibaba Cloud region                        | Region ID      | CNAME record value                       | Internet endpoint               |
|---------------------------------------------|----------------|------------------------------------------|---------------------------------|
| China (Zhangjiakou-Beijing Winter Olympics) | cn-zhangjiakou | popunify-vpc.cn-zhangjiakou.aliyuncs.com | ecs.cn-zhangjiakou.aliyuncs.com |
| China (Hong Kong)                           | cn-hongkong    | popunify-vpc.cn-hongkong.aliyuncs.com    | ecs.cn-hongkong.aliyuncs.com    |
| Singapore                                   | ap-southeast-1 | popunify-vpc.ap-southeast-1.aliyuncs.com | ecs.ap-southeast-1.aliyuncs.com |
| Germany (Frankfurt)                         | eu-central-1   | popunify-vpc.eu-central-1.aliyuncs.com   | ecs.eu-central-1.aliyuncs.com   |

### Procedure

1. Log on to the [Alibaba Cloud DNS console](#).
2. In the left-side navigation pane, click PrivateZone.
3. Click Add Zone.
4. In the displayed dialog box, set the parameters as needed, and then click OK.
  - Zone Name: Set an ECS endpoint that supports PrivateZone. In this example, set the zone name to `ecs.cn-hangzhou.aliyuncs.com`.
  - Subdomain recursive resolution proxy: If you select this option, the name resolved on the Internet is used when DNS detects a domain name with the suffix `Zone` that is not included in the `Zone` file.

Add PrivateZone

×

\* Zone Name:

ecs.cn-hangzhou.aliyuncs.com

☒ Subdomain recursive resolution proxy
 

?

Cancel

OK

5. Locate the created PrivateZone, and then click Configure in the Actions column.
6. On the displayed Resolution Settings page, click Add Record.
7. In the displayed dialog box, set the parameters as needed, and then click OK.
  - Record Type: Select CNAME.
  - Resource Records: Enter @ to resolve the @. *example* . *com* domain name.
  - Record Value: Set it to the CNAME record value of the corresponding region. For more information, see [Limits](#).
  - TTL Value: The time to live value. In this example, select 1 minute(s).

**Add Record** [X]

Record Type: CNAME Canonical name [v]

Resource Records: @ .ecs.cn-hangzhou.aliyuncs.com

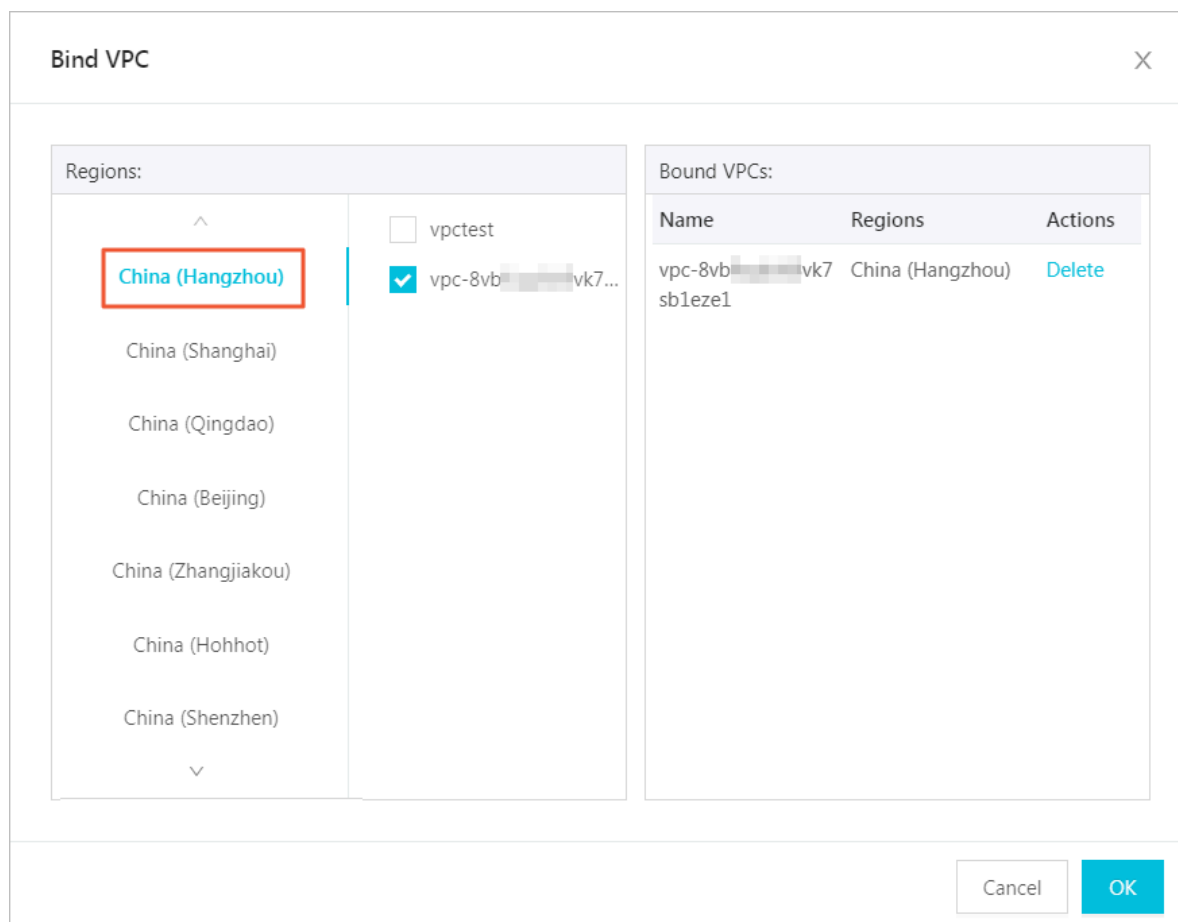
\* Record Value: popunity-vpc.cn-hangzhou.aliyuncs.com

TTL Value: 1 minute(s) [v]

[Cancel] [OK]

8. Go back to the PrivateZone page, locate the created PrivateZone, and then click Bind VPC in the Actions column.

9. In the displayed dialog box, select the region where the PrivateZone is located, select one or more VPCs to which your ECS instance belongs, and then click OK.



### What to do next

After you associate a VPC with your PrivateZone, you can log on to your ECS instance to check whether the instance can access the endpoint of the corresponding region. For more information, see [#unique\\_395](#). For example, if the zone name is `ecs.cn-hangzhou.aliyuncs.com`, you can:

- Conduct a `ping` test to check whether data packets can be properly transmitted and received.

```
ping ecs . cn - hangzhou . aliyuncs . com
```

```
[root@localhost ~]# ping ecs.cn-hangzhou.aliyuncs.com
PING popunify-vpc.cn-hangzhou.aliyuncs.com (100.100.100.28) 56(84) bytes of data:
64 bytes from 100.100.100.28 (100.100.100.28): icmp_seq=1 ttl=64 time=1.51 ms
64 bytes from 100.100.100.28 (100.100.100.28): icmp_seq=2 ttl=64 time=1.55 ms
64 bytes from 100.100.100.28 (100.100.100.28): icmp_seq=3 ttl=64 time=1.53 ms
64 bytes from 100.100.100.28 (100.100.100.28): icmp_seq=4 ttl=64 time=1.50 ms
64 bytes from 100.100.100.28 (100.100.100.28): icmp_seq=5 ttl=64 time=1.48 ms
^C
--- popunify-vpc.cn-hangzhou.aliyuncs.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 1.480/1.517/1.550/0.049 ms
[root@localhost ~]#
```

- Use Alibaba Cloud CLI to call [#unique\\_396](#), and change the endpoint in the `--endpoint` field.

```
aliyun ecs DescribeRegions --endpoint ecs . cn - hangzhou . aliyuncs . com
```

```
[root@LocalHost ~]# aliyun ecs DescribeRegions --endpoint ecs.cn-hangzhou.aliyuncs.com
{"RequestId": "11AFA006-30E4-49F2-94A1-520209680280", "Regions": [{"Region": {"RegionId": "cn-hangzhou", "LocalName": "杭州"}, {"RegionId": "cn-hangzhou-test-307", "RegionEndpoint": "ecs.aliyuncs.com", "LocalName": "杭州"}, {"RegionId": "cn-hangzhou-test-308", "RegionEndpoint": "ecs.aliyuncs.com", "LocalName": "杭州"}, {"RegionId": "cn-beijing", "RegionEndpoint": "ecs.aliyuncs.com", "LocalName": "北京"}, {"RegionId": "cn-zhangjiakou", "RegionEndpoint": "ecs.cn-zhangjiakou.aliyuncs.com", "LocalName": "张家口"}, {"RegionId": "cn-huhehaote", "RegionEndpoint": "ecs.cn-huhehaote.aliyuncs.com", "LocalName": "呼和浩特"}, {"RegionId": "cn-shanghai", "RegionEndpoint": "ecs.aliyuncs.com", "LocalName": "上海"}, {"RegionId": "cn-shenzhen", "RegionEndpoint": "ecs.aliyuncs.com", "LocalName": "深圳"}]}
```

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

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

### Cause analysis

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

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

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

#### Default display setting sample in Java SDK

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

See the following Java SDK snippet for example:

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

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

#### Customize the display setting in Java SDK

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

See the following Java SDK snippet for example:

```
DescribeImagesRequest describe = new DescribeImagesRequest();
describe.setPageSize(50); // Here in the Request
// , the value of PageSize is set to 50 by the
// setPageSize() method.
```

```
describe . setRegionId (" cn - hangzhou ");
describe . setImageOwnerAlias (" system ");
System . out . println (" PageSize of the current
request :"+ describe . getPageSize ());
try {
    DescribeImagesResponse response
        = client . getAcsResponse ( describe );

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

**Note:**

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

## 24.13 API usage Specification

Please check the latest API Terms of Use [here](#).

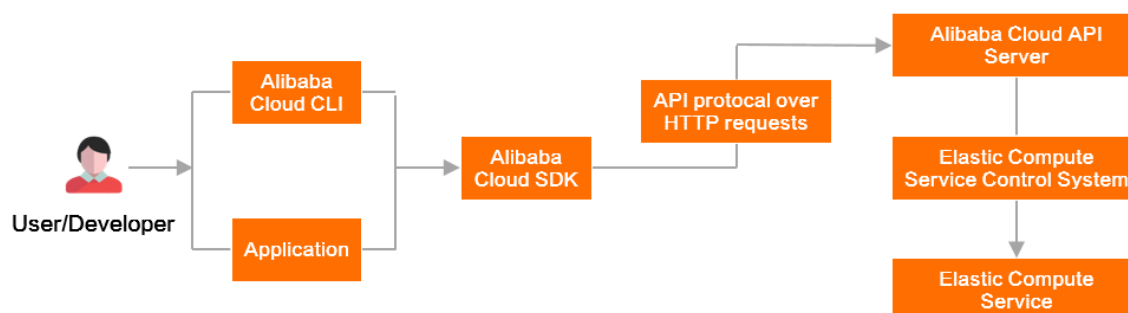
## 25 API FAQ

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- [What is ECS API?](#)
- [Error code InvalidDataDiskCategory.NotSupported is returned when I try to create an ECS instance. What can I do?](#)
- [How can I create an ECS instance that is assigned a public IP address?](#)
- [I have created an ECS instance by using an ECS API operation. Why can't the public IP address of the instance be pinged?](#)
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### What is ECS API?

ECS API is an open-source remote procedure call (RPC) API that provides API services to Alibaba Cloud users. You can use this API to manage and use ECS instances. The following figure shows the path along which a request is forwarded to call an API. For more information about how to use the ECS API, see [#unique\\_401](#).





Error code `InvalidDataDiskCategory.NotSupported` is returned when I try to create an ECS instance. What can I do?

- **Problem description:** After you call the [#unique\\_402](#) operation to create an ECS instance, the following error information is returned:

```
{
  "Code": "InvalidDataDiskCategory.NotSupported",
  "Message": "Specified disk category is not supported."
}
```

- **Cause:** The error occurred because disks of the specified category cannot be created in the specified zone.
- **Solution:** We recommend that you call the [#unique\\_403](#) operation to view the resources available in the zone where you want to create the ECS instance and ensure that there are sufficient resources in that zone. You can also change the value of `ZoneId` and try again.

```
aliyun ecs RunInstances -- ImageId win2008_64_ent_r2_cn_40G_alibase_20150429.vhd -- InstanceType ecs.g5.large -- SecurityGroupId <TheSecurityGroupId> -- SystemDiskCategory cloud_efficiency -- ZoneId cn-hangzhou-c
```

How can I create an ECS instance that is assigned a public IP address?

- **Method 1:** Call the [#unique\\_402](#) operation with `InternetMaxBandwidthOut` set to a value greater than 0 to create an ECS instance. The new ECS instance is automatically assigned a public IP address.
- **Method 2:** Call the [#unique\\_381](#) operation to create an ECS instance. Then call the [#unique\\_404](#) operation to assign a public IP address to the instance.

I have created an ECS instance by using an ECS API operation. Why can't the public IP address of the instance be pinged?

- **Problem description:** The new ECS instance that you created by using an ECS API operation cannot connect to the public network, and the public IP address of the instance cannot be pinged.
- **Cause:** You have not added a security group rule to allow the public network to access the instance.
- **Solution:** Call the [#unique\\_405](#) operation to add an inbound rule to the security group to which the instance belongs to allow the public network to access the instance. For example, you can send the following request where `IpProtocol` is set

to ICMP to call the `AuthorizeSecurityGroup` operation and add an inbound rule that allows the public IP address of this instance to be pinged from any other IP addresses:

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroup
&SecurityGroupId=sg-bp15ed6xe1yxeycg7***
&SourceCidrIp=0.0.0.0/0
&IpProtocol=ICMP
&PortRange=-1/-1
<Common request parameters>
```

The error message "The specified IP is already in use." is returned when I use an ECS API operation to bind a public IP address to my instance. What can I do?

- **Problem description:** When you call the [#unique\\_404](#) operation to assign the public IP address specified by `IpAddress` to your ECS instance, the following error information is returned:

```
{
  "Code": "IpInUse",
  "Message": "The specified IP is already in use."
}
```

- **Cause:** The specified IP address is already in use.
- **Solution:** Check whether the IP address is already in use. If yes, try another IP address.

When I modify the public bandwidth configurations of my instance by using an ECS API operation, can I specify an effective period of time for the new bandwidth configurations?

You can call the [#unique\\_406](#) operation to modify the public bandwidth configurations of your ECS instance. The new bandwidth configurations take effect on the instance immediately after the modification is completed. If you only want to temporarily modify the bandwidth configurations of your instance, set `StartTime` and `EndTime` to define an effective period of time.

If you are using an Elastic IP Address, you can call the [#unique\\_407](#) operation to make the modification but you cannot specify an effective period of time.

Why can't all the security group rules in a security group be displayed when I use an ECS API operation or ECS SDK to query the details of the security group?

Security group rules can be distinguished by their NIC types, public NIC ( `internet` ) and internal NIC ( `intranet` ). When you call the [DescribeSecurityGroupAttribute](#) operation to query the details of a security group, the `NIC` parameter is not

required. However, if this parameter is not specified, the default value `internet` is used. Therefore, when you run the following CLI command to call the `DescribeSecurityGroupAttribute` operation, only the public security group rules, not all security group rules, in the queried security group are displayed:

```
aliyun ecs DescribeSecurityGroupAttribute -- SecurityGroupID < TheSecurityGroupId > -- RegionId < TheRegionId >
```

If you want to view the internal security group rules in a security group (such as internal security group rules that allow access across internal networks or that are configured for the VPN firewall of Finance Cloud), run the following command with `NicType` set to `intranet`:

```
aliyun ecs DescribeSecurityGroupAttribute -- SecurityGroupID < TheSecurityGroupId > -- RegionId < TheRegionId > -- NicType intranet
```

Why does a query made by using the ECS API, ECS SDK, or Alibaba Cloud CLI return only ten entries?

For details, see [#unique\\_409](#).