

# Server Load Balancer

## Developer Guide

# Developer Guide

## API Reference

### API overview

This document lists available APIs provided by Server Load Balancer (SLB).

#### SLB instances

| API                            | Description                                                                     |
|--------------------------------|---------------------------------------------------------------------------------|
| CreateLoadBalancer             | Create an SLB instance.                                                         |
| DeleteLoadBalancer             | Delete an SLB instance.                                                         |
| SetLoadBalancerStatus          | Set the status of an SLB instance.                                              |
| SetLoadBalancerName            | Configure a name for an SLB instance.                                           |
| ModifyLoadBalancerInstanceSpec | Modify the performance specification for a guaranteed-performance SLB instance. |
| DescribeLoadBalancers          | Query created SLB instances.                                                    |
| DescribeLoadBalancerAttribute  | Query the detailed information of an SLB instance.                              |
| DescribeRegions                | Query available regions.                                                        |
| DescribeZones                  | Query available active/standby zones in the specified region.                   |

#### SLB listeners

| API                            | Description                       |
|--------------------------------|-----------------------------------|
| CreateLoadBalancerHTTPListener | Create an HTTP protocol listener. |

|                                            |                                                                                        |
|--------------------------------------------|----------------------------------------------------------------------------------------|
| CreateLoadBalancerHTTPSListener            | Create an HTTPS listener.                                                              |
| CreateLoadBalancerTCPListener              | Create a TCP listener.                                                                 |
| CreateLoadBalancerUDPListener              | Create a UDP protocol listener.                                                        |
| DeleteLoadBalancerListener                 | Delete a listener.                                                                     |
| StartLoadBalancerListener                  | Start a listener.                                                                      |
| StopLoadBalancerListener                   | Stop a listener.                                                                       |
| SetListenerAccessControlStatus             | Enable or disable the access control function for the specified listener.              |
| AddListenerWhiteListItem                   | Configure an access whitelist for a listener.                                          |
| RemoveListenerWhiteListItem                | Deletes an IP or IP address range from the access whitelist of the specified listener. |
| SetLoadBalancerHTTPListenerAttribute       | Modify an HTTP protocol listener.                                                      |
| SetLoadBalancerHTTPSListenerAttribute      | Modify an HTTPS listener.                                                              |
| SetLoadBalancerTCPListenerAttribute        | Modify a TCP listener.                                                                 |
| SetLoadBalancerUDPListenerAttribute        | Modify a UDP listener.                                                                 |
| DescribeLoadBalancerHTTPListenerAttribute  | Query the configurations of a specified HTTP listener.                                 |
| DescribeLoadBalancerHTTPSListenerAttribute | Query the configurations of a specified HTTPS listener.                                |
| DescribeLoadBalancerTCPListenerAttribute   | Query the configurations of a specified TCP listener.                                  |
| DescribeLoadBalancerUDPListenerAttribute   | Query the configurations of a specified UDP listener.                                  |
| DescribeListenerAccessControlAttribute     | Query the access control of a specified listener.                                      |

## Certificates

| API                        | Description                                          |
|----------------------------|------------------------------------------------------|
| UploadServerCertificate    | Upload a server certificate.                         |
| DeleteServerCertificate    | Delete a server certificate.                         |
| DescribeServerCertificates | Query the server certificates in a specified region. |
| SetServerCertificateName   | Configure a name for a server certificate.           |
| UploadCACertificate        | Upload a CA certificate.                             |
| DeleteCACertificate        | Delete a CA certificate.                             |
| DescribeCACertificates     | Query the CA certificates in a specified region.     |

|                      |                                        |
|----------------------|----------------------------------------|
| SetCACertificateName | Configure a name for a CA certificate. |
|----------------------|----------------------------------------|

## Backend servers

| API                  | Description                                                    |
|----------------------|----------------------------------------------------------------|
| AddBackendServers    | Add backend servers to an SLB instance.                        |
| RemoveBackendServers | Remove one or more ECS instances from the backend server pool. |
| SetBackendServers    | Modify the weight of the backend servers.                      |
| DescribeHealthStatus | Query the health status of the backend servers.                |

## Master-slave servers

| API                                     | Description                                                                             |
|-----------------------------------------|-----------------------------------------------------------------------------------------|
| CreateMasterSlaveServerGroup            | Create a master-slave server group.                                                     |
| DeleteMasterSlaveServerGroup            | Delete a specified master-slave server group.                                           |
| DescribeMasterSlaveServerGroupAttribute | Query detailed information of the master-slave server group.                            |
| DescribeMasterSlaveServerGroups         | Query all master-slave server groups under the specified Server Load Balancer instance. |

## VServer groups

| API                              | Description                                                           |
|----------------------------------|-----------------------------------------------------------------------|
| CreateVServerGroup               | Create a VServer group.                                               |
| SetVServerGroupAttribute         | Modify the name of a VServer group or the weight of a backend server. |
| AddVServerGroupBackendServers    | Add backend servers to the specified VServer group.                   |
| RemoveVServerGroupBackendServers | Remove backend servers from the specified VServer group.              |
| ModifyVServerGroupBackendServers | Replace backend servers in a VServer group.                           |
| DeleteVServerGroup               | Delete a VServer group.                                               |
| DescribeVServerGroups            | Query the list of VServer groups.                                     |
| DescribeVServerGroupAttribute    | Query detailed information of a VServer group.                        |

## Forwarding rules

| API                   | Description                                                                                   |
|-----------------------|-----------------------------------------------------------------------------------------------|
| CreateRules           | Add forwarding rules to the specified listener.                                               |
| DeleteRules           | Delete forwarding rules.                                                                      |
| SetRule               | Change the target VServer group of a forwarding rule.                                         |
| DescribeRuleAttribute | Query the detailed configurations of the specified forwarding rule.                           |
| DescribeRules         | Query the detailed configurations of forwarding rules associated with the specified listener. |

## Tags

| API          | Description                       |
|--------------|-----------------------------------|
| AddTags      | Add tags to an SLB instance.      |
| DescribeTags | Query tags.                       |
| RemoveTags   | Unbind tags from an SLB instance. |

## Call SLB APIs

### Request structure

SLB APIs belong to the RPC type. You can call SLB APIs by sending HTTP requests.

The request structure is as follows:

`http://endpoint/?Action=xx&Parameters`

where:

**Endpoint** is the entry of the Alibaba Cloud service to call. The generic endpoint of SLB is `slb.aliyuncs.com`. For more information, see [SLB endpoints](#).

**Action** is the action to perform. For example, use the `DescribeLoadBalancers` action to query

created SLB instances.

**Parameters** are request parameters separated by ampersands (&).

Request parameters consist of common parameters and API specific parameters. Common parameters include VPI version, credentials and so on.

The API version of SLB is 2014-05-15.

The following is an example using the DescribeLoadBalancers API to query the created SLB instances:

```
http://slb.aliyuncs.com/?Action=DescribeLoadBalancers&AccessKeyId=key-  
test&Format=JSON&SecureTransport=true&SignatureMethod=HMAC-  
SHA1&SignatureNonce=15215528852396&SignatureVersion=1.0&SourceIp=1xxx6&Timestamp=20  
18-03-02Txxxxxx&Version=2017-09-12&Signature=xxxx%xxxx%3D
```

To make it easy to read, the API request is displayed in the following format in the document:

```
https://slb.aliyuncs.com/?Action=DescribeLoadBalancers  
&Format=xml  
&Version=2014-05-15  
&Signature=xxxx%xxxx%3D  
&SignatureMethod=HMAC-SHA1  
&SignatureNonce=15215528852396  
&SignatureVersion=1.0  
&AccessKeyId=key-test  
&Timestamp=2012-06-01T12:00:00Z  
...
```

## SLB endpoints

The following table lists the SLB endpoints in each region.

Note: If a region is not listed, use the generic SLB endpoint.

| Region                  | Endpoint                        |
|-------------------------|---------------------------------|
| Other regions           | slb.aliyuncs.com                |
| China (Zhangjiakou)     | slb.cn-zhangjiakou.aliyuncs.com |
| China (Hohhot)          | slb.cn-huhehaote.aliyuncs.com   |
| Japan (Tokyo)           | slb.ap-northeast-1.aliyuncs.com |
| Australia (Sydney)      | slb.ap-southeast-2.aliyuncs.com |
| Malaysia (Kuala Lumpur) | slb.ap-southeast-3.aliyuncs.com |
| Indonesia (Jakarta)     | slb.ap-southeast-5.aliyuncs.com |

|                     |                               |
|---------------------|-------------------------------|
| India (Mumbai)      | slb.ap-south-1.aliyuncs.com   |
| UAE (Dubai)         | slb.me-east-1.aliyuncs.com    |
| Germany (Frankfurt) | slb.eu-central-1.aliyuncs.com |

## API authorization

For the security of your account, we recommend that you use a RAM user to call APIs. Before using a RAM user to call an API, you must grant the RAM user the corresponding permission to call the API by creating an authorization policy and attaching the policy to the RAM user.

For more information, see [RAM authentication](#).

## API signature

To ensure the security of your API, you must sign the API request. Alibaba Cloud uses the signature in the request to verify the identity of the person who calls the API.

Each time you manually call an API, you must use the AccessKey secret to calculate the HMAC value of the encoded and sorted request string as defined RFC 2104. The calculated HMAC value is the value of the signature parameter in the request.

**Note:** Alibaba Cloud provides multiple SDKs and third-party SDKs to make the manual signature process more efficient.

Add the signature to the API request in the following format:

```
https://slb.aliyuncs.com/?Action=XXX&SignatureVersion=1.0&SignatureMethod=HMAC-SHA1&Signature=CT9X0VtwR86fNWSnsc6v8YGOjuE%3D&SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6cf
```

Take the DescribeLoadBalancers as an example. If the AccessKey ID is testid, and the AccessKey Secret is testsecret, and the original request URL is as follows:

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

Follow these steps to calculate the signature:

Use the request parameters to create a canonicalized query string to sign.

The constructed string to sign is as follows:

```
GET&%2F&AccessKeyId%3Dtestid&Action%3DDescribeLoadBalancers&Format%3DXML&SignatureMetho
```

```
d%3DHMAC-SHA1&SignatureNonce%3D3ee8c1b8-83d3-44af-a94f-4e0ad82fd6cf&SignatureVersion%3D1.0&Timestamp%3D2016-02-23T12%253A46%253A24Z&Version%3D2014-05-26
```

Calculate the HMAC value of the string to sign.

Append an ampersand to the AccessKey secret as the key to calculate the HMAC value. In this example, the key is testsecret&.

The calculated signature in this example is as follows:

```
CT9X0VtwR86fNWSnsc6v8YGOjuE=
```

Add the signature to the request URL.

The final request URL is as follows:

```
http://slb.aliyuncs.com/?Action=DescribeLoadBalancers &SignatureVersion=1.0
SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6cf &Version=2014-05-15
&AccessKeyId=testid &Signature=CT9X0VtwR86fNWSnsc6v8YGOjuE%3D
&SignatureMethod=HMAC-SHA1&Timestamp=2016-02-23T12%3A46%3A24Z
&Format=XML&
```

## Common parameters

The following common request parameters must be added each time calling an API, and a request ID will be returned no matter the request is successful or not.

### Common request parameters

| Parameter   | Data Type | Required | Description                                                                 |
|-------------|-----------|----------|-----------------------------------------------------------------------------|
| Version     | String    | Yes      | The version of the API in the format of YYYY-MM-DD. Valid value: 2014-05-15 |
| AccessKeyId | String    | Yes      | The AccessKey ID of the user who calls the API.                             |
| Signature   | String    | Yes      | The request signature. For more information,                                |



|                      |        |     |                                                                                                                                  |
|----------------------|--------|-----|----------------------------------------------------------------------------------------------------------------------------------|
|                      |        |     | see Sign RPC APIs                                                                                                                |
| SignatureMethod      | String | Yes | The algorithm used to create the request signature. Valid value: HMAC-SHA1                                                       |
| Timestamp            | String | Yes | The time at which the quest is signed in the format of YYYY-MM-DDThh:mm:ssZ.<br>Example: 2014-05-26T12:00:00Z                    |
| SignatureVersion     | String | Yes | The signature version to use. Valid value: 1.0                                                                                   |
| SignatureNonce       | String | Yes | A random number for the signature to prevent from network attacks. Different random numbers must be used for different requests. |
| ResourceOwnerAccount | String | No  | The account owner of the resource that this request calls.                                                                       |
| Format               | String | No  | The format of the response. Valid values: JSON   XML (default value)                                                             |

```

http://slb.aliyuncs.com/?Action=DescribeLoadBalancers
&Timestamp=2014-05-19T10%3A33%3A56Z
&Format=xml
&AccessKeyId=testid
&SignatureMethod=Hmac-SHA1
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&SignatureNonce=NwDAxvLU6tFE0DVb
&Version=2014-05-15
&SignatureVersion=1.0
&Signature=FZnIrdNSLax4lnWf6NkKDC7mp54%3D

```

## Common response parameters

A RequestId is returned no matter the request is successful or not.

## XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<!--The root node of the result-->
<Action+Response>
<RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId>
<!--The returned result -->
</Action+Response>
```

## JSON format

```
{
  "RequestId": "4C467B38-3910-447D-87BC-AC049166F216",
  /* The returned response */
}
```

## RAM authentication

Before calling SLB APIs using a RAM user, the primary account must grant the RAM user the corresponding permission by creating an authentication policy. In the authentication policy, an Alibaba Cloud Resource Name (ARN) is used as the unique identifier of the resource to authorize.

This document introduces the SLB resources and APIs that can be authorized and the corresponding ARN format.

## SLB resources

The following table lists the SLB resources that can be authorized and the ARN format.

| Resource     | ARN format                                                       |
|--------------|------------------------------------------------------------------|
| LoadBalancer | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid     |
|              | acs:slb:\$regionid:\$accountid:loadbalancer/*                    |
|              | acs:slb:*\$accountid:loadbalancer/*                              |
|              | acs:slb:*:*:loadbalancer/*                                       |
| Certificate  | acs:slb:\$regionid:\$accountid:certificate/\$servercertificateid |
|              | acs:slb:\$regionid:\$accountid:certificate/*                     |

## SLB APIs

The following table lists the SLB resources that can be authorized and the ARN format.

### SLB instance APIs

| API                             | ARN format                                                   |
|---------------------------------|--------------------------------------------------------------|
| CreateLoadBalancer              | acs:slb:\$regionid:\$accountid:loadbalancer/*                |
| ModifyLoadBalancerInternetSpec  | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DeleteLoadBalancer              | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| SetLoadBalancerStatus           | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| SetLoadBalancerName             | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DescribeLoadBalancers           | acs:slb:\$regionid:\$accountid:loadbalancer/*                |
| DescribeLoadBalancerAttribute   | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DescribeRegions                 | acs:slb:*:\$accountid:*                                      |
| UploadServerCertificate         | acs:slb:%s:%s:certificate/*                                  |
| DeleteServerCertificate         | acs:slb:%s:%s:certificate/%                                  |
| DescribeServerCertificate       | acs:slb:%s:%s:certificate/%                                  |
| SetServerCertificateName        | acs:slb:%s:%s:certificate/%                                  |
| DescribeServerCertificates      | acs:slb:%s:%s:certificate/*                                  |
| CreateLoadBalancerHTTPListener  | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| CreateLoadBalancerHTTPSListener | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
|                                 | acs:slb:%s:%s:certificate/%                                  |
| CreateLoadBalancerTCPListener   | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| CreateLoadBalancerUDPListener   | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DeleteLoadBalancerListener      | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| StartLoadBalancerListener       | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| StopLoadBalancerListener        | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |

|                                            |                                                              |
|--------------------------------------------|--------------------------------------------------------------|
| SetLoadBalancerHTTPListenerAttribute       | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| SetLoadBalancerHTTPSListenerAttribute      | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
|                                            | acs:slb:%s:%s:certificate/%                                  |
| SetLoadBalancerTCPListenerAttribute        | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| SetLoadBalancerUDPListenerAttribute        | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DescribeLoadBalancerHTTPListenerAttribute  | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DescribeLoadBalancerHTTPSListenerAttribute | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DescribeLoadBalancerTCPListenerAttribute   | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| DescribeLoadBalancerUDPListenerAttribute   | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
| AddBackendServers                          | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
|                                            | acs:ecs:\$regionid:\$accountid:instance/\$instanceid         |
| RemoveBackendServers                       | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
|                                            | acs:ecs:\$regionid:\$accountid:instance/\$instanceid         |
| SetBackendServers                          | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |
|                                            | acs:ecs:\$regionid:\$accountid:instance/\$instanceid         |
| DescribeHealthStatus                       | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid |

## VServerGroup APIs

| API                      | ARN format                                                                                                           |
|--------------------------|----------------------------------------------------------------------------------------------------------------------|
| CreateVServerGroup       | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid<br>acs:ecs:\$regionid:\$accountid:instance/\$instanceid |
| SetVServerGroupAttribute | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid                                                         |
| DeleteVServerGroup       | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid                                                         |

|                                  |                                                                                                                      |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------|
| DescribeVServerGroups            | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid                                                         |
| DescribeVServerGroupAttribute    | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid                                                         |
| AddVServerGroupBackendServers    | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid<br>acs:ecs:\$regionid:\$accountid:instance/\$instanceid |
| RemoveVServerGroupBackendServers | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid<br>acs:ecs:\$regionid:\$accountid:instance/\$instanceid |
| ModifyVServerGroupBackendServers | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid<br>acs:ecs:\$regionid:\$accountid:instance/\$instanceid |

### Master-slave server group APIs

| API                                     | ARN format                                                                                                           |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| CreateMasterSlaveServerGroup            | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid<br>acs:ecs:\$regionid:\$accountid:instance/\$instanceid |
| DescribeMasterSlaveServerGroupAttribute | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid                                                         |
| DescribeMasterSlaveServerGroups         | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid                                                         |
| DeleteMasterSlaveServerGroup            | acs:slb:\$regionid:\$accountid:loadbalancer/\$loadbalancerid                                                         |

## SLB Instances

## CreateLoadBalancer

### Description

Create a Server Load Balancer instance.

## Request parameter

| Name             | Type   | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action           | String | Yes      | The action to perform.<br>Valid value:<br>CreateLoadBalancer                                                                                                                                                                                                                                                                                                                                                                            |
| RegionId         | String | Yes      | The ID of the region where the Server Load Balancer instance is located. For example: cn-hangzhou<br><br>Call the DescribeRegions API to get the list of available regions.                                                                                                                                                                                                                                                             |
| LoadBalancerSpec | String | No       | The specification of the Server Load Balancer instance. Valid values:<br><br>slb.s1.small  <br>slb.s2.small  <br>slb.s2.medium  <br>slb.s3.small    <br>slb.s3.medium  <br>slb.s3.large<br><br>The performance varies depending on the instance specification. For more information, see <a href="#">Guaranteed-performance instances</a> .<br><br><b>Note:</b> If no value is provided, a shared-performance instance will be created. |
| MasterZoneId     | String | No       | The ID of the active zone. By default, the SLB cluster in the active zone is used to distribute traffic.<br><br>Call the DescribeZone API to get the available zones to use.                                                                                                                                                                                                                                                            |
| SlaveZoneId      | String | No       | The ID of the standby zone. The standby zone takes over the traffic                                                                                                                                                                                                                                                                                                                                                                     |

|                    |        |    |                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|--------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |        |    | <p>distribution only when the SLB cluster in the master zone fails.</p> <p>Call the <code>DescribeZone</code> API to get the available zones to use.</p>                                                                                                                                                                                                                                              |
| LoadBalancerName   | String | No | The name of the SLB instance.                                                                                                                                                                                                                                                                                                                                                                         |
| AddressType        | String | No | <p>The network type of the SLB instance. Valid values:</p> <ul style="list-style-type: none"> <li>- internet<br/>(Default value):<br/>An Internet SLB instance can forward traffic only from the Internet.</li> <li>- intranet: An intranet SLB instance can forward traffic only from the intranet.<b>Note:</b> If intranet is selected, the <b>VSwitchId</b> parameter must be provided.</li> </ul> |
| VSwitchId          | String | No | The ID of the VSwitch where the SLB instance is created.                                                                                                                                                                                                                                                                                                                                              |
| InternetChargeType | String | No | The billing method used for the Internet SLB instance. Valid value: <code>paybytraffic</code>                                                                                                                                                                                                                                                                                                         |
| ClientToken        | String | No | <p>The client token to ensure the idempotence of a request.</p> <p>It is a unique, case-sensitive string of up to</p>                                                                                                                                                                                                                                                                                 |

|                 |        |    |                                                                                     |
|-----------------|--------|----|-------------------------------------------------------------------------------------|
|                 |        |    | 64 ASCII characters. For more information, see <a href="#">Ensure idempotence</a> . |
| ResourceGroupId | String | No | Enterprise resources group ID.                                                      |

## Response parameter

| Name             | Type   | Description                                                                                                                |
|------------------|--------|----------------------------------------------------------------------------------------------------------------------------|
| RequestId        | String | The ID of the request.                                                                                                     |
| LoadBalancerId   | String | The ID of the SLB instance.                                                                                                |
| Address          | String | The IP address of the SLB instance.                                                                                        |
| VpcId            | String | The ID of a VPC instance.                                                                                                  |
| VSwitchId        | String | The ID of a VSwitch in a VPC instance.                                                                                     |
| MasterZoneId     | String | The active zone of the SLB instance.                                                                                       |
| SlaveZoneId      | String | The standby zone of the SLB instance.                                                                                      |
| LoadBalancerName | String | The name of the SLB instance.                                                                                              |
| LoadBalancerSpec | String | The specification of the SLB instance.<br><br>If no value is returned, then the instance is a shared-performance instance. |

## Example

### Request example

```
https://slb.example.com/?Action=CreateLoadBalancer
&RegionId=cn-east-hangzhou-01
&LoadBalancerName=abc
&AddressType=internet
&InternetChargeType=paybytraffic
&<CommonRequestParameters>
```

### Response example



## XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<CreateLoadBalancerResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<LoadBalancerId>139a00604ad-cn-east-hangzhou-01</LoadBalancerId>
<Address>42.250.6.36</Address>
<NetworkType>classic</NetworkType>
<MasterZoneId>cn-hangzhou-b</MasterZoneId>
<SlaveZoneId>cn-hangzhou-d</SlaveZoneId>
<LoadBalancerName>abc</LoadBalancerName>
</CreateLoadBalancerResponse>
```

## JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "LoadBalancerId": "139a00604ad-cn-east-hangzhou-01",
  "Address": "42.250.6.36",
  "NetworkType": "classic",
  "MasterZoneId": "cn-hangzhou-b",
  "SlaveZoneId": "cn-hangzhou-d",
  "LoadBalancerName": "abc"
}
```

# DeleteLoadBalancer

## Description

Delete an SLB instance.

The configurations such as listeners or tags will also be deleted after the instance is deleted.

## Request parameter

| Name     | Type   | Required | Description                                                  |
|----------|--------|----------|--------------------------------------------------------------|
| Action   | String | Yes      | The action to perform.<br>Valid value:<br>DeleteLoadBalancer |
| RegionId | String | Yes      | The ID of the region<br>where the SLB instance               |

|                |        |     |                                                   |
|----------------|--------|-----|---------------------------------------------------|
|                |        |     | is located.                                       |
| LoadBalancerId | String | Yes | The unique ID of a Server Load Balancer instance. |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DeleteLoadBalancer
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&<Common request parameter>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DeleteLoadBalancerResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</DeleteLoadBalancerResponse>
```

#### JSON format

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

## SetLoadBalancerStatus

## Description

Set the status of an SLB instance.

## Request parameter

| Name               | Type   | Required | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action             | String | Yes      | The action to perform.<br>Valid value:<br>SetLoadBalancerStatus                                                                                                                                                                                                                                                                                                                                 |
| RegionId           | String | Yes      | The ID of the region where the SLB instance is located.                                                                                                                                                                                                                                                                                                                                         |
| LoadBalancerId     | String | Yes      | The ID of the SLB instance.                                                                                                                                                                                                                                                                                                                                                                     |
| LoadBalancerStatus | String | Yes      | The status of the SLB instance. Valid values: <ul style="list-style-type: none"><li>- activeBy default, the SLB instance status is active. You can set the status to active when you want an active SLB instance to restart distributing traffic.</li><li>- inactiveIf you set the status of an SLB instance to inactive, the listeners in the instance cannot distribute traffic any</li></ul> |

|  |  |  |                                                                                                                   |
|--|--|--|-------------------------------------------------------------------------------------------------------------------|
|  |  |  | more.<br>- <b>Note:</b> The instance status changes to inactive if all the listeners of the instance are deleted. |
|--|--|--|-------------------------------------------------------------------------------------------------------------------|

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=SetLoadBalancerStatus
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&LoadBalancerStatus=active
&<common request parameter>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetLoadBalancerStatusResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</SetLoadBalancerStatusResponse>
```

#### JSON format

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

# SetLoadBalancerName

## Description

Configure a name for an SLB instance.

## Request parameter

| Name             | Type   | Required | Description                                                                                                                                                                           |
|------------------|--------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action           | String | Yes      | The action to perform.<br>Valid value:<br>SetLoadBalancerName                                                                                                                         |
| RegionId         | String | Yes      | The ID of the region where the SLB instance is located.                                                                                                                               |
| LoadBalancerId   | String | Yes      | The ID of the SLB instance.                                                                                                                                                           |
| LoadBalancerName | String | Yes      | The name of the SLB instance.<br><br>The name must start with Chinese or English letters, and be 1-80 characters in length including underscores (_), periods (.), and en dashes (-). |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

## Request example

```
https://slb.aliyuncs.com/?Action=SetLoadBalancerName
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&LoadBalancerName=abc
&<common request parameter>
```

## Response example

### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetLoadBalancerStatusResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</SetLoadBalancerStatusResponse>
```

### JSON format

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

# DescribeLoadBalancers

## Description

Query all LoadBalancer lists.

Parameters such as LoadBalancerId, AddressType, InternetChargeType and ServerId can be used as query criteria. If none of the preceding query criteria is used as a filter, all LoadBalancers owned by the user will be returned.

## Request parameter

| Name   | Type   | Required | Description                                                        |
|--------|--------|----------|--------------------------------------------------------------------|
| Action | String | Yes      | Name of the operating interface, which is specified in the system. |

|                  |        |     |                                                                                                                                                                                                                                                                                    |
|------------------|--------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |        |     | Value:<br>DescribeLoadBalancers.                                                                                                                                                                                                                                                   |
| RegionId         | String | Yes | ID of the Region where the Server Load Balancer instance is located.                                                                                                                                                                                                               |
| LoadBalancerId   | String | No  | The Server Load Balancer instance ID is used as a filter, and multivalued query is supported.<br>Value:Multiple parameters can be input and separated by " , " . Default:None.<br>When parameter is not set, it means that the parameter is not used as the filtration criteria.   |
| LoadBalancerName | String | No  | The Server Load Balancer instance Name is used as a filter, and multivalued query is supported.<br>Value:Multiple parameters can be input and separated by " , " . Default:None.<br>When parameter is not set, it means that the parameter is not used as the filtration criteria. |
| AddressType      | String | No  | The Address type is used as a filter. Value: internet / intranet.<br>Default: None. When the parameter is not set, it means that the parameter is not used as the filtration criteria.                                                                                             |
| NetworkType      | String | No  | The charging mode of the public network instance is used as filter.                                                                                                                                                                                                                |
| VpcId            | String | No  | The VPC ID of the Server Load Balancer instance.<br>Value: wrr/wlc<br>Default: wrr.                                                                                                                                                                                                |
| VswitchId        | String | No  | Vswitchid of the Server Load Balancer instance.                                                                                                                                                                                                                                    |

|                    |        |    |                                                                                                                                                                                                                                                                                                                              |
|--------------------|--------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Address            | String | No | Service address of the Server Load Balancer instance.                                                                                                                                                                                                                                                                        |
| InternetChargeType | String | No | The charging mode of the public network instance is used as filter. Value: paybybandwidth / paybytrafficDefault: None. When the parameter is not set, it means that the parameter is not used as the filtration criteria.                                                                                                    |
| ServerId           | String | No | The backend server ID (ECS instance ID) is used as a filter. If the criterion is adopted, only the Server Load Balancer instance attached with this server will be returned. Value: ID of an ECS instance. Default: None. When the parameter is not set, it means that the parameter is not used as the filtration criteria. |
| MasterZoneId       | String | No | The master zone ID of the instance. Use <b>DescribeZone</b> to see master/slave zones in a region. Multi-zone is not supported for FinCloud.                                                                                                                                                                                 |
| SlaveZoneId        | String | No | The slave zone ID of the instance. Use <b>DescribeZone</b> to see master/slave zones in a region. Multi-zone is not supported for FinCloud.                                                                                                                                                                                  |
| Tags               | String | No | The Tag list to be added. Value: a Json string, the structure is a JsonList. In a request, the maximum number of elements in a List is 10. The structure of List element are as follows.                                                                                                                                     |

## Return parameter

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



|                  |      |                                                                                                  |
|------------------|------|--------------------------------------------------------------------------------------------------|
| Common Parameter |      | For more information, see <a href="#">Common parameters</a> .                                    |
| LoadBalancers    | List | The Server Load Balancer instance list is returned in the array format. See the following table. |

The Server Load Balancer instance list (LoadBalancers)

| Name               | Type   | Description                                                                                                                                                                                                                |
|--------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LoadBalancerId     | String | The unique ID of a Server Load Balancer instance.                                                                                                                                                                          |
| LoadBalancerName   | String | Alias of an Server Load Balancer instance                                                                                                                                                                                  |
| LoadBalancerStatus | String | The status of the Server Load Balancer instance, inactive, active or locked. The locked status indicates the instance is subject to arrears or locked by Alibaba Cloud, so renew it or contact Alibaba Cloud to unlock it. |
| Address            | String | The service address of the SLB instance.                                                                                                                                                                                   |
| RegionId           | String | The ID of the region.                                                                                                                                                                                                      |
| RegionIdAlias      | String | The alias of the region, which is the same with the return parameter of DescribeRegions.                                                                                                                                   |
| AddressType        | String | Address type of the SLB instance.                                                                                                                                                                                          |
| VSwitchId          | String | The VSwitch ID of the SLB instance.                                                                                                                                                                                        |
| VpcId              | String | The VPC ID of the SLB instance.                                                                                                                                                                                            |
| NetworkType        | String | The network type of the SLB instance. VPC or classic.                                                                                                                                                                      |
| Bandwidth          | String | The peak bandwidth to be set when the public network instance is charged by fixed bandwidth.                                                                                                                               |
| CreateTime         | String | The create time of the SLB instance.                                                                                                                                                                                       |
| MasterZoneId       | String | The master zone ID of the instance.                                                                                                                                                                                        |
| SlaveZoneId        | String | The slave zone ID of the instance.                                                                                                                                                                                         |

## Example

## Request example

```
https://slb.aliyuncs.com/  
&Action=DescribeLoadBalancers  
&RegionId=cn-east-hangzhou-01  
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01, 282b00102ac-cn-east-hangzhou-01&<common request  
parameter>
```

## Return example

### XML format

```
<?xml version="1.0" encoding="UTF-8"?>  
<DescribeLoadBalancersResponse>  
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>  
<LoadBalancers>  
<LoadBalancer>  
<LoadBalancerId>139a00604ad-cn-east-hangzhou-01</LoadBalancerId>  
<LoadBalancerName>abc</LoadBalancerName>  
<Address>100.98.28.56</Address>  
<AddressType>intranet</AddressType>  
<RegionId>cn-east-hangzhou-01</RegionId>  
<VSwitchId>vsw-255ecrwq4</VSwitchId>  
<VpcId>vpc-25dvzy9f9</VpcId>  
<NetworkType>vpc</NetworkType>  
<LoadBalancerStatus>active</LoadBalancerStatus>  
</LoadBalancer>  
<LoadBalancer>  
<LoadBalancerId>282b00102ac-cn-east-hangzhou-01</LoadBalancerId>  
<LoadBalancerName>def</LoadBalancerName>  
<Address>100.98.28.55</Address>  
<AddressType>intranet</AddressType>  
<RegionId>cn-east-hangzhou-01</RegionId>  
<VSwitchId>vsw-255ecrwq5</VSwitchId>  
<VpcId>vpc-25dvzy9f8</VpcId>  
<NetworkType>vpc</NetworkType>  
<LoadBalancerStatus>active</LoadBalancerStatus>  
</LoadBalancer>  
</LoadBalancers>  
</DescribeLoadBalancersResponse>
```

### JSON format

```
{  
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",  
  "LoadBalancers": {  
    "LoadBalancer": [  
      {  
        "LoadBalancerId": "139a00604ad-cn-east-hangzhou-01",
```

```
"LoadBalancerName": "abc",
"Address": "100.98.28.56",
"AddressType": "intranet",
"RegionId": "cn-east-hangzhou-01",
"VSwitchId": "vsw-255ecrwq4",
"VpcId": "vpc-25dvzy9f9",
"NetworkType": "vpc",
"LoadBalancerStatus": "active"
},
{
  "LoadBalancerId": "282b00102ac-cn-east-hangzhou-01",
  "LoadBalancerName": "def",
  "Address": "100.98.28.55",
  "AddressType": "intranet",
  "RegionId": "cn-east-hangzhou-01",
  "VSwitchId": "vsw-255ecrwq5",
  "VpcId": "vpc-25dvzy9f8",
  "NetworkType": "vpc",
  "LoadBalancerStatus": "active"
}
]
}
```

# DescribeLoadBalancerAttribute

## Description

Query the detailed information of an SLB instance according to instance ID.

## Request parameter

| Name     | Type   | Required | Description                                                                                                       |
|----------|--------|----------|-------------------------------------------------------------------------------------------------------------------|
| Action   | String | Yes      | The action to perform.<br>Valid value:<br><br>DescribeLoadBalancerAttribute                                       |
| RegionId | String | Yes      | The ID of the region where the Server Load Balancer instance is located. For example: cn-hangzhou<br><br>Call the |

|              |        |    |                                                                                                                                                                                                                 |
|--------------|--------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |        |    | DescribeRegions API to get the list of available regions.                                                                                                                                                       |
| MasterZoneId | String | No | <p>The ID of the active zone. By default, the SLB cluster in the active zone is used to distribute traffic.</p> <p>Call the DescribeZone API to get the available zones to use.</p>                             |
| SlaveZoneId  | String | No | <p>The ID of the standby zone. The standby zone takes over the traffic distribution only when the SLB cluster in the master zone fails.</p> <p>Call the DescribeZone API to get the available zones to use.</p> |

## Response parameter

| Name               | Type   | Description                                                                                                                                                                                                                                                                                                                           |
|--------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId          | String | The ID of the request.                                                                                                                                                                                                                                                                                                                |
| LoadBalancerId     | String | The ID of SLB instance.                                                                                                                                                                                                                                                                                                               |
| RegionId           | String | The ID of the region where the SLB instance is located.                                                                                                                                                                                                                                                                               |
| RegionIdAlias      | String | The name of the region where the SLB instance is located.                                                                                                                                                                                                                                                                             |
| LoadBalancerName   | String | The name of the SLB instance.                                                                                                                                                                                                                                                                                                         |
| LoadBalancerStatus | String | <p>The status of the SLB instance.</p> <ul style="list-style-type: none"> <li>- activeWhen the SLB instance in the active status, the listeners in the instance can distribute traffic.</li> <li>- inactiveWhen the SLB instance in the inactive status, the listeners in the instance cannot distribute traffic any more.</li> </ul> |

|                          |        |                                                                                                                                                                                   |
|--------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Address                  | String | The IP address of the SLB instance                                                                                                                                                |
| AddressType              | String | The type of the SLB instance address. Valid values:<br>internet   intranet                                                                                                        |
| NetworkType              | String | The network type of the SLB instance. Valid values:<br>classic   vpc                                                                                                              |
| VpcId                    | String | The ID of the VPC where the SLB instance is created.<br><b>Note:</b> This parameter is returned only when a VPC network SLB instance is created.                                  |
| VswitchId                | String | The ID of the VSwitch where the SLB instance is created.<br><b>Note:</b> This parameter is returned only when a VPC network SLB instance is created.                              |
| CreateTime               | String | The time at which the SLB instance is created.                                                                                                                                    |
| ListenerPorts            | List   | The list of front-end ports configured in the SLB instance.<br><br>- ListenerPort: The used front-end port.                                                                       |
| ListenerPortsAndProtocol | List   | The list of the front-end ports and protocols configured in the SLB instance.<br><br>- ListenerPort: The used front-end port.<br>- ListenerProtocol: The used front-end protocol. |
| BackendServers           | List   | The list of the backend servers added to the SLB instance.<br><br>- ServerId: The ID of the backend server (ECS instance).<br>- Weight: The weight of the backend server.         |

|              |        |                                                 |
|--------------|--------|-------------------------------------------------|
| MasterZoneId | String | The ID of the active zone of the SLB instance.  |
| SlaveZoneId  | String | The ID of the standby zone of the SLB instance. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeLoadBalancerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&<Common Parameter>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeLoadBalancerAttributeResponse>
<RequestId>3205F12B-DF50-4615-9F5E-7D40D52CD74F</RequestId>
<CreateTimeStamp>1518143733000</CreateTimeStamp>
<RegionIdAlias>cn-hangzhou</RegionIdAlias>
<BackendServers>
<BackendServer>
<ServerId>i-bp17pmfcz39l7qf3hex4</ServerId>
<Weight>100</Weight>
</BackendServer>
</BackendServers>
<ListenerPorts>
<ListenerPort>443</ListenerPort>
<ListenerPort>80</ListenerPort>
</ListenerPorts>
<InternetChargeType>paybytraffic</InternetChargeType>
<VSwitchId></VSwitchId>
<VpcId></VpcId>
<SlaveZoneId>cn-hangzhou-d</SlaveZoneId>
<NetworkType>classic</NetworkType>
<ListenerPortsAndProtocol>
<ListenerPortAndProtocol>
<ListenerProtocol>tcp</ListenerProtocol>
<ListenerPort>443</ListenerPort>
</ListenerPortAndProtocol>
<ListenerPortAndProtocol>
<ListenerProtocol>tcp</ListenerProtocol>
<ListenerPort>80</ListenerPort>
</ListenerPortAndProtocol>
</ListenerPortsAndProtocol>
<PayType>PayOnDemand</PayType>
```

```

<Bandwidth>5120</Bandwidth>
<LoadBalancerName>a8b30bdf00d4111e8a60900163e10659</LoadBalancerName>
<ResourceGroupId>rg-acfntierof5q2nq</ResourceGroupId>
<LoadBalancerId>lb-1ud4syvk9wlwd0gav09uy</LoadBalancerId>
<EndTimeStamp>32493801600000</EndTimeStamp>
<MasterZoneId>cn-hangzhou-b</MasterZoneId>
<ListenerPortsAndProtocol>
<ListenerPortAndProtocol>
<ListenerProtocol>tcp</ListenerProtocol>
<ListenerPort>443</ListenerPort>
</ListenerPortAndProtocol>
<ListenerPortAndProtocol>
<ListenerProtocol>tcp</ListenerProtocol>
<ListenerPort>80</ListenerPort>
</ListenerPortAndProtocol>
</ListenerPortsAndProtocol>
<CreateTime>2018-02-09T02:35:33Z</CreateTime>
<RegionId>cn-hangzhou-dg-a01</RegionId>
<Address>101.37.225.8</Address>
<AddressType>internet</AddressType>
<EndTime>2999-09-08T16:00:00Z</EndTime>
<LoadBalancerStatus>active</LoadBalancerStatus>
</DescribeLoadBalancerAttributeResponse>

```

## JSON format

```

{
  "CreateTimeStamp": 1518143733000,
  "RegionIdAlias": "cn-hangzhou",
  "BackendServers": {
    "BackendServer": [
      {
        "ServerId": "i-bp17pmfcz39l7qf3hex4",
        "Weight": 100
      }
    ]
  },
  "ListenerPorts": {
    "ListenerPort": [
      443,
      80
    ]
  },
  "InternetChargeType": "paybytraffic",
  "VSwitchId": "",
  "VpcId": "",
  "SlaveZoneId": "cn-hangzhou-d",
  "NetworkType": "classic",
  "ListenerPortsAndProtocol": {
    "ListenerPortAndProtocol": [
      {
        "ListenerProtocol": "tcp",
        "ListenerPort": 443
      }
    ]
  }
}

```

```
"ListenerProtocol": "tcp",
"ListenerPort": 80
},
"PayType": "PayOnDemand",
"Bandwidth": 5120,
"LoadBalancerName": "a8b30bdf00d4111e8a60900163e10659",
"ResourceGroupId": "rg-acfntierof5q2nq",
"LoadBalancerId": "lb-1ud4syvk9wlwd0gav09uy",
"EndTimeStamp": 32493801600000,
"MasterZoneId": "cn-hangzhou-b",
"ListenerPortsAndProtocal": {
  "ListenerPortAndProtocal": [
    {
      "ListenerProtocol": "tcp",
      "ListenerPort": 443
    },
    {
      "ListenerProtocol": "tcp",
      "ListenerPort": 80
    }
  ]
},
"CreateTime": "2018-02-09T02:35:33Z",
"RequestId": "3205F12B-DF50-4615-9F5E-7D40D52CD74F",
"RegionId": "cn-hangzhou-dg-a01",
"Address": "101.37.225.8",
"AddressType": "internet",
"EndTime": "2999-09-08T16:00:00Z",
"LoadBalancerStatus": "active"
}
```

# DescribeRegions

## Description

Query available regions.

## Request parameter

| Name   | Type   | Required | Description                                               |
|--------|--------|----------|-----------------------------------------------------------|
| Action | String | Yes      | The action to perform.<br>Valid value:<br>DescribeRegions |



## Response parameter

| Name      | Type   | Description                                                                 |
|-----------|--------|-----------------------------------------------------------------------------|
| RequestId | string | The ID of the request.                                                      |
| Regions   | List   | The list of the available regions, including the region ID and region name. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeRegions
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeRegionsResponse>
  <RequestId>1651FBB6-4FBF-49FF-A9F5-DF5D696C7EC6</RequestId>
  <Regions>
    <Region>
      <RegionId>cn-east-hangzhou-01</RegionId>
      <LocalName>hangzhou</LocalName>
    </Region>
    <Region>
      <RegionId>cn-beijing</RegionId>
      <LocalName>beijing</LocalName>
    </Region>
  </Regions>
</DescribeRegionsResponse>
```

#### JSON format

```
{
  "RequestId": "10F39989-5FB8-41D3-8B4B-176F8344F4F4",
  "Regions": {
    "Region": [
      {
        "RegionId": "cn-east-hangzhou-01",
        "LocalName": "hangzhou"
      },
    ],
  },
}
```

```
{
  "RegionId": "cn-beijing",
  "LocalName": "beijing"
}
]
```

# DescribeZones

## Description

Query available active/standby zones in the specified region.

## Request parameter

| Name     | Type   | Required | Description                                             |
|----------|--------|----------|---------------------------------------------------------|
| Action   | String | Yes      | The action to perform.<br>Valid value:<br>DescribeZones |
| RegionId | String | Yes      | The ID of the region to query.                          |

## Response parameter

| Name                      | Type   | Description                    |
|---------------------------|--------|--------------------------------|
| RequestId                 | String | The ID of the request.         |
| Zones                     | List   | The list of available zones.   |
| <b>Zones objects</b>      |        |                                |
| ZoneId                    | String | The ID of the active zone.     |
| LocalName                 | String | The name of the active zone.   |
| SlaveZones                | List   | The list of the standby zones. |
| <b>SlaveZones objects</b> |        |                                |
| ZoneId                    | String | The ID of the standby zone.    |

|           |        |                               |
|-----------|--------|-------------------------------|
| LocalName | String | The name of the standby zone. |
|-----------|--------|-------------------------------|

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeZones
&RegionId=cn-beijing
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8" ?>
<RequestId>42FBCFB4-D6EF-4A69-A306-46EC5B156AE4</RequestId>
<Zones>
  <Zone>
    <SlaveZones>
      <SlaveZone>
        <ZoneId>cn-hangzhou-d</ZoneId>
        <LocalName>China North 1 Hangzhou Zone D</LocalName>
      </SlaveZone>
    </SlaveZones>
    <ZoneId>cn-hangzhou-b</ZoneId>
    <LocalName>China North 1 Zone B</LocalName>
  </Zone>
  <Zone>
    <SlaveZones>
      <SlaveZone>
        <ZoneId>cn-hangzhou-e</ZoneId>
        <LocalName>China North 1 Zone E</LocalName>
      </SlaveZone>
    </SlaveZones>
    <ZoneId>cn-hangzhou-f</ZoneId>
    <LocalName>China North 1 Zone F</LocalName>
  </Zone>
</Zones>
```

#### JSON format

```
{
  "RequestId": "42FBCFB4-D6EF-4A69-A306-46EC5B156AE4",
  "Zones": {
    "Zone": [
      {
        "SlaveZones": {
```

```
"SlaveZone": [
{
"ZoneId": "cn-hangzhou-d",
"LocalName": "China North 1 Zone D"
}
],
{
"ZoneId": "cn-hangzhou-b",
"LocalName": "China North 1 Zone B"
},
{
"SlaveZones": {
"SlaveZone": [
{
"ZoneId": "cn-hangzhou-e",
"LocalName": "China North 1 Zone E"
}
]
},
{
"ZoneId": "cn-hangzhou-f",
"LocalName": "China North 1 Zone F"
}
]
}
}
```

# ModifyLoadBalancerInstanceSpec

## Description

Modify the performance specification for a guaranteed-performance SLB instance.

## Request parameter

| Name     | Type   | Required | Description                                                              |
|----------|--------|----------|--------------------------------------------------------------------------|
| Action   | String | Yes      | The action to perform.<br>Valid value:<br>ModifyLoadBalancerInstanceSpec |
| RegionId | String | Yes      | The ID of the region where the SLB instance is located.                  |

|                  |        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|--------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LoadBalancerId   | String | Yes | The ID of the SLB instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| LoadBalancerSpec | String | Yes | <p>The specification for the SLB instance. Valid values:</p> <ul style="list-style-type: none"><li>- slb.s1.small</li><li>- slb.s2.small</li><li>- slb.s2.medium</li><li>- slb.s3.small</li><li>- slb.s3.medium</li><li>- slb.s3.large</li></ul> <p>The available specification varies by regions. For more information, see <b>Guaranteed-performance instances</b>.</p> <p><b>Note:</b> When you change a shared-performance instance to a guaranteed-performance instance, a brief disconnection of service may occur for 10 to 30 seconds. We recommend that you perform this operation when the service is not busy or after the service migrates to another SLB instance.</p> |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action= ModifyLoadBalancerInstanceSpec
&RegionId=us-east-01
&LoadBalancerId=139a00604ad-us-east-01
&LoadBalancerSpec=slb.s2.small
```

&<CommonParameters>

## Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<ModifyLoadBalancerInstanceSpecResponse>
  <RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
</ModifyLoadBalancerInstanceSpecResponse>
```

JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
}
```

# Server Certificate

## UploadServerCertificate

### Description

Upload a server certificate. Only one server certificate with the corresponding private key can be uploaded each time.

This API is transactional, that is, the server certificate and the private key are either uploaded successfully or not. After the certificate and private key are successfully added, the fingerprints of all the server certificates under your account are returned.

### Request parameter

| Name   | Type   | Required | Description                            |
|--------|--------|----------|----------------------------------------|
| Action | String | Yes      | The action to perform.<br>Valid value: |

|                         |        |     |                                                        |
|-------------------------|--------|-----|--------------------------------------------------------|
|                         |        |     | UploadServerCertificate                                |
| RegionId                | String | Yes | The ID of the region where an SLB instance is located. |
| ServerCertificate       | String | Yes | The server certificate to be uploaded.                 |
| ServerCertificateName   | String | No  | The name of the server certificate.                    |
| PrivateKey              | String | Yes | The private key of the server certificate.             |
| AliCloudCertificateId   | String | No  | Certificate ID of Alibaba Cloud.                       |
| AliCloudCertificateName | String | No  | Certificate Name of Alibaba Cloud.                     |
| ResourceGroupId         | String | No  | The ID of enterprise resource group.                   |

## Response parameter

| Name                  | Type   | Description                                |
|-----------------------|--------|--------------------------------------------|
| RequestId             | string | The ID of the request.                     |
| ServerCertificateId   | String | The ID of the server certificate.          |
| ServerCertificateName | String | The name of the server certificate.        |
| Fingerprint           | String | The fingerprint of the server certificate. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=UploadServerCertificate
&RegionId=cn-east-hangzhou-01
&ServerCertificate=test
&ServerCertificateName=mycert01
&PrivateKey=wmsad!q23
&<CommonParameters>
```

### Response example

## XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<UploadServerCertificateResponse>
  <RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
  <ServerCertificateId>idkp-123-cn-test-01</ServerCertificateId>
  <ServerCertificateName>mycert01</ServerCertificateName>
  <Fingerprint>01:DF:AB:CD</Fingerprint>
</UploadServerCertificateResponse>
```

## JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "ServerCertificateId": "idkp-123-cn-test-01",
  "ServerCertificateName": "mycert01",
  "Fingerprint": "01:DF:AB:CD"
}
```

# DeleteServerCertificate

## Description

Delete a server certificate.

**Note:** Cannot delete a server certificate that is in use.

## Request parameter

| Name                | Type   | Required | Description                                                       |
|---------------------|--------|----------|-------------------------------------------------------------------|
| Action              | String | Yes      | The action to perform.<br>Valid value:<br>DeleteServerCertificate |
| RegionId            | String | No       | The ID of the region where the server certificate is uploaded.    |
| ServerCertificateId | String | Yes      | The ID of the server certificate.                                 |



## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DeleteServerCertificate
&RegionId=cn-east-hangzhou-01
&ServerCertificateId=idkp-123-cn-test-01
&<Public Request Parameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DeleteServerCertificateResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</DeleteServerCertificateResponse>
```

- JSON format

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

# DescribeServerCertificates

## Description

Query the server certificates in a specified region.

**Note:** For security, only the name and the fingerprint are returned instead of the actual certificate contents and the private key.

## Request parameter

| Name                | Type   | Required | Description                                          |
|---------------------|--------|----------|------------------------------------------------------|
| Action              | String | Yes      | The action to perform.<br>DescribeServerCertificates |
| RegionId            | String | Yes      | The ID of the region to query.                       |
| ServerCertificateId | String | No       | The ID of the server certificate.                    |
| ResourceGroupId     | String | No       | The ID of enterprise resource group.                 |

## Response parameter

| Name               | Type   | Description                                                                                                                                                                                                                                                                                                 |
|--------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId          | String | The ID of the request.                                                                                                                                                                                                                                                                                      |
| ServerCertificates | List   | A list of the server certificates, including the following items: <ul style="list-style-type: none"><li>- ServerCertificateIdThe ID of the server certificate.</li><li>- ServerCertificateNameThe name of the server certificate.</li><li>- FingerprintThe fingerprint of the server certificate.</li></ul> |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeServerCertificates
&RegionId=cn-east-hangzhou-01
&<Public Request Parameters>
```

## Response example

### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeServerCertificatesResponse>
<RequestId>6E8FAFB0-7262-492A-B7C2-B421FD4ADBFC</RequestId>
<ServerCertificates>
<ServerCertificate>
<CreateTimeStamp>1502155382000</CreateTimeStamp>
<ServerCertificateId>1231579085529123_15dbf701d56_-417255761_616629763</ServerCertificateId>
<RegionIdAlias>cn-hangzhou</RegionIdAlias>
<AliCloudCertificateId></AliCloudCertificateId>
<CreateTime>2017-08-08T01:23:02Z</CreateTime>
<ResourceGroupId>rg-acfmxazb4ph6aiy</ResourceGroupId>
<RegionId>cn-hangzhou</RegionId>
<ServerCertificateName>cert-1502087065310</ServerCertificateName>
<IsAliCloudCertificate>0</IsAliCloudCertificate>
<AliCloudCertificateName></AliCloudCertificateName>
<Fingerprint>7c:32:e8:0c:9e:a9:f8:c9:4c:9b:af:cf:bb:57:ef:60:80:2a:97:ae</Fingerprint>
</ServerCertificate>
<ServerCertificate>
<CreateTimeStamp>1481623069000</CreateTimeStamp>
<ServerCertificateId>1231579085529123_158f79de306</ServerCertificateId>
<RegionIdAlias>cn-hangzhou</RegionIdAlias>
<AliCloudCertificateId>0</AliCloudCertificateId>
<CreateTime>2016-12-13T09:57:49Z</CreateTime>
<ResourceGroupId>rg-acfmxazb4ph6aiy</ResourceGroupId>
<RegionId>cn-hangzhou</RegionId>
<ServerCertificateName>test_certificate</ServerCertificateName>
<IsAliCloudCertificate>0</IsAliCloudCertificate>
<AliCloudCertificateName></AliCloudCertificateName>
<Fingerprint>cd:90:1b:7b:49:4d:1d:90:f6:01:de:9a:81:7d:31:a7:38:1d:84:8d</Fingerprint>
</ServerCertificate>
</ServerCertificates>
</DescribeServerCertificatesResponse>
```

### JSON format

```
{
  "RequestId": "6E8FAFB0-7262-492A-B7C2-B421FD4ADBFC",
  "ServerCertificates": {
    "ServerCertificate": [
      {
        "CreateTimeStamp": 1502155382000,
        "ServerCertificateId": "1231579085529123_15dbf701d56_-417255761_616629763",
        "RegionIdAlias": "cn-hangzhou",
        "AliCloudCertificateId": "",
        "CreateTime": "2017-08-08T01:23:02Z",
        "ResourceGroupId": "rg-acfmxazb4ph6aiy",
        "RegionId": "cn-hangzhou",
```

```
"ServerCertificateName": "cert-1502087065310",
"IsAliCloudCertificate": 0,
"AliCloudCertificateName": "",
"Fingerprint": "7c:32:e8:0c:9e:a9:f8:c9:4c:9b:af:cf:bb:57:ef:60:80:2a:97:ae"
},
{
  "CreateTimeStamp": 1481623069000,
  "ServerCertificateId": "1231579085529123_158f79de306",
  "RegionIdAlias": "cn-hangzhou",
  "AliCloudCertificateId": "0",
  "CreateTime": "2016-12-13T09:57:49Z",
  "ResourceGroupId": "rg-acfmxazb4ph6aiy",
  "RegionId": "cn-hangzhou",
  "ServerCertificateName": "test_certificate",
  "IsAliCloudCertificate": 0,
  "AliCloudCertificateName": "",
  "Fingerprint": "cd:90:1b:7b:49:4d:1d:90:f6:01:de:9a:81:7d:31:a7:38:1d:84:8d"
}
]
}
```

# SetServerCertificateName

## Description

Configure a name for a server certificate.

## Request parameter

| Name                  | Type   | Required | Description                                                                                                 |
|-----------------------|--------|----------|-------------------------------------------------------------------------------------------------------------|
| Action                | String | Yes      | The action to perform.<br>Valid value:<br>SetServerCertificateName                                          |
| ServerCertificateId   | String | Yes      | The ID of the server certificate.                                                                           |
| ServerCertificateName | String | Yes      | The name of the server certificate.<br><br>The name must start with Chinese or English letters, and be 1-80 |

|  |  |  |                                                                                 |
|--|--|--|---------------------------------------------------------------------------------|
|  |  |  | characters in length including underscores (_), periods (.), and en dashes (-). |
|--|--|--|---------------------------------------------------------------------------------|

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=SetServerCertificateName
&ServerCertificateId=139a00604ad-cn-east-hangzhou-01
&ServerCertificateName=abc
&<CommonParameters>
```

### Response example

- XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetCertificateNameResponse>
  <RequestId>CEF72CEB-54B6-4AE8-B225-F876FE7BA984</RequestId>
</SetCertificateNameResponse>
```

- JSON format

```
{
  "RequestId": "CEF72CEB-54B6-4AE8-B225-F876FE7BA984"
}
```

## UploadCACertificate

## Description

Upload a CA certificate. You can only upload one certificate each time.

After a certificate is successfully uploaded, the certificate ID and fingerprint are returned.

## Request parameter

| Name              | Type   | Required | Description                                                   |
|-------------------|--------|----------|---------------------------------------------------------------|
| Action            | String | Yes      | The action to perform.<br>Valid value:<br>UploadCACertificate |
| RegionId          | String | Yes      | The ID of the region where the CA certificate is uploaded.    |
| CACertificate     | String | Yes      | The contents of the CA certificate to upload.                 |
| CACertificateName | String | No       | The name of the CA certificate.                               |
| ResourceGroupId   | String | No       | The ID of the enterprise resource group.                      |

## Response parameter

| Name              | Type   | Description                                       |
|-------------------|--------|---------------------------------------------------|
| RequestId         | String | The ID of the request.                            |
| CACertificateId   | String | The ID of the CA certificate.                     |
| CACertificateName | String | The name of the CA certificate.                   |
| Fingerprint       | String | The fingerprint of the CA certificate.            |
| CreateTime        | String | The time at which the CA certificate is uploaded. |
| TimeStamp         | Long   | The time at which the CA certificate is uploaded. |

## Examples

## Request example

```
https://slb.aliyuncs.com/?Action=UploadCACertificate
&RegionId=cn-east-hangzhou-01
&CACertificate=test
&CACertificateName=mycacert01
&<Common parameters>
```

## Response example

### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<UploadCACertificateResponse>
  <RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
  <CACertificateId>idkp-234-cn-test-02</CACertificateId>
  <CACertificateName>mycacert01</CACertificateName>
  <Fingerprint>02:DF:AB:ED</Fingerprint>
</UploadCACertificateResponse>
```

### JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "CACertificateId": "idkp-234-cn-test-02",
  "CACertificateName": "mycacert01",
  "Fingerprint": "02:DF:AB:ED"
}
```

# DeleteCACertificate

## Description

Delete a CA certificate.

**Note:** Cannot delete a CA certificate that is in sue.

## Request parameter

| Name            | Type   | Required | Description                                                   |
|-----------------|--------|----------|---------------------------------------------------------------|
| Action          | String | Yes      | The action to perform.<br>Valid value:<br>DeleteCACertificate |
| RegionId        | String | Yes      | The ID of the region where the CA certificate is located.     |
| CACertificateId | String | Yes      | The ID of the CA certificate.                                 |

## Response parameters

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Examples

### Request example

```
https://slb.aliyuncs.com/?Action=DeleteCACertificate
&RegionId=cn-east-hangzhou-01
&CACertificateId=idkp-234-cn-test-02
&<CommonParameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DeleteCACertificateResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</DeleteCACertificateResponse>
```

JSON format

```
{
```



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

# DescribeCACertificates

## Description

Query the CA certificates in a specified region.

**Note:** For security, only the fingerprints and names of the CA certificates are returned. The contents of the certificates are not returned.

## Request parameters

| Name            | Type   | Required | Description                                                      |
|-----------------|--------|----------|------------------------------------------------------------------|
| Action          | String | Yes      | The action to perform.<br>Valid value:<br>DescribeCACertificates |
| RegionId        | String | Yes      | The ID of the region where the CA certificate is located.        |
| CACertificateId | String | No       | The ID of the CA certificate.                                    |
| ResourceGroupId | String | No       | The ID of enterprise resource group.                             |

## Response parameter

| Name           | Type   | Description                                                                                                                                                                                                           |
|----------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId      | String | The ID of the request.                                                                                                                                                                                                |
| CACertificates | List   | The list of CA certificates, including the following items: <ul style="list-style-type: none"><li>- CACertificateIdThe ID of the CA certificate.</li><li>- CACertificateNameThe name of the CA certificate.</li></ul> |

|  |  |                                                                                                                                                                                |
|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <ul style="list-style-type: none"> <li>- RegionIdThe ID of region where the CA certificate is located.</li> <li>- FingerprintThe fingerprint of the CA certificate.</li> </ul> |
|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Examples

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeCACertificates
&RegionId=cn-east-hangzhou-01
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeCACertificatesResponse>
<RequestId>27E45AAA-1AAA-40B4-A039-526CC196A7F0</RequestId>
<CACertificates>
<CACertificate>
<CreateTimeStamp>1496592118000</CreateTimeStamp>
<CACertificateName>CA1</CACertificateName>
<CreateTime>2017-06-04T16:01:58Z</CreateTime>
<ResourceGroupId>rg-acfmxyz4ph6aiy</ResourceGroupId>
<RegionId>cn-hangzhou</RegionId>
<CACertificateId>1231579085529123_15c73d77203_-986300114_-2110544408</CACertificateId>
<Fingerprint>0d:f6:9e:ed:c2:6d:df:06:ac:af:82:fb:17:1b:5b:08:39:b3:d9:d0</Fingerprint>
</CACertificate>
</CACertificates>
</DescribeCACertificatesResponse>
```

#### JSON format

```
{
  "RequestId": "27E45AAA-1AAA-40B4-A039-526CC196A7F0",
  "CACertificates": {
    "CACertificate": [
      {
        "CreateTimeStamp": 1496592118000,
        "CACertificateName": "CA1",
```

```
"CreateTime":"2017-06-04T16:01:58Z",
"ResourceGroupId":"rg-acfmxazb4ph6aiy",
"RegionId":"cn-hangzhou",
"CACertificateId":"1231579085529123_15c73d77203_-986300114_-2110544408",
"Fingerprint":"0d:f6:9e:ed:c2:6d:df:06:ac:af:82:fb:17:1b:5b:08:39:b3:d9:d0"
}
]
}
}
```

## SetCACertificateName

### Description

Configure a name for a CA certificate.

### Request parameter

| Name              | Type   | Required | Description                                                                                                                                                                             |
|-------------------|--------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String | Yes      | The action to perform.<br>Valid value:<br>SetCACertificateName                                                                                                                          |
| RegionId          | String | Yes      | The ID of the region where the CA certificate is located.                                                                                                                               |
| CACertificateId   | String | Yes      | The ID of the CA certificate.                                                                                                                                                           |
| CACertificateName | String | Yes      | The name of the CA certificate.<br><br>The name must start with Chinese or English letters, and be 1-80 characters in length including underscores (_), periods (.), and en dashes (-). |

## Response parameters

| Response parameter | Data type | Description            |
|--------------------|-----------|------------------------|
| RequestId          | String    | The ID of the request. |

## Examples

### Request example

```
https://slb.aliyuncs.com/?Action=SetCACertificateName
&CACertificateId=139a00604
&RegionId=cn-east-hangzhou-01
&CACertificateName=mycacert02
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetCACertificateNameResponse>
  <RequestId>CEF72CEB-54B6-4AE8-B225-F876FE7BA984</RequestId>
</SetCACertificateNameResponse>
```

#### JSON format

```
{
  "RequestId": "CEF72CEB-54B6-4AE8-B225-F876FE7BA984"
}
```

## Listener

## CreateLoadBalancerHTTPListener

## Description

Create an HTTP protocol listener.

**Note:** After the listener is created, the listener status is stopped. Call the `StartLoadBalancerListener` API to start the listener to distribute traffic.

## Request parameter

| Name              | Type    | Required | Description                                                                                                                                                                                      |
|-------------------|---------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String  | Yes      | The action to perform.<br>Valid value:<br><code>CreateLoadBalancerHTTPListener</code>                                                                                                            |
| RegionId          | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                                                          |
| LoadBalancerId    | Integer | Yes      | The ID of the SLB instance for which the HTTP listener is created.                                                                                                                               |
| Bandwidth         | Integer | Yes      | The peak bandwidth of the listener. Valid value: [1,1000] Mbps<br><b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.                                                  |
| ListenerPort      | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br>Valid value: [1, 65535]                                        |
| BackendServerPort | Integer | No       | The port opened on the backend server to receive requests.<br>Valid value: [1, 65535]<br><b>Note:</b> If the <code>VServerGroupId</code> parameter is not specified, this parameter is required. |

|                |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|--------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VServerGroupId | String | No | The ID of the VServer group to add to the listener.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Scheduler      | String | No | <p>The algorithm used to distribute traffic. Valid values:</p> <ul style="list-style-type: none"> <li>- wrr<br/>(Default)Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</li> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul> |
| XForwardedFor  | String | No | <p>Whether to use the XForwardedFor header to obtain the actual IP address of the client.</p> <p>Valid value: on (Default)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                        |        |     |                                                                                                                                                                                                                             |
|------------------------|--------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |        |     | off                                                                                                                                                                                                                         |
| XForwardedFor_SLB IP   | String | No  | Whether to use the XForwardedFor_SLBIP header to obtain the public IP address of the SLB instance.<br><br>Valid value: on   off(Default)                                                                                    |
| XForwardedFor_SLB ID   | String | No  | Whether to use the XForwardedFor header to obtain the ID of the SLB instance.<br><br>Valid value: on   off(Default)                                                                                                         |
| XForwardedFor_protocol | String | No  | Whether to use the XForwardedFor_protocol header to obtain the protocol used by the listener.<br><br>Valid value: on   off(Default)                                                                                         |
| StickySession          | String | Yes | Whether to enable session persistence. If enabled, all session requests from the same client are sent to the same backend server.<br><br>Valid value: on   off                                                              |
| StickySessionType      | String | No  | The method used to handle the cookie. Valid values:<br><br>- insertServer Load Balancer adds a session cookie to the first response from the backend server and identifies the server which has sent the response. The next |

|               |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|---------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |         |    | <p>request will contain the cookie and the listener will distribute the request to the same backend server.</p> <p>- serverYou can set the cookie name in the response. Server Load Balancer will overwrite the original cookie when it discovers that a new cookie is set. The next time the client carries the new cookie to access the Server Load Balancer, the listener will distribute the request to the previously recorded backend server.</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySession</b> parameter is on.</p> |
| CookieTimeout | Integer | No | <p>The cookie timeout in seconds.</p> <p>Valid value: [1,86400]</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b></p>                                                                                                                                                                                                                                                                                                                                                                                                  |



|           |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|--------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |        |    | parameter is insert.                                                                                                                                                                                                                                                                                                                                                                                                      |
| Cookie    | String | No | <p>The cookie configured on the backend server.</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b> parameter is server.</p>                                                                                                                                                                                                                                                    |
| Gzip      | String | No | <p>Whether to enable the Gzip compression.</p> <p>Valid value: on (Default)   off</p>                                                                                                                                                                                                                                                                                                                                     |
| AclStatus | String | No | <p>Specify whether to enable the access control function.</p> <p>Valid value: on   off (Default)</p>                                                                                                                                                                                                                                                                                                                      |
| AclType   | String | No | <p>Select an access control method after enabling the access control function:</p> <ul style="list-style-type: none"> <li>- <b>whitelist:</b> Only requests from IP addresses or CIDR blocks in the selected access control lists are forwarded. It applies to scenarios where the application only allows access from some specific IP addresses. Enabling whitelist poses some business risks. If you enable</li> </ul> |

|       |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------|--------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       |        |    | <p>the whitelist without adding any IP entry in the corresponding access control list, no requests are forwarded.</p> <p>- <b>blacklist:</b><br/>Requests from IP addresses or CIDR blocks in the selected access control lists are not forwarded. It applies to scenarios where the application only denies access from some specific IP addresses.If you enable a blacklist without adding any IP entry in the corresponding access control list, all requests are forwarded.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p> |
| AclId | String | No | Select an access control list as the whitelist or the blacklist. For more information, see <a href="#">Configure an access</a>                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                   |        |     |                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|--------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |        |     | <p>control list.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p>                                                                                                                                                                                                                                                        |
| IdleTimeout       | String | No  | <p>Specify the idle connection timeout in seconds. Valid value: 1-60</p> <p>If no request is received during the specified timeout period, Server Load Balancer will temporarily terminate the connection and restart the connection when the next request comes.</p>                                                                                               |
| RequestTimeout    | String | No  | <p>Specify the request timeout in seconds. Valid value: 1-180</p> <p>If no response is received from the backend server during the specified timeout period, Server Load Balancer will stop waiting and send an HTTP 504 error to the client.</p>                                                                                                                   |
| HealthCheck       | String | Yes | <p>Whether to enable health check.</p> <p>Valid value: on   off</p>                                                                                                                                                                                                                                                                                                 |
| HealthCheckDomain | String | No  | <p>The domain name used for health check.</p> <p>By default, Server Load Balancer sends an HTTP head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.</p> <p>If your backend server verifies the host field in the request, you must configure a domain</p> |

|                        |         |    |                                                                                                                                                                                                                                                                                                               |
|------------------------|---------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |         |    | <p>name to make sure the health check works.</p> <p>You can specify the IP address of host to do the health check in the form of \$_ip.</p>                                                                                                                                                                   |
| HealthCheckURI         | String  | No | The URI used for health check.                                                                                                                                                                                                                                                                                |
| HealthyThreshold       | Integer | No | <p>The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).</p> <p>Valid value: [2,10]</p>                                                                                                                               |
| UnhealthyThreshold     | Integer | No | <p>The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).</p> <p>When HealthCheck is on, the parameter is required; and when HealthCheck is off, the parameter will be ignored.</p> <p>Valid value: [2,10]</p>          |
| HealthCheckConnectPort | Integer | No | <p>The port used for health check.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                                                                                         |
| HealthCheckTimeout     | Integer | No | <p>The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.</p> <p>Valid value: [1,300]</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value</p> |

|                     |         |    |                                                                                                                                                                                              |
|---------------------|---------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |         |    | of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.                                                                     |
| HealthCheckInterval | Integer | No | The time interval between two consecutive health checks.<br><br>Valid value: [1,50]                                                                                                          |
| HealthCheckHttpCode | String  | No | The HTTP status code indicating that the health check is normal. Separate multiple HTTP status codes by commas (,).<br><br>Valid values: http_2xx (Default)   http_3xx   http_4xx   http_5xx |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=CreateLoadBalancerHTTPListener
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&BackendServerPort=80
&Bandwidth=-1
&HealthCheck=on
&HealthCheckDomain=$_ip
&HealthCheckURI=/test/index.html
&HealthCheckConnectPort=8080
&HealthyThreshold=4
&UnhealthyThreshold=4
&HealthCheckTimeout=3
&HealthCheckInterval=5
&VServerGroupId=rs-cige6j5e7p
&<CommonParameters>
```

## Response example

### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<CreateLoadBalancerHTTPListenerResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</CreateLoadBalancerHTTPListenerResponse>
```

### JSON format

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

# CreateLoadBalancerHTTPSListener

## Description

Create an HTTPS listener.

**Note:** After the listener is created, the listener status is stopped. Call the `StartLoadBalancerListener` API to start the listener to distribute traffic.

## Request parameter

| Name           | Type    | Required | Description                                                              |
|----------------|---------|----------|--------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>CreateLoadBalancerHTTPListener |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                  |
| LoadBalancerId | Integer | Yes      | The ID of the SLB instance for which the                                 |

|                   |         |     |                                                                                                                                                                                                                                                                                                                |
|-------------------|---------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |         |     | HTTPS listener is created.                                                                                                                                                                                                                                                                                     |
| Bandwidth         | Integer | Yes | <p>The peak bandwidth of the listener. Valid value: [1,1000] Mbps</p> <p><b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.</p>                                                                                                                                                     |
| ListenerPort      | Integer | Yes | <p>The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                           |
| BackendServerPort | Integer | No  | <p>The port opened on the backend server to receive requests.</p> <p>Valid value: [1, 65535]</p> <p><b>Note:</b> If the <b>VServerGroupId</b> parameter is not specified, this parameter is required.</p>                                                                                                      |
| VServerGroupId    | String  | No  | The ID of the VServer group to add to the listener.                                                                                                                                                                                                                                                            |
| Scheduler         | String  | No  | <p>The algorithm used to distribute traffic. Valid values:</p> <ul style="list-style-type: none"> <li>- wrr<br/>(Default)Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of</li> </ul> |

|                   |        |     |                                                                                                                                                                                                                                                                                                        |
|-------------------|--------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |        |     | <p>live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</p> <ul style="list-style-type: none"> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul>     |
| StickySession     | String | Yes | <p>Whether to enable session persistence. If enabled, all session requests from the same client are sent to the same backend server.</p> <p>Valid value: on   off</p>                                                                                                                                  |
| StickySessionType | String | No  | <p>The method used to handle the cookie. Valid values:</p> <ul style="list-style-type: none"> <li>- insertServer Load Balancer adds a session cookie to the first response from the backend server and identifies the server which has sent the response. The next request will contain the</li> </ul> |



|               |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|---------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |         |    | <p>cookie and the listener will distribute the request to the same backend server.</p> <p>- serverYou can set the cookie name in the response.</p> <p>Server Load Balancer will overwrite the original cookie when it discovers that a new cookie is set. The next time the client carries the new cookie to access the Server Load Balancer, the listener will distribute the request to the previously recorded backend server.</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySession</b> parameter is on.</p> |
| CookieTimeout | Integer | No | <p>The cookie timeout in seconds.</p> <p>Valid value: [1,86400]</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b> parameter is insert.</p>                                                                                                                                                                                                                                                                                                                                                           |

|                      |        |     |                                                                                                                                                             |
|----------------------|--------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cookie               | String | No  | The cookie configured on the backend server.<br><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b> parameter is server. |
| ServerCertificateId  | String | Yes | The ID of the server certificate.                                                                                                                           |
| CACertificateId      | String | No  | The ID of the CA certificate.<br><b>Note:</b> This parameter is required only when two-way authentication is used.                                          |
| Gzip                 | String | No  | Whether to enable the Gzip compression.<br>Valid value: on (Default)   off                                                                                  |
| XForwardedFor        | String | No  | Whether to use the XForwardedFor header to obtain the actual IP address of the client.<br>Valid value: on (Default)   off                                   |
| XForwardedFor_SLB IP | String | No  | Whether to use the XForwardedFor_SLBIP header to obtain the public IP address of the SLB instance.<br>Valid value: on   off(Default)                        |
| XForwardedFor_SLB ID | String | No  | Whether to use the XForwardedFor header to obtain the ID of the SLB instance.<br>Valid value: on   off(Default)                                             |
| AclStatus            | String | No  | Specify whether to enable the access control function.<br>Valid value: on   off (Default)                                                                   |

|         |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------|--------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AclType | String | No | <p>Select an access control method after enabling the access control function:</p> <ul style="list-style-type: none"><li>- <b>whitelist:</b> Only requests from IP addresses or CIDR blocks in the selected access control lists are forwarded. It applies to scenarios where the application only allows access from some specific IP addresses. Enabling whitelist poses some business risks. If you enable the whitelist without adding any IP entry in the corresponding access control list, no requests are forwarded.</li><li>- <b>blacklist:</b> Requests from IP addresses or CIDR blocks in the selected access control lists are not forwarded. It applies to</li></ul> |
|---------|--------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                |        |    |                                                                                                                                                                                                                                                                                                               |
|----------------|--------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |        |    | <p>scenarios where the application only denies access from some specific IP addresses.If you enable a blacklist without adding any IP entry in the corresponding access control list, all requests are forwarded.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p> |
| AclId          | String | No | <p>Select an access control list as the whitelist or the blacklist. For more information, see <b>Configure an access control list</b>.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p>                                                                            |
| IdleTimeout    | String | No | <p>Specify the idle connection timeout in seconds. Valid value: 1-60</p> <p>If no request is received during the specified timeout period, Server Load Balancer will temporarily terminate the connection and restart the connection when the next request comes.</p>                                         |
| RequestTimeout | String | No | <p>Specify the request timeout in seconds. Valid value: 1-180</p>                                                                                                                                                                                                                                             |

|                    |         |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|---------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    |         |     | If no response is received from the backend server during the specified timeout period, Server Load Balancer will stop waiting and send an HTTP 504 error to the client.                                                                                                                                                                                                                                                                                                                           |
| HealthCheck        | String  | Yes | Whether to enable health check.<br>Valid value: on   off                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| HealthCheckDomain  | String  | No  | The domain name used for health check.<br><br>By default, Server Load Balancer sends an HTTPS head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.<br><br>If your backend server verifies the host field in the request, you must configure a domain name to make sure the health check works.<br><br>You can specify the IP address of host to do the health check in the form of \$_ip. |
| HealthCheckURI     | String  | No  | The URI used for health check.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| HealthyThreshold   | Integer | No  | The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).<br>Valid value: [2,10]                                                                                                                                                                                                                                                                                                                               |
| UnhealthyThreshold | Integer | No  | The number of consecutive failures of health check performed by the same LVS node                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                        |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |         |    | <p>server on the same ECS instance (from success to failure).</p> <p>When HealthCheck is on, the parameter is required; and when HealthCheck is off, the parameter will be ignored.</p> <p>Valid value: [2,10]</p>                                                                                                                                                                                                                     |
| HealthCheckConnectPort | Integer | No | <p>The port used for health check.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                                                                                                                                                                                                                  |
| HealthCheckTimeout     | Integer | No | <p>The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.</p> <p>Valid value: [1,300]</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.</p> |
| HealthCheckInterval    | Integer | No | <p>The time interval between two consecutive health checks.</p> <p>Valid value: [1,50]</p>                                                                                                                                                                                                                                                                                                                                             |
| HealthCheckHttpCode    | String  | No | <p>The HTTPS status code indicating that the health check is normal. Separate multiple HTTPS status codes by commas (,).</p> <p>Valid values: http_2xx (Default)   http_3xx   http_4xx   http_5xx</p>                                                                                                                                                                                                                                  |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=CreateLoadBalancerHTTPSListener
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&BackendServerPort=80
&Bandwidth=-1
&HealthCheck=on
&HealthCheckDomain=$_ip
&HealthCheckURI=/test/index.html
&HealthCheckConnectPort=8080
&HealthyThreshold=4
&UnhealthyThreshold=4
&HealthCheckTimeout=3
&HealthCheckInterval=5
&VServerGroupId=rsp-cige6j5e7p
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<CreateLoadBalancerHTTPSListenerResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</CreateLoadBalancerHTTPSListenerResponse>
```

#### JSON format

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

# CreateLoadBalancerTCPListener

## Description

Create a TCP listener.

**Note:** After the listener is created, the listener status is stopped. Call the `StartLoadBalancerListener` API to start the listener to distribute traffic.

## Request parameter

| Name              | Type    | Required | Description                                                                                                                                                                                              |
|-------------------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String  | Yes      | The action to perform.<br>Valid value:<br><code>CreateLoadBalancerTCPListener</code>                                                                                                                     |
| RegionId          | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                                                                  |
| LoadBalancerId    | String  | Yes      | The ID of the SLB instance for which the TCP listener is created.                                                                                                                                        |
| ListenerPort      | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535]                                            |
| BackendServerPort | Integer | No       | The port opened on the backend server to receive requests.<br><br>Valid value: [1, 65535]<br><br><b>Note:</b> If the <code>VServerGroupId</code> parameter is not specified, this parameter is required. |
| Bandwidth         | Integer | Yes      | The peak bandwidth of the listener. Valid value: [1,1000] Mbps                                                                                                                                           |



|                |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|--------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |        |    | <b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Scheduler      | String | No | <p>The algorithm used to distribute traffic. Valid value:</p> <ul style="list-style-type: none"> <li>- wrr<br/>(Default)Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</li> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul> |
| VServerGroupId | String | No | <p>The ID of a VServer group.</p> <p>The <b>VServerGroupId</b> parameter and the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                          |         |    |                                                                                                                                                                                                                                                                                     |
|--------------------------|---------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |         |    | MasterSlaveServerGroupId parameter cannot be used at the same time.                                                                                                                                                                                                                 |
| MasterSlaveServerGroupId | String  | No | <p>The ID of a master-slave server group.</p> <p>The <b>VServerGroupId</b> parameter and the MasterSlaveServerGroupId parameter cannot be used at the same time.</p>                                                                                                                |
| EstablishedTimeout       | Integer | No | <p>The connection timeout in seconds for the Layer-4 TCP listener.</p> <p>Valid value: [10, 900].<br/>The default value is 900.</p>                                                                                                                                                 |
| PersistenceTimeout       | Integer | No | <p>The timeout value of the TCP connection in seconds. Valid value: [10,900]</p> <p><b>Note:</b> By default, this value is set to zero, the session persistence function is disabled.</p>                                                                                           |
| AclStatus                | String  | No | <p>Specify whether to enable the access control function.</p> <p>Valid value: on   off (Default)</p>                                                                                                                                                                                |
| AclType                  | String  | No | <p>Select an access control method after enabling the access control function:</p> <ul style="list-style-type: none"> <li>- <b>whitelist:</b> Only requests from IP addresses or CIDR blocks in the selected access control lists are forwarded. It applies to scenarios</li> </ul> |

|  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <p>where the application only allows access from some specific IP addresses. Enabling whitelist poses some business risks. If you enable the whitelist without adding any IP entry in the corresponding access control list, no requests are forwarded.</p> <p>- <b>blacklist:</b> Requests from IP addresses or CIDR blocks in the selected access control lists are not forwarded. It applies to scenarios where the application only denies access from some specific IP addresses. If you enable a blacklist without adding any IP entry in the corresponding</p> |
|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                   |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|--------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |        |    | <p>access control list, all requests are forwarded.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| AclId             | String | No | <p>Select an access control list as the whitelist or the blacklist. For more information, see <a href="#">Configure an access control list</a>.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p>                                                                                                                                                                                                                                                                                                                                                         |
| HealthCheckType   | String | No | <p>Select a health check method. Valid value: tcp (Default)   http</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| HealthCheckDomain | String | No | <p>The domain name used for health check.</p> <p>By default, Server Load Balancer sends an HTTP head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.</p> <p>If your backend server verifies the host field in the request, you must configure a domain name to make sure the health check works.</p> <p>You can specify the IP address of host to do the health check in the form of \$_ip.</p> <p><b>Note:</b> This parameter is used only when the HTTP health check method is used.</p> |

|                        |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------|---------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HealthCheckURI         | String  | No | The URI used for health check.<br><b>Note:</b> This parameter is used only when the HTTP health check method is used.                                                                                                                                                                                                                                                                                                   |
| HealthCheckConnectPort | Integer | No | The port used for health check.<br>Valid value: [1, 65535]                                                                                                                                                                                                                                                                                                                                                              |
| HealthyThreshold       | Integer | No | The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).<br>Valid value: [2,10]                                                                                                                                                                                                                                                    |
| UnhealthyThreshold     | Integer | No | The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).<br>Valid value: [2,10]                                                                                                                                                                                                                                                     |
| HealthCheckTimeout     | Integer | No | The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.<br>Valid value: [1,300]<br><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter. |
| HealthCheckInterval    | Integer | No | The time interval between two                                                                                                                                                                                                                                                                                                                                                                                           |

|                     |        |    |                                                                                                                                                                                                                                                                                                                          |
|---------------------|--------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |        |    | consecutive health checks.<br>Valid value: [1,50]                                                                                                                                                                                                                                                                        |
| HealthCheckHttpCode | String | No | <p>The HTTP status code indicating that the health check is normal. Separate multiple HTTP status codes by commas (,).</p> <p>Valid values: http_2xx (Default)   http_3xx   http_4xx   http_5xx</p> <p>Default: http_2xx.</p> <p><b>Note:</b> This parameter is used only when the HTTP health check method is used.</p> |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=CreateLoadBalancerTCPLListener
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&BackendServerPort=80
&Bandwidth=-1
&VServerGroupId=rsp-cige6j5e7p
&<CommonParameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<CreateLoadBalancerTCPLListenerResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
```

```
</CreateLoadBalancerTCPListenerResponse>
```

JSON format

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

# CreateLoadBalancerUDPListener

## Description

Create a UDP protocol listener.

Note the following before using the API to create a UDP listener:

The health check function is enabled by default for UDP Listeners and cannot be disabled.

For Layer-4 Server Load Balancer, you can directly get the real IP of the client. However, the client's real IP cannot be obtained if the network type of the SLB instance is classic.

- After the listener is created, the listener status is stopped. Call the `StartLoadBalancerListener` API to start the listener to distribute traffic.

## Request Parameter

| Name           | Type    | Required | Description                                                                 |
|----------------|---------|----------|-----------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>CreateLoadBalancerUDP<br>Listener |
| RegionId       | String  | Yes      | The ID of the region<br>where the SLB instance<br>is located.               |
| LoadBalancerId | String  | Yes      | The ID of the SLB<br>instance for which the<br>TCP listener is created.     |
| ListenerPort   | Integer | Yes      | The front-end port of                                                       |

|                   |         |    |                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|---------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |         |    | <p>the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                                                                                                  |
| BackendServerPort | Integer | No | <p>The port opened on the backend server to receive requests.</p> <p>Valid value: [1, 65535]</p> <p><b>Note:</b> If the <b>VServerGroupId</b> parameter is not specified, this parameter is required.</p>                                                                                                                                                                                       |
| Bandwidth         | Integer | No | <p>The peak bandwidth of the listener. Valid value: [1,1000] Mbps</p> <p><b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.</p>                                                                                                                                                                                                                                      |
| Scheduler         | String  | No | <p>The algorithm used to distribute traffic. Valid value:</p> <ul style="list-style-type: none"> <li>- wrr<br/>(Default)Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs</li> </ul> |



|                          |        |    |                                                                                                                                                                                                                                        |
|--------------------------|--------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |        |    | <p>network connections to the server with the fewest established connections.</p> <ul style="list-style-type: none"> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul>                       |
| VServerGroupId           | String | No | <p>The ID of a VServer group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroupId</b> parameter cannot be used at the same time.</p>                                                                        |
| MasterSlaveServerGroupId | String | No | <p>The ID of a master-slave server group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroupId</b> parameter cannot be used at the same time.</p>                                                            |
| AclStatus                | String | No | <p>Specify whether to enable the access control function.</p> <p>Valid value: on   off (Default)</p>                                                                                                                                   |
| AclType                  | String | No | <p>Select an access control method after enabling the access control function:</p> <ul style="list-style-type: none"> <li>- <b>whitelist</b>: Only requests from IP addresses or CIDR blocks in the selected access control</li> </ul> |

|  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <p>lists are forwarded. It applies to scenarios where the application only allows access from some specific IP addresses.Enabling whitelist poses some business risks. If you enable the whitelist without adding any IP entry in the corresponding access control list, no requests are forwarded.</p> <p>- <b>blacklist:</b> Requests from IP addresses or CIDR blocks in the selected access control lists are not forwarded. It applies to scenarios where the application only denies access from some specific IP addresses.If you enable a blacklist</p> |
|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                           |         |    |                                                                                                                                                                                                                                             |
|---------------------------|---------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           |         |    | <p>without adding any IP entry in the corresponding access control list, all requests are forwarded.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p>                                            |
| AclId                     | String  | No | <p>Select an access control list as the whitelist or the blacklist. For more information, see <a href="#">Configure an access control list</a>.</p> <p>This parameter is required if the value of the <b>AclStatus</b> parameter is on.</p> |
| HealthCheckConnectPort    | Integer | No | <p>The port used for health check.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                       |
| HealthyThreshold          | Integer | No | <p>The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).</p> <p>Valid value: [2,10]</p>                                                             |
| UnhealthyThreshold        | Integer | No | <p>The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).</p> <p>Valid value: [2,10]</p>                                                              |
| HealthCheckConnectTimeout | Integer | No | <p>The amount of time in seconds to wait for the response from a health check. If an ECS</p>                                                                                                                                                |

|                     |         |    |                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|---------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |         |    | <p>instance sends no response within the specified timeout period, the health check fails.</p> <p>Valid value: [1,300]</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.</p> |
| HealthCheckInterval | Integer | No | <p>The time interval between two consecutive health checks.</p> <p>Valid value: [1,50]</p>                                                                                                                                                                                                                                                       |
| HealthCheckReq      | String  | No | <p>Request string for UDP listener health check. Only English letters, digits are allowed. Up to 500 characters can be entered.</p>                                                                                                                                                                                                              |
| HealthCheckExp      | String  | No | <p>Response string for UDP listener check. Only English letters, digits are allowed. Up to 500 characters can be entered.</p>                                                                                                                                                                                                                    |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=CreateLoadBalancerUDPListener
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
```

```
&ListenerPort=53
&BackendServerPort=53
&Bandwidth=-1
&VServerGroupId=rsp-cige6j5e7p
&<public request parameters>
```

## Response Example

### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<CreateLoadBalancerUDPLListenerResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</CreateLoadBalancerUDPLListenerResponse>
```

### JSON format

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

# DeleteLoadBalancerListener

## Description

Delete a listener.

Only the listener in the stopped or running status can be deleted.

## Request parameter

| Name           | Type   | Required | Description                                                          |
|----------------|--------|----------|----------------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>DeleteLoadBalancerListener |
| LoadBalancerId | String | Yes      | The ID of the SLB                                                    |

|              |         |     |                                                                                                                                                               |
|--------------|---------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |         |     | instance that the listener belongs to.                                                                                                                        |
| ListenerPort | Integer | Yes | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DeleteLoadBalancerListener
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DeleteLoadBalancerListenerResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</DeleteLoadBalancerListenerResponse>
```

#### JSON format

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

# StartLoadBalancerListener

## Description

Start a listener. Note the following when calling the API:

The API can be called only when the instance status is stopped.

If the SLB instance status that the listener to start belongs to is locked, the API cannot be called.

## Request parameter

| Name           | Type    | Required | Description                                                                                                                                                   |
|----------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>StartLoadBalancerListener                                                                                           |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                       |
| LoadBalancerId | String  | Yes      | The ID of the SLB instance.                                                                                                                                   |
| ListenerPort   | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action= StartLoadBalancerListener
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&<CommonParameters>
```

### Return example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetLoadBalancerListenerStatusResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</SetLoadBalancerListenerStatusResponse>
```

#### JSON format

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

## StopLoadBalancerListener

## StopLoadBalancerListener

### Description

Stop the specified Listener.

- After the interface is successfully called, the Listener will change to the stopping status.
- The interface can only be called when the Listener is in the running status.
- When the status of the LoadBalancer to which the Listener belongs is "locked" , it will fail to



call the interface.

- See state transition diagram of the Server Load Balancer Listener for the state transition diagram of Listener.

## Request parameter

| Name           | Type    | Required | Description                                                                                         |
|----------------|---------|----------|-----------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | Name of the operating interface, which is specified in the system. Value: StopLoadBalancerListener. |
| RegionId       | String  | Yes      | The ID of the region.                                                                               |
| LoadBalancerId | String  | Yes      | The unique ID of a Server Load Balancer instance.                                                   |
| ListenerPort   | Integer | Yes      | Port used by the Server Load Balancer instance frontend. Value: 1-65535.                            |

## Return parameter

They are all common return parameters. For more information, see [Public Parameters](#).

## Example

### Request example

```
https://slb.aliyuncs.com/  
&Action=StopLoadBalancerListener  
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01  
&ListenerPort=80  
&<common request parameter>
```

### Return example

- XML format

```
<?xml version="1.0" encoding="UTF-8"?>  
<SetLoadBalancerListenerStatusResponse>  
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
```

```
</SetLoadBalancerListenerStatusResponse>
```

- JSON format

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

# SetListenerAccessControlStatus

## Description

Enable or disable the access control function for the specified listener.

## Request parameter

| Name                | Type    | Required | Description                                                                                                                                               |
|---------------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action              | String  | Yes      | The action to perform.<br>Valid value:<br>SetListenerAccessControlStatus                                                                                  |
| RegionId            | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                   |
| LoadBalancerId      | String  | Yes      | The ID of the SLB instance.                                                                                                                               |
| ListenerPort        | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br>Valid value: [1, 65535] |
| AccessControlStatus | String  | Yes      | Whether to enable access control. Valid value:<br><br>- open_whitelistEnable access                                                                       |

|  |  |  |                                                                                                                                                                                                                                                        |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | control. If this value is entered, you must configure a whitelist of IP addresses to allow to access the listener using the <code>AddListenerWhitelistItem</code> API. Otherwise, no access is allowed.<br>- <code>closeDisable</code> access control. |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=SetListenerAccessControlStatus
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&AccessControlStatus=open_whitelist
&<Public Request Parameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetListenerAccessControlStatusResponse>
  <RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
```

```
</SetListenerAccessControlStatusResponse>
```

JSON format

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

# AddListenerWhiteListItem

## Description

Configure an access whitelist for a listener.

This API supports incremental updates.

## Request parameter

| Name           | Type    | Required | Description                                                                                                                                                   |
|----------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>AddListenerWhiteListItem                                                                                            |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                       |
| LoadBalancerId | String  | Yes      | The ID of the SLB instance for which the TCP listener is created.                                                                                             |
| ListenerPort   | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |
| SourceItems    | String  | Yes      | The access whitelist of                                                                                                                                       |

|  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <p>the IP addresses or an IP address range to allow to access the listener.</p> <p>Separate multiple IP addresses or IP address ranges using commas (,).</p> <p><b>Note:</b> The IP address 0.0.0.0 or the IP address range 0.0.0.0/0 are not allowed. If you do not want to control the access for the listener. Call the <code>SetListenerAccessControlStatus</code> API and set the value of the <b>AccessControlStatus</b> parameter to close.</p> |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=AddListenerWhiteListItem
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&SourceItems=1.1.1.1,1.1.1.0/21
&<Public Request Parameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<AddListenerWhiteListItemResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</AddListenerWhiteListItemResponse>
```

JSON format

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

# RemoveListenerWhiteListItem

## Description

Delete an IP or IP address range from the access whitelist of the specified listener.

This API supports incremental updates.

## Request parameter

| Name           | Type    | Required | Description                                                                                                                                                   |
|----------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>RemoveListenerWhiteListItem                                                                                         |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                       |
| LoadBalancerId | String  | Yes      | The ID of the SLB instance for which the TCP listener is created.                                                                                             |
| ListenerPort   | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |
| SourceItems    | String  | Yes      | The access whitelist of the IP addresses or an IP address range to                                                                                            |

|  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <p>allow to access the listener.</p> <p>Separate multiple IP addresses or IP address ranges using commas (,).</p> <p><b>Note:</b> The IP address 0.0.0.0 or the IP address range 0.0.0.0/0 are not allowed. If you do not want to control the access for the listener. Call the <b>SetListenerAccessControlStatus</b> API and set the value of the <b>AccessControlStatus</b> parameter to close.</p> |
|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=RemoveListenerWhiteListItem
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&SourceItems=1.1.1.1,1.1.1.0/21
&<Public Request Parameters>
```

### Response example

- XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<RemoveListenerWhiteListItemResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</RemoveListenerWhiteListItemResponse>
```

- JSON format

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

# SetLoadBalancerHTTPListenerAttribute

## Description

Modify an HTTP protocol listener.

## Request parameter

| Name           | Type    | Required | Description                                                                                                                                               |
|----------------|---------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>SetLoadBalancerHTTPListenerAttribute                                                                            |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                   |
| LoadBalancerId | Integer | Yes      | The ID of the SLB instance for which the HTTP listener is created.                                                                                        |
| Bandwidth      | Integer | Yes      | The peak bandwidth of the listener. Valid value: [1,1000] Mbps<br><b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.           |
| ListenerPort   | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br>Valid value: [1, 65535] |



|                        |         |    |                                                                                                                                                                                                           |
|------------------------|---------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BackendServerPort      | Integer | No | <p>The port opened on the backend server to receive requests.</p> <p>Valid value: [1, 65535]</p> <p><b>Note:</b> If the <b>VServerGroupId</b> parameter is not specified, this parameter is required.</p> |
| VServerGroupId         | String  | No | The ID of the VServer group to add to the listener.                                                                                                                                                       |
| XForwardedFor          | String  | No | <p>Whether to use the XForwardedFor header to obtain the actual IP address of the client.</p> <p>Valid value: on (Default)   off</p>                                                                      |
| XForwardedFor_SLB IP   | String  | No | <p>Whether to use the XForwardedFor_SLBIP header to obtain the public IP address of the SLB instance.</p> <p>Valid value: on   off(Default)</p>                                                           |
| XForwardedFor_SLB ID   | String  | No | <p>Whether to use the XForwardedFor header to obtain the ID of the SLB instance.</p> <p>Valid value: on   off(Default)</p>                                                                                |
| XForwardedFor_protocol | String  | No | <p>Whether to use the XForwardedFor_protocol header to obtain the protocol used by the listener.</p> <p>Valid value: on   off(Default)</p>                                                                |
| Scheduler              | String  | No | <p>The algorithm used to distribute traffic. Valid values:</p> <ul style="list-style-type: none"> <li>- wrr (Default) Backend servers with higher weights</li> </ul>                                      |

|                   |        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|--------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |        |     | <p>receive more requests than those with smaller weights.</p> <ul style="list-style-type: none"> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</li> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul> |
| StickySession     | String | Yes | <p>Whether to enable session persistence. If enabled, all session requests from the same client are sent to the same backend server.</p> <p>Valid value: on   off</p>                                                                                                                                                                                                                                                                     |
| StickySessionType | String | No  | <p>The method used to handle the cookie. Valid values:</p> <ul style="list-style-type: none"> <li>- insertServer Load Balancer adds a session cookie to the</li> </ul>                                                                                                                                                                                                                                                                    |

|  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <p>first response from the backend server and identifies the server which has sent the response. The next request will contain the cookie and the listener will distribute the request to the same backend server.</p> <p>- serverYou can set the cookie name in the response. Server Load Balancer will overwrite the original cookie when it discovers that a new cookie is set. The next time the client carries the new cookie to access the Server Load Balancer, the listener will distribute the request to the previously recorded backend server.</p> <p><b>Note:</b> This parameter is required when the value</p> |
|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                   |         |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------|---------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |         |     | of the <b>StickySession</b> parameter is on.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CookieTimeout     | Integer | No  | <p>The cookie timeout in seconds.</p> <p>Valid value: [1,86400]</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b> parameter is insert.</p>                                                                                                                                                                                                                                                                                                                   |
| Cookie            | String  | No  | <p>The cookie configured on the backend server.</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b> parameter is server.</p>                                                                                                                                                                                                                                                                                                                                   |
| Gzip              | String  | No  | <p>Whether to enable the Gzip compression.</p> <p>Valid value: on (Default)   off</p>                                                                                                                                                                                                                                                                                                                                                                                                                    |
| HealthCheck       | String  | Yes | <p>Whether to enable health check.</p> <p>Valid value: on   off</p>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| HealthCheckDomain | String  | No  | <p>The domain name used for health check.</p> <p>By default, Server Load Balancer sends an HTTP head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.</p> <p>If your backend server verifies the host field in the request, you must configure a domain name to make sure the health check works.</p> <p>You can specify the IP address of host to do the health check in the form of \$_ip.</p> |

|                        |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HealthCheckURI         | String  | No | The URI used for health check.                                                                                                                                                                                                                                                                                                                                                                                                         |
| HealthyThreshold       | Integer | No | <p>The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).</p> <p>Valid value: [2,10]</p>                                                                                                                                                                                                                                                        |
| UnhealthyThreshold     | Integer | No | <p>The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).</p> <p>When HealthCheck is on, the parameter is required; and when HealthCheck is off, the parameter will be ignored.</p> <p>Valid value: [2,10]</p>                                                                                                                                   |
| HealthCheckConnectPort | Integer | No | <p>The port used for health check.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                                                                                                                                                                                                                  |
| HealthCheckTimeout     | Integer | No | <p>The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.</p> <p>Valid value: [1,300]</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.</p> |
| HealthCheckInterval    | Integer | No | The time interval                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                     |        |    |                                                                                                                                                                                              |
|---------------------|--------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I                   |        |    | between two consecutive health checks.<br><br>Valid value: [1,50]                                                                                                                            |
| HealthCheckHttpCode | String | No | The HTTP status code indicating that the health check is normal. Separate multiple HTTP status codes by commas (.).<br><br>Valid values: http_2xx (Default)   http_3xx   http_4xx   http_5xx |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=SetLoadBalancerHTTPListenerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=-520
&Bandwidth=-1
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetLoadBalancerHTTPListenerAttributeResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</SetLoadBalancerHTTPListenerAttributeResponse>
```

#### JSON format

```
{
```

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

# SetLoadBalancerHTTPSListenerAttribute

## Description

Modify an HTTPS listener.

## Request parameter

| Name              | Type    | Required | Description                                                                                                                                                   |
|-------------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String  | Yes      | The action to perform.<br>Valid value:<br>SetLoadBalancerHTTPSListenerAttribute                                                                               |
| RegionId          | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                       |
| LoadBalancerId    | Integer | Yes      | The ID of the SLB instance for which the HTTPS listener is created.                                                                                           |
| Bandwidth         | Integer | Yes      | The peak bandwidth of the listener. Valid value: [1,1000] Mbps<br><b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.               |
| ListenerPort      | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |
| BackendServerPort | Integer | No       | The port opened on the backend server to                                                                                                                      |

|                |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|--------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |        |    | <p>receive requests.</p> <p>Valid value: [1, 65535]</p> <p><b>Note:</b> If the <b>VServerGroupId</b> parameter is not specified, this parameter is required.</p>                                                                                                                                                                                                                                                                                                                                                                             |
| VServerGroupId | String | No | The ID of the VServer group to add to the listener.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Scheduler      | String | No | <p>The algorithm used to distribute traffic. Valid values:</p> <ul style="list-style-type: none"> <li>- wrr<br/>(Default)Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</li> <li>- rrRequests are evenly and sequentially distributed to</li> </ul> |



|                   |        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|--------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |        |     | the backend servers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| StickySession     | String | Yes | <p>Whether to enable session persistence. If enabled, all session requests from the same client are sent to the same backend server.</p> <p>Valid value: on   off</p>                                                                                                                                                                                                                                                                                                                                                                 |
| StickySessionType | String | No  | <p>The method used to handle the cookie. Valid values:</p> <ul style="list-style-type: none"> <li>- insertServer Load Balancer adds a session cookie to the first response from the backend server and identifies the server which has sent the response. The next request will contain the cookie and the listener will distribute the request to the same backend server.</li> <li>- serverYou can set the cookie name in the response. Server Load Balancer will overwrite the original cookie when it discovers that a</li> </ul> |

|                     |         |     |                                                                                                                                                                                                                                                                                                              |
|---------------------|---------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |         |     | <p>new cookie is set. The next time the client carries the new cookie to access the Server Load Balancer, the listener will distribute the request to the previously recorded backend server.</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySession</b> parameter is on.</p> |
| CookieTimeout       | Integer | No  | <p>The cookie timeout in seconds.</p> <p>Valid value: [1,86400]</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b> parameter is insert.</p>                                                                                                                       |
| Cookie              | String  | No  | <p>The cookie configured on the backend server.</p> <p><b>Note:</b> This parameter is required when the value of the <b>StickySessionType</b> parameter is server.</p>                                                                                                                                       |
| ServerCertificateId | String  | Yes | The ID of the server certificate.                                                                                                                                                                                                                                                                            |
| CACertificateId     | String  | No  | <p>The ID of the CA certificate.</p> <p><b>Note:</b> This parameter is required only when two-way authentication is used.</p>                                                                                                                                                                                |
| Gzip                | String  | No  | Whether to enable the Gzip compression.                                                                                                                                                                                                                                                                      |

|                      |        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|--------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      |        |     | Valid value: on (Default)   off                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XForwardedFor        | String | No  | Whether to use the XForwardedFor header to obtain the actual IP address of the client.<br><br>Valid value: on (Default)   off                                                                                                                                                                                                                                                                                                                                                                      |
| XForwardedFor_SLB IP | String | No  | Whether to use the XForwardedFor_SLBIP header to obtain the public IP address of the SLB instance.<br><br>Valid value: on   off(Default)                                                                                                                                                                                                                                                                                                                                                           |
| XForwardedFor_SLB ID | String | No  | Whether to use the XForwardedFor header to obtain the ID of the SLB instance.<br><br>Valid value: on   off(Default)                                                                                                                                                                                                                                                                                                                                                                                |
| HealthCheck          | String | Yes | Whether to enable health check.<br><br>Valid value: on   off                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| HealthCheckDomain    | String | No  | The domain name used for health check.<br><br>By default, Server Load Balancer sends an HTTPS head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.<br><br>If your backend server verifies the host field in the request, you must configure a domain name to make sure the health check works.<br><br>You can specify the IP address of host to do the health check in the form of \$_ip. |

|                        |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HealthCheckURI         | String  | No | The URI used for health check.                                                                                                                                                                                                                                                                                                                                                                                                         |
| HealthyThreshold       | Integer | No | <p>The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).</p> <p>Valid value: [2,10]</p>                                                                                                                                                                                                                                                        |
| UnhealthyThreshold     | Integer | No | <p>The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).</p> <p>When HealthCheck is on, the parameter is required; and when HealthCheck is off, the parameter will be ignored.</p> <p>Valid value: [2,10]</p>                                                                                                                                   |
| HealthCheckConnectPort | Integer | No | <p>The port used for health check.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                                                                                                                                                                                                                  |
| HealthCheckTimeout     | Integer | No | <p>The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.</p> <p>Valid value: [1,300]</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.</p> |
| HealthCheckInterval    | Integer | No | The time interval                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                     |        |    |                                                                                                                                                                                            |
|---------------------|--------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I                   |        |    | between two consecutive health checks.<br>Valid value: [1,50]                                                                                                                              |
| HealthCheckHttpCode | String | No | The HTTPS status code indicating that the health check is normal. Separate multiple HTTPS status codes by commas (,).<br>Valid values: http_2xx (Default)   http_3xx   http_4xx   http_5xx |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=SetLoadBalancerHTTPSListenerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=-520
&Bandwidth=-1
&ServerCertificateId=idkp-123-cn-test-01
&<Public Request Parameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetLoadBalancerHTTPSListenerAttributeResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</SetLoadBalancerHTTPSListenerAttributeResponse>
```

#### - JSON format

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

# SetLoadBalancerTCPListenerAttribute

## Description

Modify a TCP listener.

## Request parameter

| Name              | Type    | Required | Description                                                                                                                                                                                              |
|-------------------|---------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action            | String  | Yes      | The action to perform.<br>Valid value:<br><code>SetLoadBalancerTCPListenerAttribute</code>                                                                                                               |
| RegionId          | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                                                                  |
| LoadBalancerId    | String  | Yes      | The ID of the SLB instance for which the TCP listener is created.                                                                                                                                        |
| ListenerPort      | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535]                                            |
| BackendServerPort | Integer | No       | The port opened on the backend server to receive requests.<br><br>Valid value: [1, 65535]<br><br><b>Note:</b> If the <code>VServerGroupId</code> parameter is not specified, this parameter is required. |

|                |         |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|---------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bandwidth      | Integer | Yes | <p>The peak bandwidth of the listener. Valid value: [1,1000] Mbps</p> <p><b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.</p>                                                                                                                                                                                                                                                                                                                                                                                                       |
| Scheduler      | String  | No  | <p>The algorithm used to distribute traffic. Valid value:</p> <ul style="list-style-type: none"> <li>- wrr<br/>(Default)Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</li> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul> |
| VServerGroupId | String  | No  | The ID of a VServer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                          |         |    |                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|---------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |         |    | <p>group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroupId</b> parameter cannot be used at the same time.</p>                                                                                                                                                                                                                         |
| MasterSlaveServerGroupId | String  | No | <p>The ID of a master-slave server group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroupId</b> parameter cannot be used at the same time.</p>                                                                                                                                                                                         |
| EstablishedTimeout       | Integer | No | <p>The connection timeout in seconds for the Layer-4 TCP listener.</p> <p>Valid value: [10, 900]. The default value is 900.</p>                                                                                                                                                                                                                                     |
| PersistenceTimeout       | Integer | No | <p>The timeout value of the TCP connection in seconds. Valid value: [10,900]</p> <p><b>Note:</b> By default, this value is set to zero, the session persistence function is disabled.</p>                                                                                                                                                                           |
| HealthCheckType          | String  | No | <p>Select a health check method. Valid value:</p> <p>tcp (Default)   http</p>                                                                                                                                                                                                                                                                                       |
| HealthCheckDomain        | String  | No | <p>The domain name used for health check.</p> <p>By default, Server Load Balancer sends an HTTP head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.</p> <p>If your backend server verifies the host field in the request, you must configure a domain</p> |



|                        |         |    |                                                                                                                                                                                                                                                                                                      |
|------------------------|---------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |         |    | <p>name to make sure the health check works.</p> <p>You can specify the IP address of host to do the health check in the form of \$_ip.</p> <p><b>Note:</b> This parameter is used only when the HTTP health check method is used.</p>                                                               |
| HealthCheckURI         | String  | No | <p>The URI used for health check.</p> <p><b>Note:</b> This parameter is used only when the HTTP health check method is used.</p>                                                                                                                                                                     |
| HealthCheckConnectPort | Integer | No | <p>The port used for health check.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                                                                                |
| HealthyThreshold       | Integer | No | <p>The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).</p> <p>Valid value: [2,10]</p>                                                                                                                      |
| UnhealthyThreshold     | Integer | No | <p>The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).</p> <p>When HealthCheck is on, the parameter is required; and when HealthCheck is off, the parameter will be ignored.</p> <p>Valid value: [2,10]</p> |
| HealthCheckTimeout     | Integer | No | <p>The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no</p>                                                                                                                                                                                       |

|                     |         |    |                                                                                                                                                                                                                                                                                                                                |
|---------------------|---------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |         |    | <p>response within the specified timeout period, the health check fails.</p> <p>Valid value: [1,300]</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.</p> |
| HealthCheckInterval | Integer | No | <p>The time interval between two consecutive health checks.</p> <p>Valid value: [1,50]</p>                                                                                                                                                                                                                                     |
| HealthCheckHttpCode | String  | No | <p>The HTTP status code indicating that the health check is normal. Separate multiple HTTP status codes by commas (,).</p> <p>Valid values: http_2xx (Default)   http_3xx   http_4xx   http_5xx</p> <p>Default: http_2xx.</p> <p><b>Note:</b> This parameter is used only when the HTTP health check method is used.</p>       |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=SetLoadBalancerTCPListenerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=443
&VServerGroup=on
&VServerGroupId=rsp-cige6j5e7p
&<CommonParameters>
```

## Response example

### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetLoadBalancerTCPListenerAttributeResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</SetLoadBalancerTCPListenerAttributeResponse>
```

### JSON format

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

# SetLoadBalancerUDPListenerAttribute

## Description

Modify a UDP protocol listener.

## Request Parameter

| Name     | Type   | Required | Description                                                                   |
|----------|--------|----------|-------------------------------------------------------------------------------|
| Action   | String | Yes      | The action to perform.<br>Valid value:<br>SetLoadBalancerUDPListenerAttribute |
| RegionId | String | Yes      | The ID of the region where the SLB instance is located.                       |

|                   |         |     |                                                                                                                                                                                                                                                                          |
|-------------------|---------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LoadBalancerId    | String  | Yes | The ID of the SLB instance for which the TCP listener is created.                                                                                                                                                                                                        |
| ListenerPort      | Integer | Yes | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535]                                                                                                            |
| BackendServerPort | Integer | No  | The port opened on the backend server to receive requests.<br><br>Valid value: [1, 65535]<br><br><b>Note:</b> If the <b>VServerGroupId</b> parameter is not specified, this parameter is required.                                                                       |
| Bandwidth         | Integer | No  | The peak bandwidth of the listener. Valid value: [1,1000] Mbps<br><br><b>Note:</b> Set it to -1 if the Internet SLB instance is charged by traffic.                                                                                                                      |
| Scheduler         | String  | No  | The algorithm used to distribute traffic. Valid value:<br><br>- wrr<br>(Default)Backend servers with higher weights receive more requests than those with smaller weights.<br>- wlcA server with a higher weight will receive a larger percentage of live connections at |

|                          |         |    |                                                                                                                                                                                                                                     |
|--------------------------|---------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |         |    | <p>any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</p> <p>- rrRequests are evenly and sequentially distributed to the backend servers.</p> |
| VServerGroupId           | String  | No | <p>The ID of a VServer group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroup</b> parameter cannot be used at the same time.</p>                                                                       |
| MasterSlaveServerGroupId | String  | No | <p>The ID of a master-slave server group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroup</b> parameter cannot be used at the same time.</p>                                                           |
| HealthCheckConnectPort   | Integer | No | <p>The port used for health check.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                               |
| HealthyThreshold         | Integer | No | <p>The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).</p> <p>Valid value: [2,10]</p>                                                     |

|                           |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|---------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UnhealthyThreshold        | Integer | No | The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).<br><br>Valid value: [2,10]                                                                                                                                                                                                                                                         |
| HealthCheckConnectTimeout | Integer | No | The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.<br><br>Valid value: [1,300]<br><br><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter. |
| HealthCheckInterval       | Integer | No | The time interval between two consecutive health checks.<br><br>Valid value: [1,50]                                                                                                                                                                                                                                                                                                                                             |
| HealthCheckReq            | String  | No | Request string for UDP listener health check. Only English letters, digits are allowed. Up to 500 characters can be entered.                                                                                                                                                                                                                                                                                                    |
| HealthCheckExp            | String  | No | Response string for UDP listener check. Only English letters, digits are allowed. Up to 500 characters can be entered.                                                                                                                                                                                                                                                                                                          |

## Response parameter

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

|           |        |                        |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |
|-----------|--------|------------------------|

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=CreateLoadBalancerUDPListener
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=53
&BackendServerPort=53
&Bandwidth=-1
&VServerGroupId=rsp-cige6j5e7p
&<CommonRequestParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetLoadBalancerUDPListenerAttributeResponse>
  <RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</SetLoadBalancerUDPListenerAttributeResponse>
```

#### JSON format

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

# DescribeLoadBalancerHTTPListenerAttribute

## Description

Query the configurations of a specified HTTP listener.

## Request parameter

| Name           | Type    | Required | Description                                                                                                                                                   |
|----------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br><br>DescribeLoadBalancerH<br>TTPListenerAttribute                                                                   |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                       |
| LoadBalancerId | String  | Yes      | The ID of the SLB instance for which the TCP listener is created.                                                                                             |
| ListenerPort   | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |

## Response parameter

| Name              | Type    | Description                                                                                                                    |
|-------------------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| RequestId         | String  | The ID of the request.                                                                                                         |
| ListenerPort      | Integer | Port used by the Server Load Balancer instance frontend.                                                                       |
| Status            | String  | The status of the listener.                                                                                                    |
| Bandwidth         | Integer | The peak bandwidth of the listener.<br><br><b>Note:</b> If the value is set to -1, the listener is not limited by bandwidth.   |
| ListenerPort      | Integer | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers. |
| BackendServerPort | Integer | The port opened on the backend server to receive requests.                                                                     |
| VServerGroupId    | String  | The ID of the VServer group to add to the listener.                                                                            |



|                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Scheduler           | String | <p>The algorithm used to distribute traffic.</p> <ul style="list-style-type: none"> <li>- wrr (Default) Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</li> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul> |
| XForwardedFor       | String | Whether to use the XForwardedFor header to obtain the actual IP address of the client.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| XForwardedFor_SLBIP | String | Whether to use the XForwardedFor_SLBIP header to obtain the public IP address of the SLB instance.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| XForwardedFor_SLBID | String | Whether to use the XForwardedFor header to obtain the ID of the SLB instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| XForwardedFor_proto | String | Whether to use the XForwardedFor_proto header to obtain the protocol used by the listener.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| StickySession       | String | Whether to enable session persistence. If enabled, all session requests from the same client are sent to the same backend server.                                                                                                                                                                                                                                                                                                                                                                                                                |
| StickySessionType   | String | <p>The method used to handle the cookie.</p> <ul style="list-style-type: none"> <li>- insertServer Load Balancer</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                   |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |         | <p>adds a session cookie to the first response from the backend server and identifies the server which has sent the response. The next request will contain the cookie and the listener will distribute the request to the same backend server.</p> <p>- server You can set the cookie name in the response. Server Load Balancer will overwrite the original cookie when it discovers that a new cookie is set. The next time the client carries the new cookie to access the Server Load Balancer, the listener will distribute the request to the previously recorded backend server.</p> <p><b>Note:</b> This parameter is returned when the value of the <b>StickySession</b> parameter is on.</p> |
| CookieTimeout     | Integer | <p>The cookie timeout in seconds.</p> <p><b>Note:</b> This parameter is returned when the value of the <b>StickySessionType</b> parameter is insert.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Cookie            | String  | <p>The cookie configured on the backend server.</p> <p><b>Note:</b> This parameter is returned when the value of the <b>StickySessionType</b> parameter is server.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Gzip              | String  | Whether to enable the Gzip compression.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HealthCheck       | String  | Whether to enable health check.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| HealthCheckDomain | String  | The domain name used for health check.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|                        |         |                                                                                                                                                                                                                                                                           |
|------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |         | By default, Server Load Balancer sends an HTTP head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.                                                              |
| HealthCheckURI         | String  | The URI used for health check.                                                                                                                                                                                                                                            |
| HealthyThreshold       | Integer | The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).                                                                                                                             |
| UnhealthyThreshold     | Integer | <p>The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).</p> <p>When HealthCheck is on, the parameter is required; and when HealthCheck is off, the parameter will be ignored.</p> |
| HealthCheckConnectPort | Integer | The port used for health check.                                                                                                                                                                                                                                           |
| HealthCheckTimeout     | Integer | The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.                                                                                             |
| HealthCheckInterval    | Integer | The time interval between two consecutive health checks.                                                                                                                                                                                                                  |
| HealthCheckHttpCode    | String  | The HTTP status code indicating that the health check is normal.                                                                                                                                                                                                          |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeLoadBalancerHTTPListenerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&<CommonParameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeLoadBalancerHTTPListenerAttributeResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<ListenerPort>80</ListenerPort>
<BackendServerPort>80</BackendServerPort>
<Bandwidth>-1</Bandwidth>
<Status>stopped</Status>
<Schedule>wrr</Schedule>
<XForwardedFor>on</XForwardedFor>
</DescribeLoadBalancerHTTPListenerAttributeResponse>
```

JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "ListenerPort": 80,
  "BackendServerPort": 80,
  "Bandwidth": -1,
  "Status": "stopped",
  "Schedule": "wrr",
  "XForwardedFor": "on"
}
```

# DescribeLoadBalancerHTTPSListenerAttribute

## Description

Query the configurations of a specified HTTPS listener.

## Request parameter

| Name   | Type   | Required | Description                                                                              |
|--------|--------|----------|------------------------------------------------------------------------------------------|
| Action | String | Yes      | The action to perform.<br>Valid value:<br>DescribeLoadBalancerH<br>TTPSListenerAttribute |

|                |         |     |                                                                                                                                                               |
|----------------|---------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RegionId       | String  | Yes | The ID of the region where the SLB instance is located.                                                                                                       |
| LoadBalancerId | String  | Yes | The ID of the SLB instance for which the TCP listener is created.                                                                                             |
| ListenerPort   | Integer | Yes | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |

## Response parameter

| Name              | Type    | Description                                                                                                                                                                                                                                                              |
|-------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId         | String  | The ID of the request.                                                                                                                                                                                                                                                   |
| ListenerPort      | Integer | Port used by the Server Load Balancer instance frontend.                                                                                                                                                                                                                 |
| Status            | String  | The status of the listener.                                                                                                                                                                                                                                              |
| Bandwidth         | Integer | The peak bandwidth of the listener.<br><br><b>Note:</b> If the value is set to -1, the listener is not limited by bandwidth.                                                                                                                                             |
| ListenerPort      | Integer | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.                                                                                                                                           |
| BackendServerPort | Integer | The port opened on the backend server to receive requests.                                                                                                                                                                                                               |
| VServerGroupId    | String  | The ID of the VServer group to add to the listener.                                                                                                                                                                                                                      |
| Scheduler         | String  | The algorithm used to distribute traffic.<br><br><ul style="list-style-type: none"> <li>- wrr (Default) Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlca server with a higher weight will receive a</li> </ul> |

|                     |         |                                                                                                                                                                                                                                                                                                                         |
|---------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |         | <p>larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</p> <ul style="list-style-type: none"> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul> |
| ServerCertificateId | Integer | The ID of the server certificate.                                                                                                                                                                                                                                                                                       |
| CACertificateId     | Integer | The ID of the CA certificate.                                                                                                                                                                                                                                                                                           |
| XForwardedFor       | String  | Whether to use the XForwardedFor header to obtain the actual IP address of the client.                                                                                                                                                                                                                                  |
| XForwardedFor_SLBIP | String  | Whether to use the XForwardedFor_SLBIP header to obtain the public IP address of the SLB instance.                                                                                                                                                                                                                      |
| XForwardedFor_SLBID | String  | Whether to use the XForwardedFor header to obtain the ID of the SLB instance.                                                                                                                                                                                                                                           |
| XForwardedFor_proto | String  | Whether to use the XForwardedFor_proto header to obtain the protocol used by the listener.                                                                                                                                                                                                                              |
| StickySession       | String  | Whether to enable session persistence. If enabled, all session requests from the same client are sent to the same backend server.                                                                                                                                                                                       |
| StickySessionType   | String  | <p>The method used to handle the cookie.</p> <ul style="list-style-type: none"> <li>- insertServer Load Balancer adds a session cookie to the first response from the backend server and identifies the server which has sent the response. The next request will contain</li> </ul>                                    |

|                   |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |         | <p>the cookie and the listener will distribute the request to the same backend server.</p> <p>- serverYou can set the cookie name in the response. Server Load Balancer will overwrite the original cookie when it discovers that a new cookie is set. The next time the client carries the new cookie to access the Server Load Balancer, the listener will distribute the request to the previously recorded backend server.</p> <p><b>Note:</b> This parameter is returned when the value of the <b>StickySession</b> parameter is on.</p> |
| CookieTimeout     | Integer | <p>The cookie timeout in seconds.</p> <p><b>Note:</b> This parameter is returned when the value of the <b>StickySessionType</b> parameter is insert.</p>                                                                                                                                                                                                                                                                                                                                                                                      |
| Cookie            | String  | <p>The cookie configured on the backend server.</p> <p><b>Note:</b> This parameter is returned when the value of the <b>StickySessionType</b> parameter is server.</p>                                                                                                                                                                                                                                                                                                                                                                        |
| Gzip              | String  | Whether to enable the Gzip compression.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| HealthCheck       | String  | Whether to enable health check.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| HealthCheckDomain | String  | <p>The domain name used for health check.</p> <p>By default, Server Load Balancer sends an HTTP head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.</p>                                                                                                                                                                                                                                                                             |

|                        |         |                                                                                                                                                                                                                                                                           |
|------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HealthCheckURI         | String  | The URI used for health check.                                                                                                                                                                                                                                            |
| HealthyThreshold       | Integer | The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).                                                                                                                             |
| UnhealthyThreshold     | Integer | <p>The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).</p> <p>When HealthCheck is on, the parameter is required; and when HealthCheck is off, the parameter will be ignored.</p> |
| HealthCheckConnectPort | Integer | The port used for health check.                                                                                                                                                                                                                                           |
| HealthCheckTimeout     | Integer | The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.                                                                                             |
| HealthCheckInterval    | Integer | The time interval between two consecutive health checks.                                                                                                                                                                                                                  |
| HealthCheckHttpCode    | String  | The HTTP status code indicating that the health check is normal.                                                                                                                                                                                                          |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeLoadBalancerHTTPSListenerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80443
&<Public Request Parameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeLoadBalancerHTTPSListenerAttributeResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<ListenerPort>80</ListenerPort>
```



```
<BackendServerPort>80</BackendServerPort>
<Bandwidth>-1</Bandwidth>
<Status>stopped</Status>
<Schedule>wrr</Schedule>
<XForwardedFor>on</XForwardedFor>
<ServerCertificateId>idkp-123-cn-test-01</ServerCertificateId>
</DescribeLoadBalancerHTTPSListenerAttributeResponse>
```

#### JSON format

```
{
  "RequestId":"365F4154-92F6-4AE4-92F8-7FF34B540710",
  "ListenerPort":80,
  "BackendServerPort":80,
  "Bandwidth":-1,
  "Status":"stopped",
  "Schedule":"wrr",
  "XForwardedFor":"on",
  "ServerCertificateId":"idkp-123-cn-test-01"
}
```

# DescribeLoadBalancerTCPListenerAttribute

## Description

Query the configurations of a specified TCP listener.

### Request parameter

| Name           | Type   | Required | Description                                                                        |
|----------------|--------|----------|------------------------------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>DescribeLoadBalancerTCPListenerAttribute |
| RegionId       | String | Yes      | The ID of the region where the SLB instance is located.                            |
| LoadBalancerId | String | Yes      | The ID of the SLB instance for which the TCP listener is created.                  |

|              |         |     |                                                                                                                                                                      |
|--------------|---------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ListenerPort | Integer | Yes | <p>The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.</p> <p>Valid value: [1, 65535]</p> |
|--------------|---------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Response parameter

&gt;

| Name              | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId         | String  | The ID of the request.                                                                                                                                                                                                                                                                                                                                                                                                            |
| ListenerPort      | Integer | <p>The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.</p> <p>Valid value: [1, 65535]</p>                                                                                                                                                                                                                                                              |
| Status            | String  | The status of the listener.                                                                                                                                                                                                                                                                                                                                                                                                       |
| BackendServerPort | Integer | The port opened on the backend server to receive requests.                                                                                                                                                                                                                                                                                                                                                                        |
| Bandwidth         | Integer | <p>The peak bandwidth of the listener. Valid value: [1,1000] Mbps</p> <p><b>Note:</b> If the value is set to -1, the listener is not limited by bandwidth.</p>                                                                                                                                                                                                                                                                    |
| Scheduler         | String  | <p>The algorithm used to distribute traffic.</p> <ul style="list-style-type: none"> <li>- wrr (Default) Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlca server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest</li> </ul> |

|                          |         |                                                                                                                                                                                                                                                                   |
|--------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |         | <p>established connections.</p> <ul style="list-style-type: none"> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul>                                                                                                    |
| VServerGroupId           | String  | <p>The ID of a VServer group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroupId</b> parameter cannot be used at the same time.</p>                                                                                                   |
| MasterSlaveServerGroupId | String  | <p>The ID of a master-slave server group.</p> <p>The <b>VServerGroupId</b> parameter and the <b>MasterSlaveServerGroupId</b> parameter cannot be used at the same time.</p>                                                                                       |
| EstablishedTimeout       | Integer | The connection timeout in seconds for the Layer-4 TCP listener.                                                                                                                                                                                                   |
| PersistenceTimeout       | Integer | <p>The timeout value of the TCP connection in seconds.</p> <p><b>Note:</b> If the value is set to zero, the session persistence function is disabled.</p>                                                                                                         |
| HealthCheckType          | String  | The health check method.                                                                                                                                                                                                                                          |
| HealthCheckDomain        | String  | <p>The domain name used for health check.</p> <p>By default, Server Load Balancer sends an HTTP head request to the default homepage configured on the application server through the intranet IP address of the backend ECS instance to do the health check.</p> |
| HealthCheckURI           | String  | The URI used for health check.                                                                                                                                                                                                                                    |
| HealthCheckConnectPort   | Integer | The port used for health check.                                                                                                                                                                                                                                   |
| HealthyThreshold         | Integer | The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).                                                                                                                     |
| UnhealthyThreshold       | Integer | The number of consecutive failures of health check performed by the same LVS node server on the same                                                                                                                                                              |

|                     |         |                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |         | ECS instance (from success to failure).                                                                                                                                                                                                                                                                                                                                                                    |
| HealthCheckTimeout  | Integer | <p>The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.</p> |
| HealthCheckInterval | Integer | The time interval between two consecutive health checks.                                                                                                                                                                                                                                                                                                                                                   |
| HealthCheckHttpCode | String  | The HTTP status code indicating that the health check is normal.                                                                                                                                                                                                                                                                                                                                           |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeLoadBalancerTCPLListenerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeLoadBalancerTCPLListenerAttributeResponse>
  <RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
  <ListenerPort>443</ListenerPort>
  <BackendServerPort>443</BackendServerPort>
  <Bandwidth>-1</Bandwidth>
  <Status>stopped</Status>
  <Schedule>wrr</Schedule>
  <StickySession>on</StickySession>
  <PersistenceTimeout>0</PersistenceTimeout>
</DescribeLoadBalancerTCPLListenerAttributeResponse>
```

JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "ListenerPort": 443,
  "BackendServerPort": 443,
  "Bandwidth": -1,
  "Status": "stopped",
  "Schedule": "wrr",
  "StickySession": "on",
  "PersistenceTimeout": 0
}
```

# DescribeLoadBalancerUDPListenerAttribute

## Description

Query the configurations of a specified UDP listener.

## Request parameter

| Name           | Type    | Required | Description                                                                                                                                                   |
|----------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>DescribeLoadBalancerUDPListenerAttribute                                                                            |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                       |
| LoadBalancerId | String  | Yes      | The ID of the SLB instance for which the TCP listener is created.                                                                                             |
| ListenerPort   | Integer | Yes      | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |

## Response parameter

| Name                     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId                | String  | The ID of the request.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ListenerPort             | Integer | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Status                   | String  | The status of the listener.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| BackendServerPort        | Integer | The port opened on the backend server to receive requests.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Bandwidth                | Integer | The peak bandwidth of the listener. Valid value: [1,1000] Mbps<br><b>Note:</b> If the value is set to -1, the Internet SLB instance is not limited by the bandwidth.                                                                                                                                                                                                                                                                                                                                                                                   |
| Scheduler                | String  | The algorithm used to distribute traffic. Valid value: <ul style="list-style-type: none"> <li>- wrr (Default) Backend servers with higher weights receive more requests than those with smaller weights.</li> <li>- wlcA server with a higher weight will receive a larger percentage of live connections at any one time. If the weights are the same, the system directs network connections to the server with the fewest established connections.</li> <li>- rrRequests are evenly and sequentially distributed to the backend servers.</li> </ul> |
| VServerGroupId           | String  | The ID of a VServer group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| MasterSlaveServerGroupId | String  | The ID of a master-slave server group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| HealthCheckConnectPort   | Integer | The port used for health check.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                            |         |                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HealthyThreshold           | Integer | The number of consecutive successes of health check performed by the same LVS mode server on the same ECS instance (from failure to success).                                                                                                                                                                                                                                                              |
| UnhealthyThreshold         | Integer | The number of consecutive failures of health check performed by the same LVS node server on the same ECS instance (from success to failure).                                                                                                                                                                                                                                                               |
| HealthCheckConnectTime out | Integer | <p>The amount of time in seconds to wait for the response from a health check. If an ECS instance sends no response within the specified timeout period, the health check fails.</p> <p><b>Note:</b> If the value of the <b>HealthCheckInterval</b> is greater than the value of the <b>HealthCheckTimeout</b> parameter, the timeout is set to the value of the <b>HealthCheckInterval</b> parameter.</p> |
| HealthCheckInterval        | Integer | The time interval between two consecutive health checks.                                                                                                                                                                                                                                                                                                                                                   |
| HealthCheckReq             | String  | Request string for UDP listener health check. Only English letters, digits are allowed. Up to 500 characters can be entered.                                                                                                                                                                                                                                                                               |
| HealthCheckExp             | String  | Response string for UDP listener check. Only English letters, digits are allowed. Up to 500 characters can be entered.                                                                                                                                                                                                                                                                                     |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeLoadBalancerUDPListenerAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=53
&<Public Request Parameters>
```

### Response example

## XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeLoadBalancerUDPLListenerAttributeResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<ListenerPort>53</ListenerPort>
<BackendServerPort>53</BackendServerPort>
<Bandwidth>-1</Bandwidth>
<Status>stopped</Status>
<Schedule>wrr</Schedule>
</DescribeLoadBalancerUDPLListenerAttributeResponse>
```

## JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "ListenerPort": 53,
  "BackendServerPort": 53,
  "Bandwidth": -1,
  "Status": "stopped",
  "Schedule": "wrr",
}
```

# DescribeListenerAccessControlAttribute

## Description

Query the access control of a specified listener.

## Request parameter

| Name     | Type   | Required | Description                                                                      |
|----------|--------|----------|----------------------------------------------------------------------------------|
| Action   | String | Yes      | The action to perform.<br>Valid value:<br>DescribeListenerAccessControlAttribute |
| RegionId | String | Yes      | The ID of the region where the SLB instance is located.                          |



|                |         |     |                                                                                                                                                               |
|----------------|---------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LoadBalancerId | String  | Yes | The ID of the SLB instance.                                                                                                                                   |
| ListenerPort   | Integer | Yes | The front-end port of the listener that is used to receive incoming traffic and distribute the traffic to the backend servers.<br><br>Valid value: [1, 65535] |

## Response parameter

| Name                | Type   | Description                                                                                                                                                                                             |
|---------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId           | String | The ID of the request.                                                                                                                                                                                  |
| AccessControlStatus | String | Whether the whitelist access control function is enabled. open_whitelist indicates the whitelist access control function is enabled. close indicates the whitelist access control function is disabled. |
| SourceItems         | String | The IP addresses or IP address ranges added to the whitelist.                                                                                                                                           |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeListenerAccessControlAttribute
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&<Public Request Parameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeListenerAccessControlAttributeResponse>
  <RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
  <AccessControlStatus>open_whitelist</AccessControlStatus>
  <SourceItems>1.1.1.1,1.1.1.0/21</SourceItems>
</DescribeListenerAccessControlAttributeResponse>
```

JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "AccessControlStatus": "open_whitelist",
  "SourceItems": "1.1.1.1,1.1.1.0/21"
}
```

## Backend server

# AddBackendServers

## Description

Add the backend servers to a Server Load Balancer instance.

**Note:** If the ECS instances has already been added, the ECS instances are ignored.

## Request parameter

| Name           | Type        | Required | Description                                                                                                                                                 |
|----------------|-------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String      | Yes      | The action to perform.<br>Valid value:<br>AddBackendServers                                                                                                 |
| LoadBalancerId | String      | Yes      | The ID of the Server Load Balancer instance.                                                                                                                |
| BackendServers | JSON String | Yes      | A list of backend servers to be added.<br><br>Up to 20 backend servers can be added at one time. The backend servers must be added in the following format: |

|  |  |  |                                                                                                                                                                                                                                                                                                                                                         |
|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <pre>[{"ServerId":"XXX","Weight":"XXX"}, {"ServerId":"XXX","Weight":"XXX"}]</pre> <ul style="list-style-type: none"><li>- ServerId is the ID of the ECS instance to be added.</li><li>- Weight is the weight of the ECS instance in the range of 1-100, the default value is 100. The ECS instance with higher weight receives more requests.</li></ul> |
|--|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Response parameter

| Name           | Type        | Description                                                                                                                                                                                                                                                                                                                                     |
|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId      | String      | The ID of the request.                                                                                                                                                                                                                                                                                                                          |
| LoadBalancerId | String      | The ID of the Server Load Balancer instance.                                                                                                                                                                                                                                                                                                    |
| BackendServers | JSON String | <p>The list of the backend servers of the SLB instance, containing the following:</p> <ul style="list-style-type: none"><li>- ServerId is the ID of the ECS instance.</li><li>- Weight is the weight of the ECS instance in the range of 1-100, the default value is 100. The ECS instance with higher weight receives more requests.</li></ul> |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=AddBackendServers
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&BackendServers=[
{"ServerId":"vm-233","Weight":100},
{"ServerId":"vm-234","Weight":100}]
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<AddBackendServersResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<LoadBalancerId>139a00604ad-cn-east-hangzhou-01</LoadBalancerId>
<BackendServers>
<BackendServer>
<ServerId>vm-233</ServerId>
<Weight>100</Weight>
</BackendServer>
<BackendServer>
<ServerId>vm-234</ServerId>
<Weight>100</Weight>
</BackendServer>
</BackendServers>
</AddBackendServersResponse>
```

#### JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "LoadBalancerId": "139a00604ad-cn-east-hangzhou-01",
  "BackendServers": {
    "BackendServer": [
      { "ServerId": "vm-233",
        "Weight": 100 },
      { "ServerId": "vm-234",
        "Weight": 100 }
    ]
  }
}
```

# RemoveBackendServers

## Description

Remove one or more ECS instances from the backend server pool.

**Note:** No error will be returned if an ECS instance to be removed does not exist in the backend server pool.

## Request parameter

| Name           | Type        | Required | Description                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------|-------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String      | Yes      | The action to perform.<br>Valid value:<br>RemoveBackendServers                                                                                                                                                                                                                                                                                                                                                  |
| RegionId       | String      | Yes      | The ID of the region where the SLB instance is located.                                                                                                                                                                                                                                                                                                                                                         |
| LoadBalancerId | String      | Yes      | The ID of the SLB instance.                                                                                                                                                                                                                                                                                                                                                                                     |
| BackendServers | JSON String | Yes      | <p>A list of backend servers.</p> <p>Up to 20 backend servers can be contained in one request. The backend servers must be added in the following format:</p> <pre>[{"ServerId":"XXX","Weight":"XXX"}, {"ServerId":"XXX","Weight":"XXX"}]</pre> <ul style="list-style-type: none"><li>- ServerId is the ID of the ECS instance.</li><li>- Weight is the weight of the ECS instance in the range of 1-</li></ul> |

|  |  |  |                                                                                               |
|--|--|--|-----------------------------------------------------------------------------------------------|
|  |  |  | 100, the default value is 100.<br>The ECS instance with higher weight receives more requests. |
|--|--|--|-----------------------------------------------------------------------------------------------|

## Response parameter

| Name           | Type        | Description                                                                                                                                                                                                                                                                                                                              |
|----------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId      | String      | The ID of the request.                                                                                                                                                                                                                                                                                                                   |
| LoadBalancerId | String      | The ID of the SLB instance.                                                                                                                                                                                                                                                                                                              |
| BackendServers | JSON String | The list of the backend servers of the SLB instance, containing the following: <ul style="list-style-type: none"><li>- ServerId is the ID of the ECS instance.</li><li>- Weight is the weight of the ECS instance in the range of 1-100, the default value is 100. The ECS instance with higher weight receives more requests.</li></ul> |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=RemoveBackendServers
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&BackendServers=["vm-233","vm-234"]
&<CommonParameter>
```

### Response example

## XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<RemoveBackendServersResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<LoadBalancerId>139a00604ad-cn-east-hangzhou-01</LoadBalancerId>
<BackendServers>
<BackendServer>
<ServerId>vm-231</ServerId>
<Weight>100</Weight>
</BackendServer>
<BackendServer>
<ServerId>vm-232</ServerId>
<Weight>100</Weight>
</BackendServer>
</BackendServers>
</RemoveBackendServersResponse>
```

## JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "LoadBalancerId": "139a00604ad-cn-east-hangzhou-01",
  "BackendServers": {
    "BackendServer": [
      { "ServerId": "vm-231",
        "Weight": 100 },
      { "ServerId": "vm-232",
        "Weight": 100 }
    ]
  }
}
```

# SetBackendServers

## Description

Modify the weight of the backend servers.

## Request parameter

| Name | Type | Required | Description |
|------|------|----------|-------------|
|------|------|----------|-------------|

|                |             |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------|-------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String      | Yes | The action to perform.<br>Valid value:<br>SetBackendServers                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| RegionId       | String      | Yes | The ID of the region where the SLB instance is located.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| LoadBalancerId | String      | Yes | The ID of the SLB instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BackendServers | JSON String | Yes | <p>The list of backend servers of the SLB instance.</p> <p>Up to 20 backend servers can be added at one time. The backend servers must be added in the following format:</p> <pre>[{"ServerId":"XXX","Weight":"XXX"}, {"ServerId":"XXX","Weight":"XXX"}]</pre> <ul style="list-style-type: none"> <li>- ServerId is the ID of the ECS instance to be added.</li> <li>- Weight is the weight of the ECS instance in the range of 0-100, the default value is 100. The ECS instance with higher weight receives more requests.</li> </ul> |

## Response parameter

| Name           | Type   | Description                                  |
|----------------|--------|----------------------------------------------|
| RequestId      | String | The ID of the request.                       |
| LoadBalancerId | String | The ID of the Server Load Balancer instance. |



|                |      |                                  |
|----------------|------|----------------------------------|
| BackendServers | List | The list of the backend servers. |
|----------------|------|----------------------------------|

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=SetBackendServers
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&BackendServers=[{"ServerId":"vm-233","Weight":"0"},{"ServerId":"vm-234","Weight":"0"}]
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<SetBackendServers>
  <RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
  <LoadBalancerId>139a00604ad-cn-east-hangzhou-01</LoadBalancerId>
  <BackendServers>
    <BackendServer>
      <ServerId>vm-233</ServerId>
      <Weight>0</Weight>
    </BackendServer>
    <BackendServer>
      <ServerId>vm-234</ServerId>
      <Weight>0</Weight>
    </BackendServer>
  </BackendServers>
</SetBackendServers>
```

#### JSON format

```
{
  "RequestId":"365F4154-92F6-4AE4-92F8-7FF34B540710",
  "LoadBalancerId":"139a00604ad-cn-east-hangzhou-01",
  "BackendServers":{
    "BackendServer" : [
      {"ServerId":"vm-233","Weight":0},
      {"ServerId":"vm-234","Weight":0}
    ]
  }
}
```

# DescribeHealthStatus

## Description

Query the health status of the backend servers.

## Request parameter

| Name           | Type    | Required | Description                                                                                                                                             |
|----------------|---------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action         | String  | Yes      | The action to perform.<br>Valid value:<br>DescribeHealthStatus                                                                                          |
| RegionId       | String  | Yes      | The ID of the region where the SLB instance is located.                                                                                                 |
| LoadBalancerId | String  | Yes      | The ID of the SLB instance.                                                                                                                             |
| ListenerPort   | Integer | No       | The front-end port of the listener. Valid value: [1,65535]<br><b>Note:</b> If no port is specified, the health check of all the listeners are returned. |

## Response parameter

| Name           | Type        | Description                                                                                                                                       |
|----------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| RequestId      | String      | The ID of the request.                                                                                                                            |
| LoadBalancerId | String      | The ID of the Server Load Balancer instance.                                                                                                      |
| BackendServers | JSON String | The list of the backend servers containing the following: <ul style="list-style-type: none"><li>- ServerId: The ID of the ECS instance.</li></ul> |

|  |  |                                                                                                                                                                                                                                                                                                                                                    |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>- ServerHealthStatus: The status of the backend server: normal: The status of the backend server is healthy. abnormal: The status of the backend server is unhealthy. unavailable: The status of the backend server cannot be obtained now. Maybe the health check has not be finished or the listener does not configure the health check.</p> |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeHealthStatus
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ListenerPort=80
&<CommonParameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>
<DescribeHealthStatusResponse>
  <RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
  <BackendServers>
    <BackendServer>
      <ServerId>vm-233</ServerId>
      <ServerHealthStatus>normal</ServerHealthStatus>
    </BackendServer>
    <BackendServer>
      <ServerId>vm-234</ServerId>
      <ServerHealthStatus>abnormal</ServerHealthStatus>
    </BackendServer>
  </BackendServers>
</DescribeHealthStatusResponse>
```

JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "LoadBalancerId": "139a00604ad-cn-east-hangzhou-01",
  "BackendServers": {
    "BackendServer": [
      {"ServerId": "vm-233", "ServerHealthStatus": "normal"},
      {"ServerId": "vm-234", "ServerHealthStatus": "abnormal"}
    ]
  }
}
```

## Master-slave server group

# CreateMasterSlaveServerGroup

## Description

Create a master-slave server group.

A master-slave only contains two ECS instances, one is the primary backend server and the other one is standby backend server that will take over when the primary backend server fails to handle the forwarded requests.

## Request parameter

| Name           | Type   | Required | Description                                                            |
|----------------|--------|----------|------------------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>CreateMasterSlaveServerGroup |
| RegionId       | String | Yes      | The ID of the region where the SLB instance is located.                |
| LoadBalancerId | String | Yes      | The ID of the SLB                                                      |

|                            |             |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------|-------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            |             |     | instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| MasterSlaveServerGroupName | String      | Yes | The name of the master-slave server group.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| MasterSlaveBackendServers  | JSON String | Yes | <p>The list of the master-slave server group to be added.</p> <p>Only two ECS instances can be added in each group in the following format:</p> <pre>{'ServerId':'vm-233','Port':'80','Weight':'100','ServerType':'Master'}</pre> <p>where:</p> <ul style="list-style-type: none"> <li>- ServerId is the ID of the ECS instance.</li> <li>- Port is the port number of the ECS instance. Valid value: [1,65535]</li> <li>- Weight is the weight of the ECS instance. Valid value: [0-100]. The default value is 100.</li> <li>- ServerType is the role of the backed server. Valid value: Master (Default)   Slave</li> </ul> |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

|                           |             |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MasterSlaveServerGroupId  | String      | The ID of the master-slave server group.                                                                                                                                                                                                                                                                                                                                                                             |
| MasterSlaveBackendServers | JSON String | <p>The list of the master-slave server groups.</p> <p>Each master-slave server group contains two ECS instances with the following information:</p> <ul style="list-style-type: none"> <li>- ServerId is the ID of the ECS instance.</li> <li>- Port is the port number of the ECS instance.</li> <li>- Weight is the weight of the ECS instance.</li> <li>- ServerType is the role of the backed server.</li> </ul> |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=CreateMasterSlaveServerGroup
&RegionId=cn-east-hangzhou-01
&LoadBalancerId=152a602e315-cn-hangzhou-a01
&MasterSlaveServerGroupName=Group1
&MasterSlaveBackendServers=[
{'ServerId':'vm-233','Port':'80','Weight':'100','ServerType':'Master'},
{'ServerId':'vm-232','Port':'90','Weight':'100','ServerType':'Slave'}]
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<CreateMasterSlaveServerGroup>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
<MasterSlaveServerGroupId>rsp-cige6j5e7p</MasterSlaveServerGroupId>
<MasterSlaveBackendServers>
<MasterSlaveBackendServers>
<ServerId>vm-233</ServerId>
<Port>80</Port>
<Weight>100</Weight>
<ServerType>Master</ServerType>
```

```
</MasterSlaveBackendServers>
<MasterSlaveBackendServers>
<ServerId>vm-232</ServerId>
<Port>90</Port>
<Weight>100</Weight>
<ServerType>Slave</ServerType>
</MasterSlaveBackendServers>
</MasterSlaveBackendServers>
</CreateMasterSlaveServerGroup>
```

JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "MasterSlaveServerGroupId": "rsp-cige6j5e7p",
  "MasterSlaveBackendServers": {
    "MasterSlaveBackendServers": [
      {
        "ServerId": "vm-233",
        "Port": "80",
        "Weight": "100",
        "ServerType": "Master"
      },
      {
        "ServerId": "vm-232",
        "Port": "90",
        "Weight": "100",
        "ServerType": "Slave"
      }
    ]
  }
}
```

# DeleteMasterSlaveServerGroup

## Description

Delete a specified master-slave server group.

**Note:** Cannot delete a master-slave server group that is in use.

## Request parameter

| Name | Name | Required | Description |
|------|------|----------|-------------|
|------|------|----------|-------------|

|                          |        |     |                                                                                                                                      |
|--------------------------|--------|-----|--------------------------------------------------------------------------------------------------------------------------------------|
| Action                   | String | Yes | The action to perform.<br>Valid value:<br><br>DeleteMasterSlaveServerGroup                                                           |
| RegionId                 | String | Yes | The ID of the region where the SLB instance is located.                                                                              |
| MasterSlaveServerGroupId | String | Yes | The ID of the master-slave server group to be deleted.<br><br><b>Note:</b> Cannot delete a master-slave server group that is in use. |

## Response parameter

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DeleteMasterSlaveServerGroup
&RegionId=cn-east-hangzhou-01
&MasterSlaveServerGroupId=rsp-cige6j5e7p
<CommonParameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DeleteMasterSlaveServerGroupResponse>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
</DeleteMasterSlaveServerGroupResponse>
```

JSON format

```
{
```



```
"RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C"
}
```

# DescribeMasterSlaveServerGroupAttribute

## Description

Query the detailed information of a master-slave server group.

## Request parameters

| Name                     | Type   | Required | Description                                                                       |
|--------------------------|--------|----------|-----------------------------------------------------------------------------------|
| Action                   | String | Yes      | The action to perform.<br>Valid value:<br>DescribeMasterSlaveServerGroupAttribute |
| RegionId                 | String | Yes      | The ID of the region where the SLB instance is located.                           |
| MasterSlaveServerGroupId | String | Yes      | The ID of the master-slave server group.                                          |

## Response parameters

| Name                                     | Type        | Description                                |
|------------------------------------------|-------------|--------------------------------------------|
| RequestId                                | String      | The ID of the request.                     |
| MasterSlaveServerGroupId                 | String      | The ID of the master-slave server group.   |
| MasterSlaveServerGroupName               | String      | The name of the master-slave server group. |
| MasterSlaveBackendServers                | JSON String | The list of the master-slave server group. |
| MasterSlaveBackendServers <b>objects</b> |             |                                            |
| ServerId                                 | String      | The ID of the backed server.               |
| Port                                     | Integer     | The port number of the backed              |

|            |        |                                |
|------------|--------|--------------------------------|
|            |        | server.                        |
| ServerType | String | The role of the backed server. |

## Example

### Request example

```
https://slb.aliyuncs.com/?Action=DescribeMasterSlaveServerGroupAttribute
&RegionId=cn-east-hangzhou-01
&MasterSlaveServerGroupId=rsp-cige6j5e7p
&<CommonParameters>
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DescribeMasterSlaveServerGroupAttribute>
  <RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
  <MasterSlaveServerGroupId>rsp-cige6j5e7p</MasterSlaveServerGroupId>
  <MasterSlaveServerGroupName>Group1</MasterSlaveServerGroupName>
  <MasterSlaveBackendServers>
    <MasterSlaveBackendServers>
      <ServerId>vm-232</ServerId>
      <Port>80</Port>
      <Weight>100</Weight>
      <ServerType>Master</ServerType>
    </MasterSlaveBackendServers>
    <MasterSlaveBackendServers>
      <ServerId>vm-233</ServerId>
      <Port>90</Port>
      <Weight>100</Weight>
      <ServerType>Slave</ServerType>
    </MasterSlaveBackendServers>
  </MasterSlaveBackendServers>
</DescribeMasterSlaveServerGroupAttribute>
```

#### JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "MasterSlaveServerGroupId": "rsp-cige6j5e7p",
  "MasterSlaveServerGroupName": "Group1",
  "MasterSlaveBackendServers": {
    "MasterSlaveBackendServers": [
      {
```

```
"ServerId": "vm-232",
"Port": "80",
"Weight": "100",
"ServerType": "Master"
},
{
  "ServerId": "vm-233",
  "Port": "90",
  "Weight": "100",
  "ServerType": "Slave"
}
]
}
}
```

# DescribeMasterSlaveServerGroups

## Description

Query created master-slave server groups.

## Request parameter

| Name           | Type   | Mandatory or not | Description                                                      |
|----------------|--------|------------------|------------------------------------------------------------------|
| Action         | String | Yes              | The action to perform.<br>Value: DescribeMasterSlaveServerGroups |
| RegionId       | String | Yes              | The ID of the region where the SLB instance is located.          |
| LoadBalancerId | String | Yes              | The ID of the SLB instance.                                      |

## Response parameter

| Name                      | Type        | Description                                              |
|---------------------------|-------------|----------------------------------------------------------|
| RequestId                 | String      | See [The ID of the request.                              |
| MasterSlaveBackendServers | JSON String | A list of the backend servers in the master-slave server |

|  |  |        |
|--|--|--------|
|  |  | group. |
|--|--|--------|

## Example

### Request example

```
https://slb.aliyuncs.com/?&Action=DescribeMasterSlaveServerGroups
&RegionId=cn-east-hangzhou-01
&LoadBalancerId=152a602e315-cn-beijing-btc-a01
```

### Return example

#### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DescribeMasterSlaveServerGroupsResponse>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
<MasterSlaveServerGroups>
<MasterSlaveServerGroupId>rsp-cige6j5e7p<MasterSlaveServerGroupId>
<MasterSlaveServerGroupName>Group1<MasterSlaveServerGroupName>
<MasterSlaveServerGroupId>rsp-6cejzlld7<MasterSlaveServerGroupId>
<MasterSlaveServerGroupName>Group2<MasterSlaveServerGroupName>
<MasterSlaveServerGroupId>rsp-0bfucwuotx<MasterSlaveServerGroupId>
<MasterSlaveServerGroupName>Group3<MasterSlaveServerGroupName>
</MasterSlaveServerGroups>
</DescribeMasterSlaveServerGroupsResponse>
```

#### JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "MasterSlaveServerGroups": {
    [
      { "MasterSlaveServerGroupId": "rsp-cige6j5e7p", "MasterSlaveServerGroupName": "Group1" },
      { "MasterSlaveServerGroupId": "rsp-6cejzlld7", "MasterSlaveServerGroupName": "Group2" },
      { "MasterSlaveServerGroupId": "rsp-0bfucwuotx", "MasterSlaveServerGroupName": "Group3" }
    ]
  }
}
```

## VServer group

# CreateVServerGroup

## Description

Create a VServer group.

## Request parameters

| Name                          | Type        | Required | Description                                                                                                                                                                                        |
|-------------------------------|-------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action                        | String      | Yes      | The action to perform.<br>Valid value:<br>CreateVServerGroup                                                                                                                                       |
| RegionId                      | String      | No       | The region ID of the Server Load Balancer instance.                                                                                                                                                |
| LoadBalancerId                | String      | Yes      | The ID of the Server Load Balancer instance.                                                                                                                                                       |
| VServerGroupName              | String      | No       | The name of the VServer group.                                                                                                                                                                     |
| BackendServers                | JSON String | No       | The list of backend servers added to the VServer group.<br><br>A VServer group can contain up to 20 backend servers.<br><br>If this parameter is not specified, an empty VServer group is created. |
| <b>BackendServers objects</b> |             |          |                                                                                                                                                                                                    |
| ServerId                      | String      | Yes      | The ID of the ECS instance.                                                                                                                                                                        |
| Port                          | Integer     | Yes      | The port used by the backend server.<br><br>Valid value: 1-65535                                                                                                                                   |
| Weight                        | Integer     | Yes      | The weight of the                                                                                                                                                                                  |

|  |  |  |                                                                    |
|--|--|--|--------------------------------------------------------------------|
|  |  |  | backend server.<br><br>Valid value: [0,100].<br>Default value: 100 |
|--|--|--|--------------------------------------------------------------------|

## Response parameters

| Name           | Type        | Description                  |
|----------------|-------------|------------------------------|
| RequestId      | String      | The ID of the request.       |
| VServerGroupId | String      | The ID of the VServer group. |
| BackendServers | JSON String | The list of backend servers. |

## Examples

### Request example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=CreateVServerGroup
&RegionId=cn-east-hangzhou-01
&LoadBalancerId=152a602e315-cn-beijing-btc-a01
&VServerGroupName=Group1
&BackendServers=[
  {'ServerId':'vm-233','Port':'80','Weight':'100'},
  {'ServerId':'vm-232','Port':'90','Weight':'100'},
  {'ServerId':'vm-231','Port':'70','Weight':'100'}
]
```

### Response example

XML format

```
<?xml version="1.0" encoding="utf-8"?>
<CreateVServerGroup>
  <RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
  <VServerGroupId>rsp-cige6j5e7p</VServerGroupId>
  <BackendServers>
    <BackendServer>
      <ServerId>vm-233</ServerId>
      <Port>80</Port>
      <Weight>100</Weight>
    </BackendServer>
    <BackendServer>
      <ServerId>vm-232</ServerId>
      <Port>90</Port>
```

```
<Weight>100</Weight>
</BackendServer>
<BackendServer>
<ServerId>vm-231</ServerId>
<Port>70</Port>
<Weight>100</Weight>
</BackendServer>
</BackendServers>
</CreateVServerGroup>
```

#### JSON format

```
{
  "RequestId":"9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "VServerGroupId":"rsp-cige6j5e7p",
  "BackendServers":{
    "BackendServer":[
      {'ServerId':'vm-233','Port':'80','Weight':'100'},
      {'ServerId':'vm-232','Port':'90','Weight':'100'},
      {'ServerId':'vm-231','Port':'70','Weight':'100'}
    ]
  }
}
```

# SetVServerGroupAttribute

## Description

Modify the name of a VServer group or the weight of a backend server.

## Request parameters

| Name           | Type   | Required | Description                                                        |
|----------------|--------|----------|--------------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>SetVServerGroupAttribute |
| RegionId       | String | Yes      | The region ID of the Server Load Balancer instance.                |
| VServerGroupId | String | Yes      | The ID of the VServer                                              |

|                               |             |     |                                                                                                                      |
|-------------------------------|-------------|-----|----------------------------------------------------------------------------------------------------------------------|
|                               |             |     | group.                                                                                                               |
| VServerGroupName              | String      | Yes | The name of the VServer group.                                                                                       |
| BackendServers                | JSON String | Yes | The list of backend servers added to the VServer group.<br><br>A VServer group can contain up to 20 backend servers. |
| <b>BackendServers objects</b> |             |     |                                                                                                                      |
| ServerId                      | String      | Yes | The ID of the ECS instance.                                                                                          |
| Port                          | Integer     | Yes | The port used by the backend server.<br><br>Valid value: 1-65535                                                     |
| Weight                        | Integer     | Yes | The weight of the backend server.<br><br>Valid value: [0,100].<br>Default value: 100                                 |

## Response parameters

| Name             | Type        | Description                    |
|------------------|-------------|--------------------------------|
| RequestId        | String      | The ID of the request.         |
| VServerGroupId   | String      | The ID of the VServer group.   |
| VServerGroupName | String      | The name of the VServer group. |
| BackendServers   | JSON String | The list of backend servers.   |

## Examples

### Request example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=SetVServerGroupAttribute
&RegionId=cn-east-hangzhou-01
&VServerGroupId=rsp-cige6j5e7p
&VServerGroupName=Group1
&BackendServers=[
```



```
{'ServerId':'vm-233','Port':'80','Weight':'100'},  
{'ServerId':'vm-232','Port':'90','Weight':'100'},  
{'ServerId':'vm-231','Port':'70','Weight':'100'}  
]
```

## Response example

- XML format
- JSON format

# AddVServerGroupBackendServers

## Description

Add backend servers to the specified VServer group.

## Request parameters

| Name                          | Type    | Required | Description                                                                                      |
|-------------------------------|---------|----------|--------------------------------------------------------------------------------------------------|
| Action                        | String  | Yes      | The action to perform.<br>Valid value:<br>AddVServerGroupBackendServers                          |
| RegionId                      | String  | Yes      | The region ID of the Server Load Balancer instance.                                              |
| VServerGroupId                | String  | Yes      | The ID of the VServer group.                                                                     |
| BackendServers                | String  | Yes      | The list of backend servers to add.<br><br>A VServer group can contain up to 20 backend servers. |
| <b>BackendServers objects</b> |         |          |                                                                                                  |
| ServerId                      | String  | Yes      | The ID of the ECS instance.                                                                      |
| Port                          | Integer | Yes      | The port used by the backend server.                                                             |

|        |         |     |                                                                                  |
|--------|---------|-----|----------------------------------------------------------------------------------|
|        |         |     | Valid value: 1-65535                                                             |
| Weight | Integer | Yes | The weight of the backend server.<br>Valid value: [0,100].<br>Default value: 100 |

## Response parameters

| Name           | Type   | Description                  |
|----------------|--------|------------------------------|
| RequestId      | String | The ID of the request.       |
| VServerGroupId | String | The ID of the VServer group. |
| BackendServers | List   | The list of backend servers. |

## Examples

### Request example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=AddVServerGroupBackendServers
&RegionId=cn-east-hangzhou-01
&VServerGroupId=rsp-cige6j5e7p
&BackendServers=[
  {'ServerId':'vm-233','Port':'80','Weight':'100'},
  {'ServerId':'vm-232','Port':'90','Weight':'100'},
  {'ServerId':'vm-231','Port':'70','Weight':'100'}
]
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<AddVServerGroupBackendServers>
  <RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
  <VServerGroupId>rsp-cige6j5e7p</VServerGroupId>
  <BackendServers>
    <BackendServer>
      <ServerId>vm-233</ServerId>
      <Port>80</Port>
      <Weight>100</Weight>
    </BackendServer>
    <BackendServer>
```

```
<ServerId>vm-232</ServerId>
<Port>90</Port>
<Weight>100</Weight>
</BackendServer>
<BackendServer>
<ServerId>vm-231</ServerId>
<Port>70</Port>
<Weight>100</Weight>
</BackendServer>
</BackendServers>
</AddVServerGroupBackendServers>
```

#### JSON format

```
{
  "RequestId":"9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "VServerGroupId":"rsp-cige6j5e7p",
  "BackendServers":{
    "BackendServer":[
      {'ServerId':'vm-233','Port':'80','Weight':'100'},
      {'ServerId':'vm-232','Port':'90','Weight':'100'},
      {'ServerId':'vm-231','Port':'70','Weight':'100'}
    ]
  }
}
```

# RemoveVServerGroupBackendServers

## Description

Remove backend servers from the specified VServer group.

**Note:** If a backend server to remove is not in the specified VServer group, it is ignored and no error is reported.

## Request parameters

| Name   | Type   | Required | Description                                                                |
|--------|--------|----------|----------------------------------------------------------------------------|
| Action | String | Yes      | The action to perform.<br>Valid value:<br>RemoveVServerGroupBackendServers |

|                               |             |     |                                                                         |
|-------------------------------|-------------|-----|-------------------------------------------------------------------------|
| RegionId                      | String      | Yes | The region ID of the Server Load Balancer instance.                     |
| VServerGroupId                | String      | Yes | The ID of the VServer group.                                            |
| BackendServers                | JSON String | Yes | The list of backend servers to remove, which consists of IDs and ports. |
| <b>BackendServers objects</b> |             |     |                                                                         |
| ServerId                      | String      | Yes | The ID of the ECS instance.                                             |
| Port                          | Integer     | Yes | The port used by the backend server.<br>Valid value: 1-65535            |

## Response parameters

| Name                          | Type        | Description                          |
|-------------------------------|-------------|--------------------------------------|
| RequestId                     | String      | The ID of the request.               |
| VServerGroupId                | String      | The ID of the VServer group.         |
| BackendServers                | JSON String | The list of backend servers.         |
| <b>BackendServers objects</b> |             |                                      |
| ServerId                      | String      | The ID of the ECS instance.          |
| Port                          | Integer     | The port used by the backend server. |
| Weight                        | Integer     | The weight of the backend server.    |

## Examples

### Request example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=RemoveVServerGroupBackendServers
&RegionId=cn-east-hangzhou-01
&VServerGroupId=rsp-cige6j5e7p
&BackendServers=[
  {'ServerId':'vm-233','Port':'80'},
  {'ServerId':'vm-232','Port':'90'}
]
```

## Response example

### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<RemoveVServerGroupBackendServers>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
<VServerGroupId>rsp-cige6j5e7p</VServerGroupId>
<BackendServers>
<BackendServer>
<ServerId>vm-231</ServerId>
<Port>80</Port>
</BackendServer>
<BackendServer>
<ServerId>vm-230</ServerId>
<Port>80</Port>
</BackendServer>
</BackendServers>
</AddVServerGroupBackendServers>
```

### JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "VServerGroupId": "rsp-cige6j5e7p",
  "BackendServers": {
    "BackendServer": [
      { "ServerId": "vm-231", "Port": "80" },
      { "ServerId": "vm-230", "Port": "80" }
    ]
  }
}
```

# ModifyVServerGroupBackendServers

## Description

Replace backend servers in a VServer group.

## Request parameters

| Name | Type | Required | Description |
|------|------|----------|-------------|
|------|------|----------|-------------|

|                               |             |     |                                                                                                                                                                                                             |
|-------------------------------|-------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Action                        | String      | Yes | The action to perform.<br>Valid value:<br>ModifyVServerGroupBackendServers                                                                                                                                  |
| RegionId                      | String      | Yes | The region ID of the Server Load Balancer instance.                                                                                                                                                         |
| VServerGroupId                | String      | Yes | The ID of the VServer group.                                                                                                                                                                                |
| OldBackendServers             | JSON String | No  | The list of backend servers to be removed.                                                                                                                                                                  |
| NewBackendServers             | JSON String | No  | The list of backend servers to be added.<br><br>When the OldBackendServers parameter is specified, the OldBackendServers list and the NewBackendServers list must include the same number of ECS instances. |
| <b>BackendServers objects</b> |             |     |                                                                                                                                                                                                             |
| ServerId                      | String      | Yes | The ID of the ECS instance.                                                                                                                                                                                 |
| Port                          | Integer     | Yes | The port used by the backend server.<br>Valid value: 1-65535                                                                                                                                                |
| Weight                        | Integer     | Yes | The weight of the backend server.<br>Valid value: [0,100].<br>Default value: 100                                                                                                                            |

## Response parameters

| Name           | Type        | Description                  |
|----------------|-------------|------------------------------|
| RequestId      | String      | The ID of the request.       |
| VServerGroupId | String      | The ID of the VServer group. |
| BackendServers | JSON String | The list of backend servers. |

# Examples

## Request Example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=ModifyVServerGroupBackendServers
&RegionId=cn-east-hangzhou-01
&VServerGroupId=rsp-cige6j5e7p
&OldBackendServers=[
  {'ServerId':'vm-233','Port':'80'},
  {'ServerId':'vm-232','Port':'90'}
]
&NewBackendServers=[
  {'ServerId':'vm-235','Port':'8080','Weight':'100'},
  {'ServerId':'vm-236','Port':'70','Weight':'100'}
]
```

## Response Example

### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<ModifyVServerGroupBackendServers>
  <RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
  <VServerGroupId>rsp-cige6j5e7p</VServerGroupId>
  <BackendServers>
    <BackendServer>
      <ServerId>vm-235</ServerId>
      <Port>8080</Port>
      <Weight>100<Weight>
    </BackendServer>
    <BackendServer>
      <ServerId>vm-236</ServerId>
      <Port>70</Port>
      <Weight>100<Weight>
    </BackendServer>
  </BackendServers>
</ModifyVServerGroupBackendServers>
```

### JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "VServerGroupId": "rsp-cige6j5e7p",
  "BackendServers": {
    "BackendServer": [
      { "ServerId": "vm-235", "Port": "8080", "Weight": "100" },

```

```
{'ServerId':'vm-236','Port':'70','Weight':'100'}
]
```

# DeleteVServerGroup

## Description

Delete a VServer group.

## Request parameters

| Name           | Type   | Required | Description                                                                                        |
|----------------|--------|----------|----------------------------------------------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>DeleteVServerGroup                                       |
| RegionId       | String | Yes      | The region ID of the<br>Server Load Balancer<br>instance.                                          |
| VServerGroupId | String | Yes      | The ID of the VServer<br>group.<br><b>Note:</b> An occupied<br>VServer group cannot<br>be deleted. |

## Response parameters

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Examples

### Request Example



```
https://slb.aliyuncs.com/?<Common parameters>
&Action=DeleteVServerGroup
&RegionId=cn-east-hangzhou-01
&VServerGroupId=rsp-cige6j5e7p
```

## Response Example

### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DeleteVServerGroup>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
</DeleteVServerGroup>
```

### JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C"
}
```

# DescribeVServerGroups

## Description

Query the list of VServer groups.

## Request parameters

| Name           | Type   | Required | Description                                                     |
|----------------|--------|----------|-----------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>DescribeVServerGroups |
| RegionId       | String | Yes      | The region ID of the<br>Server Load Balancer<br>instance.       |
| LoadBalancerId | String | Yes      | The ID of the Server                                            |

|  |  |  |                         |
|--|--|--|-------------------------|
|  |  |  | Load Balancer instance. |
|--|--|--|-------------------------|

## Response parameters

| Name             | Type        | Description                    |
|------------------|-------------|--------------------------------|
| RequestId        | String      | The ID of the request.         |
| VServerGroups    | JSON String | The list of VServer groups.    |
| VServerGroupId   | String      | The ID of the VServer group.   |
| VServerGroupName | String      | The name of the VServer group. |

## Examples

### Request Example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=DescribeVServerGroups
&RegionId=cn-east-hangzhou-01
&LoadBalancerId=152a602e315-cn-beijing-btc-a01
```

### Response Example

XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DescribeVServerGroups>
  <RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
  <VServerGroups>
    <VServerGroupId>rsp-cige6j5e7p<VServerGroupId>
    <VServerGroupName>Group1<VServerGroupName>
    <VServerGroupId>rsp-6cejzlld7<VServerGroupId>
    <VServerGroupName>Group2<VServerGroupName>
    <VServerGroupId>rsp-0bfucwuotx<VServerGroupId>
    <VServerGroupName>Group3<VServerGroupName>
  </VServerGroups>
</DescribeVServerGroups>
```

JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "VServerGroups": {
```

```
[
  {'VServerGroupId':'rsp-cige6j5e7p','VServerGroupName':'Group1'},
  {'VServerGroupId':'rsp-6cejzlld7','VServerGroupName':'Group2'},
  {'VServerGroupId':'rsp-0bfucwuotx','VServerGroupName':'Group3'}
]
```

# DescribeVServerGroupAttribute

## Description

Query detailed information of a VServer group.

## Request parameters

| Name           | Type   | Required | Description                                                             |
|----------------|--------|----------|-------------------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>DescribeVServerGroupAttribute |
| RegionId       | String | Yes      | The region ID of the Server Load Balancer instance.                     |
| VServerGroupId | String | Yes      | The ID of the VServer group.                                            |

## Response parameters

| Name                          | Type   | Description                    |
|-------------------------------|--------|--------------------------------|
| RequestId                     | String | The ID of the request.         |
| VServerGroupId                | String | The ID of the VServer group.   |
| VServerGroupName              | String | The name of the VServer group. |
| BackendServers                | String | The list of backend servers.   |
| <b>BackendServers objects</b> |        |                                |
| ServerId                      | String | The ID of the ECS instance.    |

|        |         |                                      |
|--------|---------|--------------------------------------|
| Port   | Integer | The port used by the backend server. |
| Weight | Integer | The weight of the backend server.    |

## Examples

### Request Example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=DescribeVServerGroupAttribute
&RegionId=cn-east-hangzhou-01
&VServerGroupId=rsp-cige6j5e7p
```

### Response Example

#### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DescribeVServerGroupAttribute>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
<VServerGroupId>rsp-cige6j5e7p</VServerGroupId>
<VServerGroupName>Group1</VServerGroupName>
<BackendServers>
<BackendServer>
<ServerId>vm-232</ServerId>
<Port>80</Port>
<Weight>100</Weight>
</BackendServer>
<BackendServer>
<ServerId>vm-233</ServerId>
<Port>90</Port>
<Weight>100</Weight>
</BackendServer>
</BackendServers>
</DescribeVServerGroupAttribute>
```

#### JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "VServerGroupId": "rsp-cige6j5e7p",
  "VServerGroupName": "Group1",
  "BackendServers": {
    "BackendServer": [
      { "ServerId": "vm-232", "Port": "80", "Weight": "100" },
      { "ServerId": "vm-233", "Port": "90", "Weight": "100" },
    ]
  }
}
```

```
]
}
```

## Forwarding rules

# CreateRules

## Description

Add forwarding rules to the specified listener.

## Request parameters

| Name                    | Type   | Required | Description                                                                                            |
|-------------------------|--------|----------|--------------------------------------------------------------------------------------------------------|
| Action                  | String | Yes      | The action to perform.<br>Valid value:<br>CreateRules                                                  |
| RegionId                | String | Yes      | The region ID of the<br>Server Load Balancer<br>instance.                                              |
| LoadBalancerId          | String | Yes      | The ID of the Server<br>Load Balancer instance.                                                        |
| ListenerPort            | String | Yes      | The front-end listening<br>port of the Server Load<br>Balancer instance.<br><br>Valid value: 1-65535   |
| RuleList                | String | Yes      | The rules to be added.<br><br><b>Note:</b> You can add up<br>to 10 forwarding rules<br>in one request. |
| <b>RuleList objects</b> |        |          |                                                                                                        |
| RuleName                | String | Yes      | The name of the                                                                                        |

|                |        |     |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------|--------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |        |     | <p>forwarding rule.</p> <p>It can contain 1 to 80 characters and can only contain letters, numbers, dashes, slashes, dots, and sublines.</p> <p><b>Note:</b> The names of different rules in a listener must be unique.</p>                                                                                                                                                                                                                   |
| Domain         | String | No  | <p>The domain name in the request.</p> <p>It can only contain letters, numbers, dashes, or dots.</p>                                                                                                                                                                                                                                                                                                                                          |
| Url            | String | No  | <p>The URL.</p> <p>It can contain 1 to 80 characters, and can contain only letters, numbers, dashes, slashes, dots, percent signs, question marks, number signs, or ampersands.</p> <p><b>Note:</b> You must specify a domain name or a URL, or both of them. The combination of the domain name and the URL must be unique in a listener. For more information, see <a href="#">Configure domain name or URL based forwarding rules</a>.</p> |
| VServerGroupId | String | Yes | The ID of the VServer group associated with the forwarding rule.                                                                                                                                                                                                                                                                                                                                                                              |

## Response parameters

| Name                    | Type        | Description                    |
|-------------------------|-------------|--------------------------------|
| RequestId               | String      | The ID of the request.         |
| Rules                   | JSON String | The list of forwarding rules.  |
| <b>RuleList objects</b> |             |                                |
| RuleId                  | String      | The ID of the forwarding rule. |

|          |        |                                  |
|----------|--------|----------------------------------|
| RuleName | String | The name of the forwarding rule. |
|----------|--------|----------------------------------|

## Examples

### Request example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=CreateRules
&RegionId=cn-east-hangzhou-01
&LoadBalancerId=152a602e315-cn-beijing-btc-a01
&ListenerPort=80
&RuleList=[
{"RuleName":"Rule1","Domain":"abcdefg.com","Url":"/image","VServerGroupId":"Group1"},
{"RuleName":"Rule2","Domain":"abcdefg.com","Url":"/cache","VServerGroupId":"Group2"},
]
```

### Response example

#### XML format

```
<?xml version="1.0" encoding="utf-8"?>
<CreateRules>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
<Rules>
<Rule>
<RuleId>rule-3ejhktkaeu<RuleId>
<RuleName>Rule1<RuleName>
</Rule>
<Rule>
<RuleId>rule-tybqi6qkp8<RuleId>
<RuleName>Rule2<RuleName>
</Rule>
</Rules>
</CreateRules>
```

#### JSON format

```
{
  "RequestId":"9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "Rules":{
    "Rule":[
      {'RuleId':'rule-3ejhktkaeu','RuleName':'Rule1'},
      {'RuleId':'rule-tybqi6qkp8','RuleName':'Rule2'}
    ]
  }
}
```

# DeleteRules

## Description

Delete forwarding rules.

## Request parameters

| Name     | Type   | Required | Description                                               |
|----------|--------|----------|-----------------------------------------------------------|
| Action   | String | Yes      | The action to perform.<br>Valid value:<br>DeleteRules     |
| RegionId | String | Yes      | The region ID of the<br>Server Load Balancer<br>instance. |
| RuleIds  | String | Yes      | The forwarding rules to<br>delete.                        |

## Response parameters

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Examples

### Request Example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=DeleteRules
&RegionId=cn-east-hangzhou-01
&RuleIds=[rule-tybqi6qkp8,rule-3ejhktkaeu]
```

### Response Example



## XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DeleteRules>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
</DeleteRules>
```

## JSON format

```
{
  "RequestId":"9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C"
}
```

# SetRule

## Description

Change the target VServer group of a forwarding rule.

## Request parameters

| Name           | Type   | Required | Description                                                      |
|----------------|--------|----------|------------------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>SetRule                |
| RegionId       | String | Yes      | The region ID of the<br>Server Load Balancer<br>instance.        |
| RuleId         | String | Yes      | The ID of the<br>forwarding rule.                                |
| VServerGroupId | String | Yes      | The ID of the target<br>VServer group of the<br>forwarding rule. |

## Response parameters

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

|           |        |                        |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |
|-----------|--------|------------------------|

## Examples

### Request Example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=SetRule
&RegionId=cn-east-hangzhou-01
&RuleId=rule-3ejhktkaeu
&VServerGroupId=rsp-cige6j5e7p
```

### Response Example

XML format

```
<?xml version="1.0" encoding="utf-8"?>
<SetRule>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
</SetRule>
```

JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C"
}
```

## DescribeRuleAttribute

### Description

Query the detailed configurations of the specified forwarding rule.

### Request parameters

| Name | Type | Required | Description |
|------|------|----------|-------------|
|------|------|----------|-------------|

|          |        |     |                                                                  |
|----------|--------|-----|------------------------------------------------------------------|
| Action   | String | Yes | System required parameter.<br>Valid value: DescribeRuleAttribute |
| RegionId | String | Yes | The region ID of the Server Load Balancer instance.              |
| RuleId   | String | Yes | The ID of the forwarding rule.                                   |

## Response parameters

| Name           | Type    | Description                                                             |
|----------------|---------|-------------------------------------------------------------------------|
| RequestId      | String  | The ID of the request.                                                  |
| RuleName       | String  | The name of the forwarding rule.                                        |
| LoadBalancerId | String  | The ID of the Server Load Balancer instance.                            |
| ListenerPort   | Integer | The front-end listening port used by the Server Load Balancer instance. |
| Domain         | String  | The domain name in the forwarding rule.                                 |
| Url            | String  | The URL in the forwarding rule.                                         |
| VServerGroupId | String  | The ID of the VServer group associated with the forwarding rule.        |

## Examples

### Request Example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=DescribeRuleAttribute
&RegionId=cn-east-hangzhou-01
&RuleId=rule-3ejhktkaeu
```

### Response Example

XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DescribeRuleAttribute>
<RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
<RuleName>Rule1</RuleName>
<LoadBalancerId>152a602e315-cn-beijing-btc-a01</LoadBalancerId>
<ListenerPort>80</ListenerPort>
<Domain>abc.com</Domain>
<Url>/cache</Url>
<VServerGroupId>rsp-cige6j5e7p</VServerGroupId>
</DescribeRuleAttribute>
```

JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "RuleName": "Rule1",
  "LoadBalancerId": "152a602e315-cn-beijing-btc-a01",
  "ListenerPort": "80",
  "Domain": "abc.com",
  "Url": "/cache",
  "VServerGroupId": "rsp-cige6j5e7p"
}
```

# DescribeRules

## Description

Query the detailed configurations of forwarding rules associated with the specified listener.

## Request parameters

| Name           | Type   | Required | Description                                               |
|----------------|--------|----------|-----------------------------------------------------------|
| Action         | String | Yes      | The action to perform.<br>Valid value:<br>DescribeRules   |
| RegionId       | String | Yes      | The region ID of the<br>Server Load Balancer<br>instance. |
| LoadBalancerId | String | Yes      | The ID of the Server<br>Load Balancer instance.           |

|              |        |     |                                                                                                     |
|--------------|--------|-----|-----------------------------------------------------------------------------------------------------|
| ListenerPort | String | Yes | The front-end listening port used by the Server Load Balancer instance.<br><br>Valid value: 1-65535 |
|--------------|--------|-----|-----------------------------------------------------------------------------------------------------|

## Response parameters

| Name                    | Type   | Description                                                |
|-------------------------|--------|------------------------------------------------------------|
| RequestId               | String | The ID of the request.                                     |
| RuleList                | String | The list of rules.                                         |
| <b>RuleList objects</b> |        |                                                            |
| RuleId                  | String | The ID of the forwarding rule.                             |
| RuleName                | String | The name of the forwarding rule.                           |
| Domain                  | String | The domain name.                                           |
| Url                     | String | The URL.                                                   |
| VServerGroupId          | String | The ID of the target VServer group of the forwarding rule. |

## Examples

### Request Example

```
https://slb.aliyuncs.com/?<Common parameters>
&Action=DescribeRules
&RegionId=cn-east-hangzhou-01
&LoadBalancerId=152a602e315-cn-beijing-btc-a01
&ListenerPort=80
```

### Response Example

XML format

```
<?xml version="1.0" encoding="utf-8"?>
<DescribeRules>
  <RequestId>9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C</RequestId>
  <RuleList>
    <Rule>
      <RuleId>rule-3ejhktkaeu</RuleId>
      <RuleName>Rule1</RuleName>
```

```
<Domain>abc.com</Domain>
<Url>/image</Url>
<VServerGroupId>rsp-cige6j5e7p</VServerGroupId>
</Rule>
<Rule>
<RuleId>rule-tybqi6qkp8</RuleId>
<RuleName>Rule2</RuleName>
<Domain>abc.com</Domain>
<Url>/cache</Url>
<VServerGroupId>rsp-6cejzlld7</VServerGroupId>
</Rule>
</RuleList>
</DescribeRules>
```

#### JSON format

```
{
  "RequestId": "9DEC9C28-AB05-4DDF-9A78-6B08EC9CE18C",
  "RuleList": {
    "Rule": [
      {
        "RuleId": "rule-3ejhktkaeu",
        "RuleName": "Rule1",
        "Domain": "abc.com",
        "Url": "/image",
        "VServerGroupId": "rsp-cige6j5e7p"
      },
      {
        "RuleId": "rule-tybqi6qkp8",
        "RuleName": "Rule2",
        "Domain": "abc.com",
        "Url": "/cache",
        "VServerGroupId": "rsp-6cejzlld7"
      }
    ]
  }
}
```

## Tags

## AddTags

## Description

Add tags for the specified Server Load Balancer instance.

Note:

You can bind up to 10 tags to a Server Load Balancer instance.

You can bind up to five pairs of tags once.

All the tag keys added to a Server Load Balancer instance cannot be the same.

If you add a tag of which the key is the same as that of an existing tag but the value is different, the new tag overwrites the existing one.

## Request parameters

| Name           | Type        | Required | Description                                                                                          |
|----------------|-------------|----------|------------------------------------------------------------------------------------------------------|
| Action         | String      | Yes      | The action to perform.<br>Valid value:<br>AddTags                                                    |
| RegionId       | String      | Yes      | The region ID of the Server Load Balancer instance.                                                  |
| LoadBalancerID | String      | Yes      | The ID of the Server Load Balancer instance.                                                         |
| Tags           | JSON String | Yes      | The tags to add.<br>A maximum of five tags can be contained.                                         |
| Tags objects   |             |          |                                                                                                      |
| TagKey         | String      | Yes      | The key of the tag.<br>It can contain up to 64 characters, and cannot start with aliyun or be empty. |
| TagValue       | String      | No       | The value of the tag.<br>It can contain up to 128 characters and cannot start with aliyun.           |

## Response parameters

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Examples

### Request example

```
https://slb.aliyuncs.com/  
&Action=AddTags  
&RegionId=cn-east-hangzhou-01  
&LoadBalancerID=139a00604ad-cn-east-hangzhou-01  
&Tags=[  
  {"TagKey":"Key1","TagValue":"Value1"}  
  {"TagKey":"Key2","TagValue":"Value2"}]  
&<Common parameters>
```

### Response example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>  
<AddTagsResponse>  
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>  
</AddTagsResponse>
```

JSON format

```
{  
  "RequestId":"365F4154-92F6-4AE4-92F8-7FF34B540710",  
}
```

## DescribeTags

### Description



Query tags.

Note:

You can query the tags by instance ID, tag key, and tag value.

The specified conditions are of “and” relation, and only tag sets meeting all specified conditions are returned.

If you specify the tag key but not the tag value, all tags associated with the tag key are queried.

You cannot specify only the tag value but not the tag key.

If you specify a tag key/tag value pair, the corresponding tag is exactly matched.

## Request parameters

| Name                | Type        | Required | Description                                                                                          |
|---------------------|-------------|----------|------------------------------------------------------------------------------------------------------|
| Action              | String      | Yes      | The action to perform.<br>Valid value:<br>DescribeTags                                               |
| RegionId            | String      | Yes      | The region ID of the Server Load Balancer instance.                                                  |
| LoadBalancerID      | String      | No       | The ID of the Server Load Balancer instance.                                                         |
| Tags                | JSON String | No       | The tags to query.                                                                                   |
| PageSize            | Integer     | No       | The default value is 50 and the maximum value is 100.                                                |
| PageNumber          | Integer     | No       | The page number of the instance list. The start value is 1 and the default value is 1.               |
| <b>Tags objects</b> |             |          |                                                                                                      |
| TagKey              | String      | Yes      | The key of the tag.<br>It can contain up to 64 characters, and cannot start with aliyun or be empty. |

|          |        |    |                                                                                             |
|----------|--------|----|---------------------------------------------------------------------------------------------|
| TagValue | String | No | The value of the tag.<br>It can contain up to 128 characters, and cannot start with aliyun. |
|----------|--------|----|---------------------------------------------------------------------------------------------|

## Response parameters

| Name                  | Type    | Description                                                                            |
|-----------------------|---------|----------------------------------------------------------------------------------------|
| RequestId             | String  | The ID of the request.                                                                 |
| TagSets               | List    | The list of tags.                                                                      |
| PageSize              | Integer | The default value is 50 and the maximum value is 100.                                  |
| PageNumber            | Integer | The page number of the instance list. The start value is 1 and the default value is 1. |
| TotalCount            | Integer | The total number of instances obtained according to the filtration conditions.         |
| <b>TagSet objects</b> |         |                                                                                        |
| TagKey                | String  | The key of the tag.                                                                    |
| TagValue              | String  | The value of the tag.                                                                  |
| InstanceCount         | Integer | The total number of instances bound to the tag.                                        |

## Examples

### Request example

```
https://slb.aliyuncs.com/  
&Action=DescribeTags  
&RegionId=cn-east-hangzhou-01  
&LoadBalancerID=139a00604ad-cn-east-hangzhou-01  
&<Common parameters>
```

### Response example

XML format

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

```
<DescribeTagsResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<TagSets>
<TagSet>
<TagKey>test</TagKey>
<TagValue>api</TagValue>
</TagSet>
</TagSets>
<PageSize>50</PageSize>
<PageNumber>1</PageNumber>
<TotalCount>1</TotalCount>
</DescribeTagsResponse>
```

JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "TagSets": {
    "TagSet": [
      {
        "TagKey": "test",
        "TagValue": "api"
      }
    ]
  },
  "PageNumber": 1,
  "PageSize": 50,
  "TotalCount": 1
}
```

# RemoveTags

## Description

Unbind tags from the specified Server Load Balancer instance. All unbinding conditions are of the “and” relation.

## Request parameters

| Name   | Type   | Required | Description                                               |
|--------|--------|----------|-----------------------------------------------------------|
| Action | String | Yes      | System required parameter.<br><br>Valid value: RemoveTags |

|                     |             |     |                                                                                                      |
|---------------------|-------------|-----|------------------------------------------------------------------------------------------------------|
| RegionId            | String      | Yes | The region ID of the Server Load Balancer instance.                                                  |
| LoadBalancerID      | String      | Yes | The ID of the Server Load Balancer instance.                                                         |
| Tags                | JSON String | No  | The tags to unbind.                                                                                  |
| <b>Tags objects</b> |             |     |                                                                                                      |
| TagKey              | String      | Yes | The key of the tag.<br>It can contain up to 64 characters, and cannot start with aliyun or be empty. |
| TagValue            | String      | No  | The value of the tag.<br>It can contain up to 128 characters and cannot start with aliyun.           |

## Response parameters

| Name      | Type   | Description            |
|-----------|--------|------------------------|
| RequestId | String | The ID of the request. |

## Examples

### Request example

```
https://slb.aliyuncs.com/  
&Action=RemoveTags  
&RegionId=cn-east-hangzhou-01  
&LoadBalancerID=139a00604ad-cn-east-hangzhou-01  
&Tags=[  
  {"TagKey":"Key1","TagValue":"Value1"}  
  {"TagKey":"Key2","TagValue":"Value2"}]  
&<Common parameters>
```

### Response example

XML format

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

```
<RemoveTags>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
</RemoveTags>
```

JSON format

```
{
  "RequestId":"365F4154-92F6-4AE4-92F8-7FF34B540710",
}
```

## Appendix

### Error Codes

### Error Codes

| Error Code                           | Description                                                                                           | HTTP Status Code |
|--------------------------------------|-------------------------------------------------------------------------------------------------------|------------------|
| CheckedListenerNotFound              | No health-checked Listener to the specified port of the Load Balancer.                                | 404              |
| Forbidden.SubUser                    | TUser not authorized to operate on the specified resource as your account is created by another user. | 403              |
| Forbidden                            | User not authorized to operate on the specified resource.                                             | 403              |
| IncorrectListenerAccessControlStatus | Current listener access control status does not support this operation.                               | 500              |
| InternalServerError                  | The request processing has failed due to backend service exception.                                   | 400              |
| InternalInvokeError                  | The request processing has failed due to some unknown error, exception or failure.                    | 500              |

|                                |                                                                                      |     |
|--------------------------------|--------------------------------------------------------------------------------------|-----|
| InvalidIdentity                | The request identity was not allowed operated.                                       | 400 |
| InvalidLoadBalancerId.NotFound | LoadBalancerId does not exist.                                                       | 404 |
| InvalidParameter               | Specified region does not supported.                                                 | 404 |
| InvalidParameter               | Port is not Integer.                                                                 | 400 |
| InvalidParameter               | The specified port is not valid.                                                     | 400 |
| InvalidParameter               | The specified bandwidth is not valid.                                                | 400 |
| InvalidParameter               | Specified parameter Check is not valid.                                              | 400 |
| InvalidParameter               | The specified parameter HealthCheckHttpCode is not valid.                            | 400 |
| InvalidParameter               | The specified parameter bandwidth is not valid, out of the instance total bandwidth. | 400 |
| InvalidParameter               | The specified parameter bandwidth is not valid.                                      | 400 |
| InvalidParameter               | The specified parameter HealthCheck is not valid.                                    | 400 |
| InvalidParameter               | The specified parameter SourceItem is not valid.                                     | 400 |
| InvalidParameter               | The specified protocol is not valid.                                                 | 400 |
| InvalidParameter               | RS Pool is empty.                                                                    | 400 |
| InvalidParameter               | RS Pool doesn't exist.                                                               | 404 |
| InvalidParameter               | Illegal user ID.                                                                     | 400 |
| InvalidParameter               | User ID is null                                                                      | 400 |
| InvalidParameter               | The specified parameter lb_type is not valid.                                        | 400 |
| InvalidParameter               | The specified parameter mode is not valid..                                          | 400 |
| InvalidParameter               | The specified parameter HealthCheckHttpCode is not valid.                            | 400 |
| InvalidParameter               | The specified parameter SourceItems is not valid.                                    | 400 |
| InvalidParameter               | The specified parameter BackendServers is not valid.                                 | 404 |

|                           |                                                                  |     |
|---------------------------|------------------------------------------------------------------|-----|
| InvalidParameter          | Specified parameter is not valid.                                | 400 |
| InvalidParameter          | The specified parameter Domain is not valid.                     | 400 |
| InvalidParameter          | The specified parameter URI is not valid.                        | 400 |
| InvalidParameter          | The specified parameter Scheduler is not valid.                  | 400 |
| InvalidParameter          | The specified parameter ListenerStatus is not valid.             | 400 |
| InvalidParameter          | The specified parameter PersistenceTimeout is not valid.         | 400 |
| InvalidParameter          | The specified parameter PersistenceTimeout is not valid.         | 400 |
| InvalidParameter          | The specified parameter HealthCheck is not valid.                | 400 |
| InvalidParameter          | The specified parameter ConnectPort is not valid.                | 400 |
| InvalidParameter          | The specified parameter ConnectTimeou is not valid.              | 400 |
| InvalidParameter          | The specified parameter StickySessionType is not valid.          | 400 |
| InvalidParameter          | The specified parameter HealthyThreshold is not valid.           | 400 |
| InvalidParameter          | The specified parameter UnhealthyThreshold is not valid.         | 400 |
| InvalidParameter          | The specified parameter Interva is not valid.                    | 400 |
| InvalidParameter          | The specified parameter XForwardedFor is not valid.              | 400 |
| InvalidParameter          | The specified parameter IsPublicAddress is not valid.            | 400 |
| InvalidRegionId.NotFound  | Specified region does not exist.                                 | 404 |
| InvalidServerId.Malformed | A specified server ID is not valid, flush control ip chain fail. | 400 |
| InvalidServerId.NotFound  | The specified server is not found.                               | 400 |

|                         |                                                                                                         |     |
|-------------------------|---------------------------------------------------------------------------------------------------------|-----|
| InvalidWeight.Malformed | A specified weight is not valid.                                                                        | 400 |
| IpNotAvailable          | The specified parameter Address is not valid.                                                           | 400 |
| ListenerAlreadyExists   | There is already a listener bound to the port on the specified load balancer.                           | 400 |
| ListenerNotFound        | No Listener to the specified port of the Load Balancer.                                                 | 404 |
| MissingParameter        | The input parameter Cookie that is mandatory for processing this request is not supplied.               | 400 |
| MissingParameter        | The input parameter BackendServerPort that is mandatory for processing this request is not supplied.    | 400 |
| MissingParameter        | The input parameter LoadBalancerId that is mandatory for processing this request is not supplied.       | 400 |
| MissingParameter        | The input parameter RegionId that is mandatory for processing this request is not supplied.             | 400 |
| MissingParameter        | The combination of some parameters violates the spec.                                                   | 400 |
| MissingParameter        | The input parameter OwnerId,OwnerAccount that is mandatory for processing this request is not supplied. | 403 |
| ProcessingSameRequest   | The same request is being processed. Please try later.                                                  | 400 |
| ServiceUnavailable      | The request has failed due to a temporary failure of the server.                                        | 503 |
| ServiceUnavailable      | The specified loadbalancer name has been used.                                                          | 503 |
| ServiceUnavailable      | The request has failed due to a temporary failure of the server.                                        | 503 |
| TooManyBackendServers   | The total number of input real servers exceeds max supported number: 20                                 | 400 |
| TooManyBackendServers   | The backend server parameter has too many entries.                                                      | 400 |



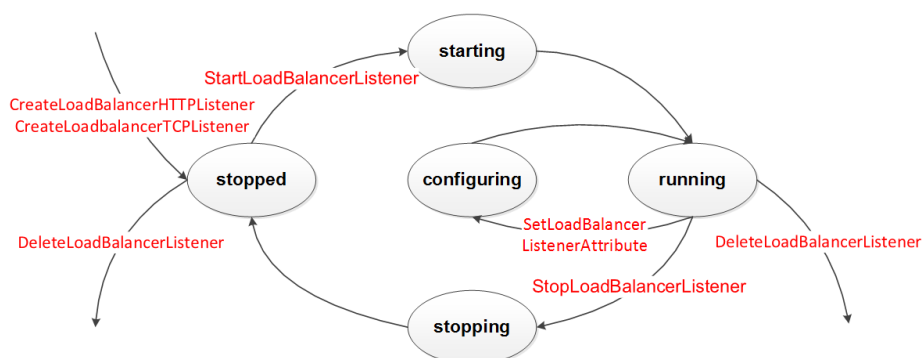
|                                         |                                                                                                               |     |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------|-----|
| UnsupportedOperation                    | The Loadbalancer doesn' t support this function.                                                              | 400 |
| UnsupportedOperation                    | The specified action is not supported.                                                                        | 400 |
| UnsupportedOperationonfixedprotocolport | The specified port has been assigned one type of protocol, and this protocol doesn' t support this operation. | 400 |
| UnsupportedParameter                    | The input parameter is not unsupported.                                                                       | 400 |
| VipNotMatchRspool                       | The vip protocol is not match with Rspool.                                                                    | 400 |
| VipTooManyListeners                     | The total number of input listeners exceeds max supported number: 50                                          | 400 |
| InvalidParameter                        | The specified resource does not exist                                                                         | 400 |
| ServiceUnavailable                      | The specified loadbalancer is configuring, please retry later                                                 | 503 |
| ServiceUnavailable                      | Obtain Ip Fail, please make sure the ECS exists and the status is running.                                    | 503 |
| ServiceUnavailable                      | Illegal Service                                                                                               | 503 |
| ServiceUnavailable                      | System exception                                                                                              | 503 |
| InternalServerError                     | Query ecs info fail                                                                                           | 400 |
| InternalServerError                     | Illegal timestamp                                                                                             | 400 |
| InternalServerError                     | Illegal format                                                                                                | 400 |
| InternalServerError                     | Illegal user                                                                                                  | 400 |
| InternalServerError                     | Illegal Alibaba Cloud idkp                                                                                    | 400 |
| ServiceUnavailable                      | The cloud instance id is invaild                                                                              | 503 |
| InvalidParameter                        | The type is invalid                                                                                           | 400 |
| RegionNotSupport                        | The specified region not supported.                                                                           | 400 |
| ListenOverLimit                         | the listeners is over the limit.                                                                              | 400 |
| InvalidParameter                        | The Lb Name is Not supported.                                                                                 | 400 |
| InvalidParameter                        | The Instance is Not Available.                                                                                | 400 |
| ServiceUnavailable                      | The system is busy.                                                                                           | 503 |

|                  |                                                         |     |
|------------------|---------------------------------------------------------|-----|
| ActionNotAllowed | The action is not allowed.                              | 400 |
| UserNotAllowed   | The user is not allowed, please submit the application. | 400 |

## State Transition

### State Transition of the Server Load Balancer-Listener

State transition diagram of the Server Load Balancer Listener



- The Listener involves five statuses: starting, running, configuring, stopping, and stopped.
  - Listener is in the stopped status after successfully created;
  - After `StartLoadBalancerListener`, Listener is in the starting status. When the status of the listener is starting, you cannot modify it by using API;
  - After the service is successfully started, Listener is in the running status. When the status of the listener is running, you can modify it by using API;
  - After the configuration of Listener is modified, the service is in the configuring status. When the status of the listener is configuring, you cannot modify it by using API;
  - After `StopLoadBalancerListener`, Listener is in the stopping status;
  - When the service is stopped successfully, Listener is in the stopped status.

# Ensure Idempotence

## How to Ensure Idempotence

When you call the “create instance” interface to create ECS in Server Load Balancer, if request timeout or server internal error occurs, the client may attempt to resend the request. Now, the client may provide an optional parameter `ClientToken` to prevent the server from creating more instances than expected instances, i.e. providing the `ClientToken` parameter to ensure idempotence of the requests. `ClientToken` is a unique case-sensitive string created by the client and it contains no more than 64 ASCII characters.

If the user uses the same `ClientToken` value to call the “create instance” interface, the server will return the same result of the request containing the same `InstanceId`. Thus, if the user sees an error and retries, he can provide the same `ClientToken` value to guarantee that Server Load Balancer creates only one instance and obtain the `InstanceId` of the instance.

If the user provides a used `ClientToken` while the other request parameters are different, Server Load Balancer will return the error code `IdempotentParameterMismatch`. Attention: the parameters `SignatureNonce`, `Timestamp` and `Signature` need to be changed during a retry, because Server Load Balancer uses `SignatureNonce` to prevent replay attack and uses `Timestamp` to mark the request time of each request. Therefore, a reattempted request requires different `SignatureNonce` and `Timestamp` values, for this will change the `Signature` value.

Usually, the client only needs to retry if the error 500 (`InternalServerError`) or 503 (`ServiceUnavailable`) occurs, or no response is obtained. If the return result is 200, a retry will obtain the same result, but the server status will not be affected. For the 4xx return error, the retry does not work either usually.

## Update history

- API version: 2014-05-15
- Last updated on: May 22, 2014

- Move to Product Introduction: 2015-01-29

| Issued on  | Update                                                   | Description                                                                                                                                                                                                                                                                                          |
|------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2014-05-19 | Version 2014-05-15, which is the first confirmed version | Compared with Version 2013-02-21: (1) Split the hiding function of CreateLoadBalancer, and change it to a public interface. (2) Unify the formats of the parameter description.(3) ADD the RAM-related contents. (4) Add the schematic status diagram of the Listener, and describe it in a section. |

## SDK Reference

## SDK Download

# Server Load Balancer SDK Development Kit

### Current Version

JAVA SDK

Python SDK

PHP SDK

C# SDK

### Previous Version

Java SDK development kit: `java_sdk.zip`

Python SDK development kit: `python_sdk.zip`

Php SDK development kit: `php_sdk.zip`

.Net SDK development kit: `c#_sdk.zip`