

Server Load Balancer

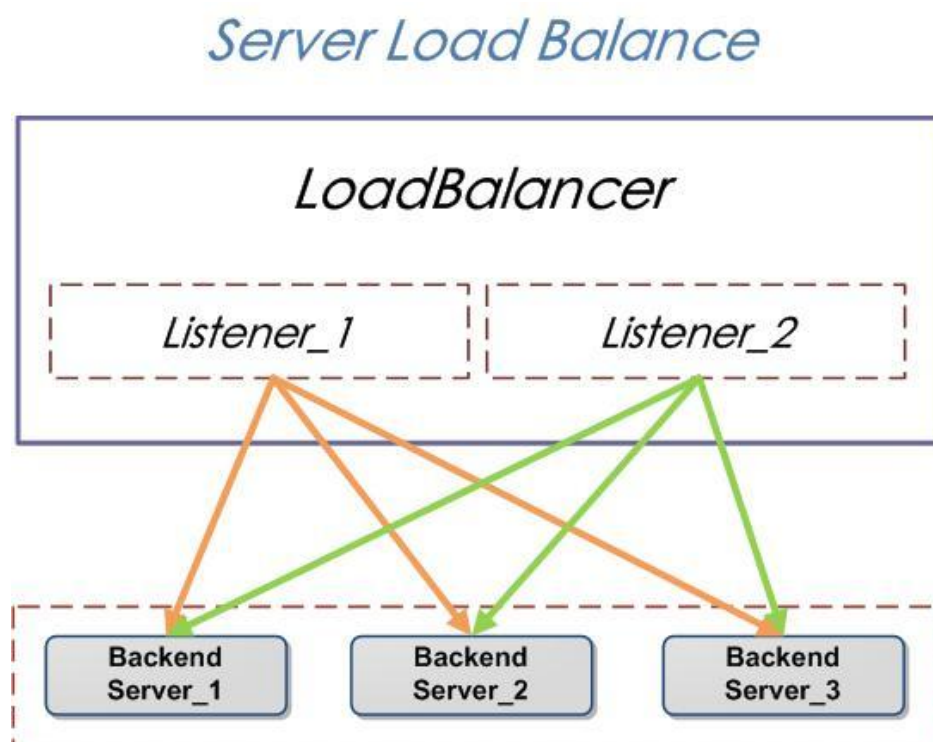
API Reference

API Reference

Welcome to use Alibaba Cloud Server Load Balancer. The Server Load Balancer virtualizes multiple Elastic Compute Services (ECSs) in a region as a high-performance and high-availability application service pool by setting a virtual service address (an IP address). With a method specified by the applications, the requests from a client on the network are distributed to the ECS pool. Alibaba Cloud Server Load Balancer checks an ECS for health in the ECS pool and isolates it from an abnormal ECS, therefore troubleshooting a faulty node of an ECS and improving the overall service capability of applications. In addition to the standard Server Load Balancer functions, the Server Load Balancer features anti-DDoS attacks by TCP and HTTP to enhance the protective capability of an application server. Alibaba Cloud Server Load Balancer is a supporting service of the ECS for multiple machines, and needs to operate with the ECS.

Before using these interfaces, fully learn about the description, access protocol, and charging mode of the Server Load Balancer.

API conceptual diagram



- Alibaba Cloud Server Load Balancer API involves three basic concepts.

- i. LoadBalancer indicates a Server Load Balancer instance.
- ii. Listener indicates the customized Server Load Balancer policies and forwarding rules.
- iii. BackendServer is a group of backend ECSs.

An external request for access is distributed by a Server Load Balancer instance to the backend ECS for processing in accordance with relevant policies and forwarding rules.

Glossary

Term	Full name	English	Description
Server Load Balancer	Server Load Balancer	The server load balancer is referred to as the Server Load Balancer.	A network server load balancer provided by Alibaba Cloud. It can provide users with the ECS instance-based TCP and HTTP server load balancer service in combination with Alibaba Cloud ECS.
Region		Region	Indicates the region where resources reside. One region involves a group of data centers.
LoadBalancer	Load Balancer	The server load balancer instance is referred to as the Server Load Balancer instance.	A Server Load Balancer instance indicates an operating instance in the Server Load Balancer service. To use the Server Load Balancer service, a user must create a Server Load Balancer instance. LoadBalancerId uniquely identifies the Server Load Balancer instance of the user.
Listener	Listener	Server Load Balancer listener.	A Server Load Balancer listener includes listener ports, Server Load Balancer policies and health check configuration.
BackendServer	Backend Server	Backend server.	A group of ECSs receiving the Server

			Load Balancer-distributed requests. The Server Load Balancer forwards the external requests for access to this group of backend servers for processing in accordance with user-defined rules.
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Business restrictions and resource specification restrictions

Alibaba Cloud Server Load Balancer restricts the number of Server Load Balancer instances and listeners on instances for each user. It also restricts all the parameters concerning instance specifications, bandwidth ranges, and health checks. Before using the Server Load Balancer Open API, read the latest business restriction rules and resource specification restrictions on [Limitations](#).

If any optional value and availability of a parameter conflicts with those in the resource specification restrictions on the official website, the value and availability on the official website shall prevail.

API overview

Server Load Balancer related APIs

API	Description
CreateLoadBalancer	Create LoadBalancer. Generate Server Load Balancer instances, and allocate service addresses and LoadBalancerIds according to parameters.
ModifyLoadBalancerInternetSpec	Modify the LoadBalancer specification. Modify the charging mode or specification of a Server Load Balancer instance according to parameters.
DeleteLoadBalancer	Delete LoadBalancer. Delete Server Load Balancer instances and clear the configurations related to Server Load Balancer instances according to parameters.
SetLoadBalancerStatus	Set the LoadBalancer status to enable or disable a Server Load Balancer instance.
SetLoadBalancerName	Set the alias of LoadBalancer.

DescribeLoadBalancers	Query the list of all Server Load Balancer instances created by a user.
DescribeLoadBalancerAttribute	Query the information about a Server Load Balancer instance.
DescribeRegions	Query available regions.

Listener related API

API	Description
CreateLoadBalancerHTTPListener	Create HTTP Listener. Create the Listener based on the HTTP protocol for a Server Load Balancer instance.
CreateLoadBalancerTCPListener	Create TCP Listener. Create the Listener based on the TCP protocol for a Server Load Balancer instance.
DeleteLoadBalancerListener	Delete Listener. Delete the Listener corresponding to the specified ListenerPort.
StartLoadBalancerListener	Start a specified Listener.
StopLoadBalancerListener	Stop a specified Listener.
SetLoadBalancerHTTPListenerAttribute	Set the HTTP Listener. Set a series of policies and rules for the Server Load Balancer instances based on the HTTP protocol.
SetLoadBalancerTCPListenerAttribute	Set the TCP Listener. Set a series of policies and rules for the Server Load Balancer instances based on the TCP protocol.
DescribeLoadBalancerHTTPListenerAttributes	Query the information about the HTTP Listener. Query a series of policies and rules currently executed by a Server Load Balancer instance based on the HTTP protocol.
DescribeLoadBalancerTCPListenerAttribute	Set the TCP Listener. Set a series of policies and rules for the Server Load Balancer instances based on the TCP protocol.

Backend server related API

API	Description
AddBackendServers	Add backend servers. Add a group of backend servers for a Server Load Balancer instance.
RemoveBackendServers	Delete backend servers. Delete a group of backend servers from the Server Load Balancer instance.
DescribeHealthStatus	Check backend servers for health. Check

	backend servers of a Server Load Balancer instance for health, and return the health status of backend servers.
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Call Method

Calling method

The Server Load Balancer API interface is called by sending an HTTP GET request to the Server Load Balancer API server address and adding corresponding request parameters to the request as specified in the interface description. The system will return a result of processing the request.

Request structure

Service address

The service access address of the Server Load Balancer API is **slb.aliyuncs.com**

Communication protocol

The communication upon a request over the HTTP or HTTPS channel is supported. To achieve higher security, it is recommended to send a request over the HTTPS channel.

Request method

A request can be sent via the HTTP GET method. In this method, the request parameters must be contained in the request URL.

Request parameter

Each request must specify the operation to be executed, i.e. the Action parameter (e.g. DescribeLoadBalancerAttribute), the common request parameters contained in each operation, and the request parameters unique to the specified operation.

Character encoding

Both the request and return results are encoded in compliance with the UTF-8 character set.

Common parameters

Common request parameter

A common request parameter refers to the request parameter required by each interface.

Name	Type	Mandatory or not	Description
Format	String	No	Indicates the formatting method for a return message; value: JSON or XML; default: XML.
Version	String	Yes	Indicates the version number in the date form: YYYY-MM-DD. This version comes with 2014-05-15.
AccessKeyId	String	Yes	Indicates the Alicloud-issued key ID for a user to access a service. Value: view and apply for it on the page "User center-My service-Security authentication" on the Alicloud official website.
Signature	String	Yes	Indicates the string of a signature result. For more about signature computing method , see Signature Mechanism .
SignatureMethod	String	Yes	Indicates the method for signature. HMAC-SHA1 is currently supported. Value: HMAC-SHA1

Timestamp	String	Yes	Indicates the timestamp of a request. The date is subject to the UTC time in the format specified in the ISO8601 standard. Format: YYYY-MM-DDThh:mm:ssZ; For example: 2013-01-10T12:00:00Z (Beijing time, 20:00:00, January 10, 2013)
SignatureVersion	String	Yes	Indicates the version of a signature algorithm. The current version is 1.0. Value: 1.0.
SignatureNonce	String	Yes	Indicates a unique random number. It is used to avoid an online replay attack. A user must use a unique random number for a different request.
ResourceOwnerAccount	String	No	Indicates the account of the resource owner accessed by the API request, i.e. the user name for login. (this parameter can be used only at "the interface which can authorize an Server Load Balancer resource in the RAM" . Otherwise, the access will be rejected.)

Example

```
http://slb.aliyuncs.com/?TimeStamp=2014-05-19T10%3A33%3A56Z
&Format=xml
&AccessKeyId=testid
&Action=DescribeLoadBalancerAttribute
&SignatureMethod=Hmac-SHA1
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&SignatureNonce=NwDAxvLU6tFE0DVb
```



```
&Version=2014-05-15
&SignatureVersion=1.0
&Signature=FZnIrdNSLax4lnWf6NkKDC7mp54%3D
```

Common return parameter

Upon a request sent by a user for calling an interface regardless of success, the system returns a unique ID (RequestId) to the user.

Example

```
<?xml version="1.0" encoding="utf-8"?>
<!--Root node of the result-->
<Interface name +Response>
<!--Label of the return request-->
<RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId>
</Interface name+Response>
```

Return result

The data returned upon a call for the API service is in the unified format. If the returned HTTP status code is 2xx, the call succeeded; and if the returned HTTP status code is 4xx or 5xx, the call failed. After a successful call, the returned data can be in two formats: XML and JSON. The external system can determine the returned data format based on the parameter contained in the request. The default format is XML. The examples of returned results in this document have been formatted for easy view by a user, while an actual returned result will not have line feed or indent.

Successful result

XML example

A result returned in the XML format contains the indication of a successful/failed request and the specific business data. See the examples below:

```
<?xml version="1.0" encoding="utf-8"?>
<!--Root node of the result-->
<Interface name +Response>
<!--Label of the return request-->
<RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId>
<!--Data of the return result-->
</Interface name +Response>
```

JSON example

```
{
  "RequestId": "4C467B38-3910-447D-87BC-AC049166F216",
  /*Data of the return result*/
}
```

Error result

If any error occurs when calling an interface, no result data is returned. The caller can determine the cause of the error according to the [List of Error Codes](#).

If any error occurs in the call, the returned HTTP status code for the HTTP request is 4xx or 5xx. The message body returned contains the specific error code and error information. Besides, it contains a globally unique request ID (RequestId) and the site ID accessed by your request—HostID. If the caller fails to find the cause of the error, contact Alicloud customer service department, and present HostID and RequestID for a fast solution.

XML example

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

JSON example

```
{
  "RequestId": "7463B73D-35CC-4D19-A010-6B8D65D242EF",
  "HostId": "slb.aliyuncs.com",
  "Code": "UnsupportedOperation",
  "Message": "The specified action is not supported."
}
```

Signature mechanism

The Server Load Balancer authenticates an identity on each request for access. Therefore, when a request is submitted via either the HTTP or HTTPS protocol, the request must contain a signature.

The Server Load Balancer uses Access Key ID and Access Key Secret to authenticate the identity of the request sender with the symmetrical encryption method. Access Key ID and Access Key Secret are issued by Alicloud to a user (they can be obtained and managed on the Alicloud official website). Access Key ID indicates the identity of the user, and Access Key Secret is the key to encrypt the signature string and authenticate the signature string at the server. They must be confidential and can be disclosed only to Alicloud and the user.

Signature method

During an access, a user can create a signature for the request as instructed below:

Use the request parameter to construct a standard request string.

Arrange all the request parameters (including the "common request parameters" described in this document and the custom parameter of the specified request interface, but excluding the Signature parameter in the "common request parameters") in the request as per the sequence of parameter names in the dictionary.

Note: A request is submitted by using the GET method, these parameters are those in the request URI (i.e. the part connected by "&" after "?" in the URI).

Encode the name and value of each request parameter. The name and value must be URL coded in the UTF-8 character set as follows:

- i. Characters such as A-Z, a-z, 0-9, "-", "_", "." and "~" are not encoded;
- ii. Other characters are coded in the "%XY" format, where XY is the hexadecimal expression of the ASCII code for the character. For example, the double quotation mark (") in English is %22;
- iii. The UTF-8 characters rather than the ASCII characters are coded in the method described in (ii) in two bytes after the UTF-8 coding operation;

The space character () in English is coded as %20 instead of (+).

Note: A library (e.g. the java.net.URLEncoder in Java) that supports URL coding achieves coding as per the MIME rules of "application/x-www-form-urlencoded" . Directly use this method to achieve coding. That is, replace the plus sign (+) with %20, replace asterisk (*) with %2A, and replace %7E with tilde (~) to form the coded string described in the preceding rules.

Use the equal sign (=) in English to link the coded parameter name and value. Use

the symbol & to link the strings linked by the equal sign in English as per the sequence of the parameter names in the dictionary to form the standardized request string.

As per the following rules, use the standardized string constructed in the last step to construct the string used for computing the signature:

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

HTTPMethod is the HTTP method used to submit a request, e.g. GET.percentEncode("/") is the value of the character "/" encoded as per the URL encoding rules described in 1.b, i.e. "%2F" .

percentEncode(CanonicalizedQueryString) is the string obtained by coding the standardized request string constructed in Step 1 by using the URL coding rules described in 1.b.

As defined in RFC2104, use the preceding signature computing string to compute the signature HMAC value.

Note: Key used for computing a signature is the user-owned Access Key Secret plus a "&" character (ASCII:38). The Hash algorithm used is SHA1.

Use the Base64 coding rules to convert the HMAC value to a string to obtain the signature value (Signature).

Add the signature value as the Signature parameter to the request parameter to complete the request signature creation.

****Note**:** The signature value to be submitted as the final request parameter value to the ECS server must be URL coded as per the RFC3986 rules, just the same as other parameters.

Signature example

Take DescribeLoadBalancerAttribute as an example. The request URL before signature creation is:

```
http://slb.aliyuncs.com/?TimeStamp=2014-05-19T10:33:56Z
&Format=xml
&AccessKeyId=testid
&Action=DescribeLoadBalancerAttribute
```

```
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&SignatureMethod=Hmac-SHA1
&SignatureNonce=NwDAxvLU6tFE0DVb
&Version=2014-05-15&SignatureVersion=1.0
```

So StringToSign is:

```
GET&%2F&AccessKeyId%3Dtestid
&Action%3DDescribeLoadBalancerAttribute
&Format%3Dxml
&SignatureMethod%3DHmac-SHA1
&SignatureNonce%3DNwDAxvLU6tFE0DVb
&SignatureVersion%3D1.0
&Timestamp%3D2014-05-19T10%253A33%253A56Z
&Version%3D2014-05-15
&loadBalancerId%3D139a00604ad-cn-east-hangzhou-01
```

If the used Access Key Id is "testid" , Access Key Secret is "testsecret" , and the Key used to compute HMAC is "testsecret" , the signature value is as follows:

```
`FZnIrdNSLax4lnWf6NkKDC7mp54=`
```

The URL after signature creation is as follows (The Signature parameter is already added):

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

RAM access

Use RAM for cross-account access

Use RAM to access cross-account Server Load Balancer

resources

A Server Load Balancer instance created by a user is a resource owned by the user. By default, the user has full authority to access its resources and can use any API described in this document to process the resources. The user has no authority to operate the resources under another user's account, and any attempt to use an API to operate another user's resources will be denied.

With the help of Alibaba Cloud Resource Access Management (RAM) service, a user has the authority to access the cross-account Server Load Balancer instance resources. Before learning how to use RAM to obtain the authority to access a Server Load Balancer instance, thoroughly read the RAM product document and API document.

If you do not need the authority to access cross-account Server Load Balancer instance resources, you can skip this section and ignore all the description concerning the ResourceOwnerAccount parameter in the API Interface Description section. Ignoring such description will not affect your ability to understand and use other contents of this document.

How to access cross-account Server Load Balancer resources

If you need to use Server Load Balancer API to access the resources under another user's account, make sure that the user has authorized you to access his resources via RAM. The process of authorization is elaborated in the product document and API document for RAM.

Unlike accessing your resources, to use Server Load Balancer API to access another user's resources, you need to specify a common parameter ResourceOwnerAccount to show whose resources you wish to access.

See the example below:

```
https://slb.aliyuncs.com/?Action=DeleteLoadBalancer
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ResourceOwnerAccount=user_X@aliyun.com
&AccessKeyId=user_Y_keyid
&<other common request parameter>
```

In this example, user_Y uses API to access the Server Load Balancer instance of user_X to execute the DeleteLoadBalancer operation. The ID of the instance in the operation is 139a00604ad-cn-east-hangzhou-01.

If the request does not contain the ResourceOwnerAccount parameter to specify the owner of the resource, or if the specified owner does not actually possess the resource, or if the authority is not assigned for the caller at user_X@aliyun.com to execute the DeleteLoadBalancer operation of the instance, the API call will be denied, because the caller does not have the authority to access the specified resource.

Types of Server Load Balancer resources for authorization in RAM

Only one type of resources is currently available for authorization in the RAM: **LoadBalancer**. For authorization in the RAM, this resource is described as follows:

Resource type	Resource description in the authorization policy
LoadBalancer	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
	acs:slb:\$regionid:loadbalancer/*
	acs:slb:*:loadbalancer/*

Where: each\$regionidindicates the ID of a certain region or `"*"` ; each\$loadbalancerid indicates the ID of a certain loadbalancer or `"*"` ; and so on.

Interface that can authorize the Server Load Balancer resources in the RAM

In the RAM, the following Actions for a Server Load Balancer resource can be authorized.

Interface that can be authorized	Interface that can be authorized
CreateLoadBalancer	ModifyLoadBalancerInternetSpec
DeleteLoadBalancer	SetLoadBalancerStatus
SetLoadBalancerName	DescribeLoadBalancers
DescribeLoadBalancerAttribute	DescribeRegions
UploadServerCertificate	DeleteServerCertificate
SetServerCertificateName	DescribeServerCertificates
CreateLoadBalancerHTTPSListener	CreateLoadBalancerHTTPListener
DeleteLoadBalancerListener	CreateLoadBalancerTCPListener
StopLoadBalancerListener	StartLoadBalancerListener
SetLoadBalancerHTTPListenerAttribute	SetLoadBalancerTCPListenerAttribute
SetLoadBalancerHTTPSListenerAttribute	DescribeLoadBalancerHTTPSListenerAttribute
DescribeLoadBalancerHTTPListenerAttribute	DescribeLoadBalancerTCPListenerAttribute
RemoveBackendServers	AddBackendServers
DescribeHealthStatus	SetBackendServers

Authentication rule for cross-account access by Server Load Balancer API

If a user uses Server Load Balancer Open API to access the cross-account Server Load Balancer resources, the Server Load Balancer background performs an authorization check on the RAM, to make sure that the resource owner has authorized the caller to access the resources concerned. Each Server Load Balancer API will determine which resources are subject to the authorization check according to the resources involved and API semantics.

The specific authentication rules for each API are listed in the following table:

Action	Authentication Rule
CreateLoadBalancer	acs:slb:\$regionid:loadbalancer/*
ModifyLoadBalancerInternetSpec	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DeleteLoadBalancer	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
SetLoadBalancerStatus	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
SetLoadBalancerName	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DescribeLoadBalancers	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DescribeLoadBalancerAttribute	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DescribeRegions	acs:slb:*.*
UploadServerCertificate	acs:slb:*.*
DeleteServerCertificate	acs:slb:*.*
DescribeServerCertificate	acs:slb:*.*
CreateLoadBalancerHTTPListener	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
CreateLoadBalancerHTTPSListener	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
CreateLoadBalancerTCPListener	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DeleteLoadBalancerListener	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
StartLoadBalancerListener	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
StopLoadBalancerListener	acs:slb:\$regionid:loadbalancer/\$loadbalancerid

SetLoadBalancerHTTPListenerAttribute	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
SetLoadBalancerHTTPSListenerAttribute	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
SetLoadBalancerTCPListenerAttribute	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DescribeLoadBalancerHTTPListenerAttribute	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DescribeLoadBalancerHTTPSListenerAttribute	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
DescribeLoadBalancerTCPListenerAttribute	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
AddBackendServers	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
	acs:ecs:\$regionid:instance/\$instanceid
RemoveBackendServers	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
	acs:ecs:\$regionid:instance/\$instanceid
SetBackendServers	acs:slb:\$regionid:loadbalancer/\$loadbalancerid
	acs:ecs:\$regionid:instance/\$instanceid
DescribeHealthStatus	acs:slb:\$regionid:loadbalancer/\$loadbalancerid

Example for cross-account access

Premise

Assume that the user xiaoming@aliyun.com has created an Server Load Balancer instance whose LoadBalancerId is 139a00604ad-cn-east-hangzhou-01 ;

Objective

Now, xiaoming@aliyun.com wants to authorize beibei@aliyun.com to manage the instance.

- beibei@aliyun.com is only allowed to perform such four operations as SetLoadBalancerStatus (configuring the LoadBalancer status), DescribeLoadBalancerAttribute (querying the LoadBalancer information), AddBackendServers (adding the backend server) and RemoveBackendServers (deleting the backend server) on the instance via Server Load

Balancer API.

Authorization steps

To authorize the preceding operations, XiaoMing needs to execute the following steps:

Add Beibei into the user space of Xiaoming in RAM.

Call the AddUser interface of RAM in Xiaoming's identity.

Parameter UserName=ALIYUN\$beibei@aliyun.com;

```
https://ram.aliyuncs.com/?Action=AddUser
&UserName=ALIYUN$beibei@aliyun.com
&<other common request parameter>
```

Prepare the authorization Policy.

Policy is a JSON string containing the following elements:

```
{
  "Version": "1",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": ["slb:SetLoadBalancerStatus", "slb:DescribeLoadBalancerAttribute", "slb:
AddBackendServers", "slb:RemoveBackendServers"],
      "Resource": ["acs:slb*:LoadBalancerId/139a00604ad-cn-east-hangzhou-01"]
    }
  ]
}
```

Xiaoming calls the PutPolicy interface of RAM and sets the Policy for Beibei;

web_front_server_policy, the value of the parameter PolicyName, is the name given to the policy by Xiaoming.

```
https://ram.aliyuncs.com/?Action=PutUserPolicy
&UserName=ALIYUN$beibei@aliyun.com
&PolicyName=web_slb_policy
&PolicyDocument=$the policy prepared in Step 2
&<other common request parameter>
```

By this time, Beibei initiates the Server Load Balancer API call to operate the Server Load Balancer instance, for example, SetLoadBalancerStatus (configuring the LoadBalancer status).

To execute this call, use the parameter ResourceOwnerAccount to indicate that this API is called to operate Xiaoming' s resources.

```
https://slb.aliyuncs.com/?Action=SetLoadBalancerStatus
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01
&ResourceOwnerAccount=xiaoming@aliyun.com
&<other common request parameter>
```

Revoke authorization

To revoke Beibei' s authority, Xiaoming needs to call DeleteUserPolicy of RAM to delete the policy.

```
https://ram.aliyuncs.com/?Action=DeleteUserPolicy
&UserName=ALIYUN$beibei@aliyun.com
&PolicyName=web_slb_policy
&<other common request parameter>
```

Now, to call Server Load Balancer API to access this Server Load Balancer instance again, Beibei will be denied and receive the following response:

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

Server Load Balancer API

CreateLoadBalancer

Description

Create LoadBalancer generates Server Load Balancer instances, and allocates service addresses and LoadBalancerIds according to parameters.

AddressType specifies whether the service address to be allocated is a public network IP address or an Intranet IP address.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : CreateLoadBalancer
RegionId	String	Yes	ID of the Region where the Server Load Balancer instance is located. Value : Selected from the return value of DescribeRegions
LoadBalancerSpec	String	No	The specification of the Server Load Balancer instance. Value : slb.s1.small/slb.s2.small/slb.s2.medium/slb.s3.small/slb.s3.medium/slb.s3.large/slb.s3.xlarge/slb.s3.xlarge Default value : slb.s1.small The supported performance specification in each region is different, two specifications are supported in the US East 1 region. If the region does not support the performance-guaranteed instances, the value will not take effect.
LoadBalancerName	String	No	Displayed name of an instance Value : Displayed name of an instance Default : None. When the parameter is not specified, an

			instance name is allocated by the system by default.
AddressType	String	No	Address type Value : internet intranet Default : internet
InternetChargeType	String	No	Charging mode for the public network instance Value : paybytraffic
ClientToken	String	No	To ensure idempotence of a request. It shall be ensured to be unique in each request, with 64 ASCII characters at maximum. Value: The parameter value is generated by the client.

Return parameter

Name	Type	Description
Common Parameter		See Public Parameters for details.
LoadBalancerId	String	The unique ID of an Server Load Balancer instance
Address	String	Service address allocated by the system. A user can choose whether to open this service address to public to separately create the public network and intranet of the Server Load Balancer.
LoadBalancerName	String	Alias of an Server Load Balancer instance.
LoadBalancerSpec	String	The specification of the Server Load Balancer instance. If the instance is the performance-sharing instance, the returned parameter is null.

Example

Request example

```
https://slb.aliyuncs.com/  
&Action=CreateLoadBalancer  
&RegionId=cn-east-hangzhou-01  
&LoadBalancerName=abc  
&AddressType=internet  
&InternetChargeType=paybytraffic  
&<Common Request Parameter>
```

Return 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>  
<LoadBalancerName>abc</LoadBalancerName>  
</CreateLoadBalancerResponse>
```

JSON format

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

ModifyLoadBalancerInternetSpec

Description

Modify the LoadBalancer specification; modify the specification of the Server Load Balancer instance according to parameters.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : ModifyLoadBalancerInternetSpec
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
InternetChargeType	String	No	Charging mode for the public network instance Value : paybytraffic

Return parameter

They are all common return parameters. See Public Parameters for details.

Example

Request example

```
https://slb.aliyuncs.com/  
&Action=ModifyLoadBalancerInternetSpec  
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01  
&InternetChargeType=paybytraffic  
&<Common Return Parameter>
```

Return example

XML format

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

JSON format

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

DeleteLoadBalancer

Description

Delete LoadBalancer; delete the Server Load Balancer instances and clear the configurations related to the Server Load Balancer instances according to parameters. If there is a Listener on the Server Load Balancer instance, it will also be deleted.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : DeleteLoadBalancer
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance

Return parameter

They are all common return parameters. See Public Parameters for details.

Example

Request example

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

Return 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

Configure the LoadBalancer status.

- For the Server Load Balancer instance just created, its status is active by default.
- LoadBalancerStatus is active, indicating to distribute all configurations of Listeners in the Server Load Balancer instance to the system to make it work; ;
- LoadBalancerStatus is inactive, indicating to inactive all configurations of Listeners in the Server Load Balancer instance to make it work;

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : SetLoadBalancerStatus
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
LoadBalancerStatus	String	Yes	Status of an Server Load Balancer instance Value : inactive active

Return parameter

They are all common return parameters. See [Public Parameters](#) for details.

Example

Request example

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

Return 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 the alias of LoadBalancer.

Request parameter

Name	Type	Mandatory or not	Description
------	------	------------------	-------------

Action	String	Yes	Name of the operating interface, which is specified in the system Value : SetLoadBalancerName
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
LoadBalancerName	String	Yes	Displayed name of an Server Load Balancer instance Value : Custom string with the length being limited to 1-80 characters. Such characters as letters, digits, '-', '/', ', ' and '_' can be included.

Return parameter

They are all common return parameters. See [Public Parameters](#) for details.

Example

Request example

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

Return 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 created by the user. In query, 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	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : DescribeLoadBalancers
RegionId	String	Yes	ID of the Region where the Server Load Balancer instance is located at
LoadBalancerId	String	No	The Server Load Balancer instance ID is used as a filter, and multivalued query is supported. Value : Multiple parameters can be input and separated by " , " . Default : None. 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. Value : Multiple parameters can be input and separated by " , " . Default : None. 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. Default : None When the parameter is not set, it means that the parameter is not used as the filtration criteria.
ServerIntranetAddress	String	No	The Server Intranet Address type is used as a filter. Value : Multiple parameters can be input and separated by " , " . 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.
InternetChargeType	String	No	The charging mode of the public network instance is used as filter. Value : paybybandwidth / paybytraffic Default : 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.
--	--	--	--

Return parameter

Name	Type	Description
Common Parameter		See Public Parameters for details.
LoadBalancers	List	The Server Load Balancer instance list is returned in the array format. See the following table for details.

The Server Load Balancer instance list (LoadBalancers)

Name	Type	Description
LoadBalancerId	String	The unique ID of an 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 arrearage or locked by Alibaba Cloud, so renew it or contact Alibaba Cloud to unlock it.

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 LoadBalancer information; query the Server Load Balancer instance information according to LoadBalancerId. The information returned includes the service address of the Server Load Balancer instance, type of the service address, frontend port list of services in the Server Load Balancer instance and backend server list.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : DescribeLoadBalancerAttribute
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance

Return parameter

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

Common Parameter		See Public Parameters for details.
LoadBalancerId	String	The unique ID of an Server Load Balancer instance
RegionId	String	ID of the Region where the Server Load Balancer instance is located at
LoadBalancerName	String	Alias of an Server Load Balancer instance. If no alias is specified by the user, it is a null string.
LoadBalancerStatus	String	The status of the Server Load Balancer instance, inactive, active or locked. The locked status indicates the instance is subject to arrearage or locked by Alibaba Cloud, so renew it or contact Alibaba Cloud to unlock it.
Address	String	Service address of the Server Load Balancer instance
AddressType	String	Address type, internet or intranet
InternetChargeType	String	Charging mode for the public network instance
CreateTime	String	Creation time of an Server Load Balancer instance
ListenerPorts	List	The ports used by the Server Load Balancer instance frontend are listed in the array format. See the following table for details.
ListenerPortsAndProtocol	List	The ports used by the Server Load Balancer instance frontend are listed in the array format. See the following table for details.
BackendServers	List	Information of multiple backend servers in the Server Load Balancer instance is returned in the array format. See the following table for details.

- Port number used by the Server Load Balancer instance frontend (ListenerPorts)

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

ListenerPort	Integer	Port used by the Server Load Balancer instance frontend
--------------	---------	---

- Backend server information (BackendServers)

Name	Type	Description
ServerId	String	Backend server ID (ECS instance ID)
Weight	Integer	Weight of the backend server

Example

Request example

```
https://slb.aliyuncs.com/  
&Action=DescribeLoadBalancerAttribute  
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01  
&<公共请求参数>
```

Return example

XML format

```
<?xml version="1.0" encoding="UTF-8"?>  
<DescribeLoadBalancerAttributeResponse>  
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>  
<LoadBalancerId>139a00604ad-cn-east-hangzhou-01</LoadBalancerId>  
<RegionId>cn-east-hangzhou-01</RegionId>  
<LoadBalancerName>abc</LoadBalancerName>  
<LoadBalancerStatus>active</LoadBalancerStatus>  
<Address>42.250.6.36</Address>  
<AddressType>internet</AddressType>  
<InternetChargeType>paybytraffic</InternetChargeType>  
<CreateTime>2014-01-01 00:00:00</CreateTime>  
<ListenerPorts>  
<ListenerPort>80</ListenerPort>  
<ListenerPort>443</ListenerPort>  
</ListenerPorts>  
<BackendServers>  
<BackendServer>  
<ServerId>vm-233</ServerId>  
<Weight>100</Weight>  
</BackendServer>  
<BackendServer>  
<ServerId>vm-234</ServerId>
```

```
<Weight>90</Weight>
</BackendServer>
</BackendServers>
</DescribeLoadBalancerAttributeResponse>
```

JSON format

```
{
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "LoadBalancerId": "139a00604ad-cn-east-hangzhou-01",
  "RegionId": "cn-east-hangzhou-01",
  "LoadBalancerName": "abc",
  "LoadBalancerStatus": "active",
  "Address": "42.250.6.36",
  "AddressType": "internet",
  "InternetChargeType": "paybytraffic",
  "CreateTime": "2014-01-01 00:00:00",
  "ListenerPorts": {
    "ListenerPort": [
      80,
      443
    ]
  },
  "BackendServers": {
    "BackendServer": [
      {
        "ServerId": "vm-233",
        "Weight": 100
      },
      {
        "ServerId": "vm-234",
        "Weight": 90
      }
    ]
  }
}
```

DescribeRegions

Description

Query the information of the available data center.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the

			operating interface, which is specified in the system Value : DescribeRegions
--	--	--	---

Return parameter

Name	Type	Description
Common Parameter		See Public Parameters for details.
Regions	List	Region list returned in the array format. See the following table for details.

- Region list (Regions)

Name	Type	Description
RegionId	String	Region ID

Example

Request example

```
https://slb.aliyuncs.com/  
&Action=DescribeRegions  
&<common request parameter>
```

Return 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>杭州</LocalName>  
</Region>  
<Region>  
<RegionId>cn-beijing</RegionId>  
<LocalName>北京</LocalName>  
</Region>
```

```
</Regions>
</DescribeRegionsResponse>
```

JSON format

```
{
  "RequestId": "1651FBB6-4FBF-49FF-A9F5-DF5D696C7EC6",
  "Regions": {
    "Region": [
      {
        "RegionId": "cn-east-hangzhou-01",
        "LocalName": "杭州"
      },
      {
        "RegionId": "cn-beijing",
        "LocalName": "北京"
      }
    ]
  }
}
```

DescribeZones

Description

Queries data centers available.

Request Methods

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter. Value: DescribeZones
RegionId	String	Yes	Region

Return Parameters

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

Public Parameters		For details, refer to Public Return Parameters.
Zones	List	Zones in the region returned in array format. Refer to the table below for details.

- Zones

Name	Type	Description
ZoneId	String	ID of a specific zone in the region
LocalName	String	Chinese name of the zone
SlaveZones	List	Information about slave zones returned in array format when the current zone is the master one. Refer to the table below for details.

- Slave Zones

Name	Type	Description
ZoneId	String	ID of a slave zone
LocalName	String	Chinese name of the slave zone

Example

Request Example

```
https://slb.aliyuncs.com/  
&Action=DescribeZones  
&RegionId=cn-beijing  
&<Public Request Parameters>
```

Return Example

XML format

```
<?xml version="1.0" encoding="UTF-8" ?>  
<RequestId>A48D35FF-440A-4BC0-A4A2-A9BF69B7E43A</RequestId>  
<Zones>  
<Zone>
```

```
<SlaveZones> </SlaveZones>
<ZoneId>cn-beijing-b</ZoneId>
<LocalName> Beijing zone B</LocalName>
</Zone>
</Zones>
```

JSON format

```
{
  "RequestId": "1FF3C0EC-588C-4872-8F86-8D88A652D1E4",
  "Zones": {
    "Zone": [
      {
        "ZoneId": "cn-beijing-b",
        "LocalName": "Beijing zone B",
        "SlaveZones":{
          "SlaveZone":[]
        }
      }
    ]
  }
}
```

ModifyLoadBalancerInstanceSpec

Description

Change the performance specification for the Server Load Balancer instance.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : ModifyLoadBalancerInstanceSpec
RegionId	String	Yes	The ID of the region that the Server Load Balancer instance is created.
LoadBalancerId	String	Yes	The unique ID of the Server Load Balancer

			instance.
LoadBalancerSpec	String	No	The specification of the Server Load Balancer instance. slb.s1.small/slb.s2.small/ slb.s2.medium/slb.s3.small/ slb.s3.medium/slb.s3.large/ slb.s3.xlarge/ slb.s3.xxlarge The supported performance specification in each region is different, two specifications are supported in the US East 1 region. If the region does not support the performance-guaranteed instances, the value will not take effect. Default value : none.

Return parameter

Common returned parameters , see [Common Return Parameter](#) for details.

Example

Request example

```
https://slb.aliyuncs.com/
&Action= ModifyLoadBalancerInstanceSpec
&RegionId=us-east-01
&BackendServers=[
&LoadBalancerId=139a00604ad-us-east-01
&LoadBalancerSpec=slb.s2.small
&<common request parameters>
```

Return 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

- Through this interface, certificates can be uploaded for management. Only one certificate and the corresponding private key can be uploaded at a time, and either a success message or an error code will be returned. This interface ensures transactionality, which means that both the certificate and the private key either are successfully uploaded or fail to be uploaded. After the certificate and private key are successfully added, the fingerprints for all of the user’ s certificate lists are returned.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter. Values:UploadServer Certificate
RegionId	String	Yes	ID of the region that a Server Load Balancer instance belongs to. Values: Select from the values returned by DescribeRegions.
ServerCertificate	String	Yes	Security certificate to be uploaded.

ServerCertificateName	String	No	Name of the certificate to be uploaded.
PrivateKey	String	Yes	Private key to be uploaded.

Return Parameters

Name	Type	Description
Public Return Parameters		For details, see Public Parameters
ServerCertificateId	String	Security certificate ID.
ServerCertificateName	String	Security certificate name
Fingerprint	String	Security certificate fingerprint

Example

Request Example

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

Return 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</ServerCertificateId>
<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

- This interface is used to delete a certificate and the corresponding private key. A group of the user' s certificate IDs need to be transmitted.Note: If the certificate the user attempts to delete is referenced, the certificate cannot be deleted.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter. Values:DeleteServer Certificate
RegionId	String	Yes	ID of the region that a Server Load Balancer instance belongs to. Values: Select from the values returned by DescribeRegions.
ServerCertificateId	String	Yes	Security certificate ID

Return Parameters

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

Example

Request Example

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

Return 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

- This interface is used to query a user' s certificate lists and return certificate fingerprints, names, and IDs. If the ServerCertificateId parameter is not passed, all certificates in the region specified by the user will be returned. Note: The returned information is sensitive. For security, only certificate fingerprints and names are returned. The certificate content and private key content are not returned.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter. Values: DescribeServerCertificates
RegionId	String	Yes	ID of the region that a Server Load

			Balancer instance belongs to. Values: Select from the values returned by DescribeRegions.
ServerCertificateId	String	No	Security certificate ID.

Return Parameters

Name	Type	Description
Public Return Parameters		For details, see Public Parameters
ServerCertificates	List	Returned certificate instance in array format. For details, see the table below.

- Certificate List ServerCertificates

Name	Type	Description
ServerCertificateId	String	Security certificate ID.
ServerCertificateName	String	Security certificate name.
RegionId	String	Region of a security certificate.
Fingerprint	String	Security certificate fingerprint.

Example

Request Example

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

Return Example

- XML format

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

```
< DescribeServerCertificateResponse>
<RequestId>365F4154-92F6-4AE4-92F8-7FF34B540710</RequestId>
<ServerCertificates>
<ServerCertificate>
< ServerCertificateId >139a00604ad-cn-east-hangzhou-01</ ServerCertificateId>
< ServerCertificateName >abe</ServerCertificateName>
<Fingerprint >A:B:E</Fingerprint>
</ServerCertificate>
<ServerCertificate>
< ServerCertificateId >139a00604ad-cn-east-hangzhou-02</ ServerCertificateId>
< ServerCertificateName >abf</ServerCertificateName>
<Fingerprint >A:B:F</Fingerprint>
</ServerCertificate>
</ServerCertificates>
</DescribeServerCertificateResponse>
```

- JSON format

```
{ "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",
  "ServerCertificates": {
    "ServerCertificate": [
      { "ServerCertificateId": "139a00604ad-cn-east-hangzhou-01"
        "ServerCertificateName": "abe",
        "Fingerprint": "A:B:E"},
      { "ServerCertificateId": "282b00102ac-cn-east-hangzhou-02"
        "ServerCertificateName": "abf",
        "Fingerprint": "A:B:F"}
    ]
  }
}
```

SetServerCertificateName

Description

This interface is used to set the name of a certificate.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter. Values:SetServerCertificateName
ServerCertificateId	String	Yes	Unique ID of a

			certificate
RegionId	String	Yes	ID of the region that a Server Load Balancer instance belongs to. Values: Select from the values returned by DescribeRegions.
ServerCertificateName	String	Yes	The display name of a certificate. Values: a character string defined by the user. The length ranges from 1 to 80 characters. Letters, numbers, hyphens (-), forward slashes (/), dots (.), and underscores (_) are allowed.

Return Parameters

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

Example

Request Example

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

Return 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"}
}
```

Listener API

CreateLoadBalancerHTTPListener

Description

- Create HTTP Listener; create Listeners based on the HTTP protocol for the Server Load Balancer instance, including policies and health check configurations based on the HTTP protocol.
- The newly created Listener is in the Stopped status, and StartLoadBalancerListener shall be called to make it work. See the state transition diagram of the Server Load Balancer Listener for the state transition diagram of Listener.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : CreateLoadBalancerHTTPListener
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
ListenerPort	Integer	Yes	Port used by the Server Load Balancer instance frontend Value : 1-65535
BackendServerPort	Integer	Yes	Port used by the Server Load Balancer instance backend. Value : 1-65535
Bandwidth	Integer	Yes	Bandwidth peak of Listener

			Value : -1 / 1-1000Mbps For the public network instance charged per traffic consumed, the Bandwidth on Listener can be set to -1, indicating the bandwidth peak is unlimited.
XForwardedFor	String	No	Whether to start to obtain the actual IP address of a visitor by means of X-Forwarded-For. Value : on / off Default : on
Scheduler	String	No	Scheduling algorithm Value : wrr / wlc Default : wrr
StickySession	String	Yes	Whether to enable session persistence Value : on / off
StickySessionType	String	As appropriate	Mode for handling the cookie. If StickySession is on, the parameter is mandatory, and if StickySession is off, the parameter will be ignored. Value : insert / server If it is set to insert, it means it is inserted from Server Load Balancer; and if it is set to server, it means the Server Load Balancer learns from the backend server.
CookieTimeout	Integer	As appropriate	Cookie timeout. The parameter is mandatory when StickySession is on and StickySessionType is insert. Otherwise, it will be ignored. Value : 1-86400 (in seconds)

Cookie	String	As appropriate	The cookie configured on the server It is mandatory only when StickySession is on and StickySessionType is server; otherwise, the parameter will be ignored. Value : String in line with RFC 2965, with length being 1- 200. It only contains characters such as ASCII codes, English letters and digits instead of the comma, semicolon or spacing, and it cannot start with \$.
HealthCheck	String	Yes	Whether to enable health check Value : on / off
HealthCheckDomain	String	As appropriate	Domain name used for health check. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : \$_ip / custom string Rules of the custom string: its length is limited to 1-80 and only characters such as letters, digits, '-' and '.' are allowed. When the parameter is set to \$_ip by the user, Server Load Balancer uses the private network IP address of each backend server as Domain used for health check.
HealthCheckURI	String	As appropriate	URI used for health check. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is

off, the parameter will be ignored.
Value : Its length is limited to 1-80 and it must start with /. Only characters such as letters, digits, '-', '/', '?', '#', and '&' are allowed.

			When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : 1-10
HealthCheckTimeout	Integer	As appropriate	Maximum timeout of each health check response. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : 1-50 (in seconds) Note: If HealthCheckTimeout < HealthCheckInterval, HCTimeout is invalid, and the timeout is HealthCheckInterval.
HealthCheckInterval	Integer	As appropriate	Time interval of health checks. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : 1-5 (in seconds)
HealthCheckHttpCode	String	As appropriate	Regular health check HTTP status code. Multiple codes are segmented by "," . When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : http_2xx / http_3xx / http_4xx / http_5xx Default: http_2xx
VServerGroupId	String	No	Virtual server group ID.
Gzip	String	No	Whether to open the Gzip compression. If open, the specific

			file types will be compressed; If not, any type of file won' t be compressed. Value : on / off Default : on
--	--	--	---

Return parameter

They are all common return parameters. See [Public Parameters](#) for details.

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=rsp-cige6j5e7p
&<common request parameter>
```

Return 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

Creates an HTTPS Listener. This creates a listener based on HTTPS protocol for an Server Load Balancer instance, including HTTPS-based policies and health check configurations. Note: Here, users can define the frontend and backend ports themselves.

New listeners are in the Stopped status. The user must call StartLoadBalancerListener to activate them. For the listener status transition chart, refer to the appendix [Server Load Balancer Listener Status Transition Chart](#).

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value: CreateLoadBalancerHTTPSListener
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value: 1-65535
BackendServerPort	Integer	Yes	Server Load Balancer instance' s backend port. Value: 1-65535
Bandwidth	Integer	Yes	Listener' s peak bandwidth. Value:-1 / 1-1000Mbps For public instances using the PayByTraffic billing method, users can

			set the listener bandwidth to -1. This indicates the peak bandwidth is not restricted.
XForwardedFor	String	No	Whether or not the X-Forwarded-For method is enabled to retrieve visitors' real IPs. Value:On / Off Default value: on Note: For security considerations, this parameter is required to be set to On since May 15, 2015. For interface compatibility considerations, this interface incoming parameter is maintained.
Scheduler	String	No	Scheduling algorithm. Value: wrr / wlc / rr Default value: wrr
StickySession	String	Yes	Whether or not session persistence is enabled. Value:on / off
StickySessionType	String	Depends on the situation	Cookie processing method. This parameter is required when StickySession is set to On. When StickySession is Off, the setting of this parameter is ignored. Value: insert / server. When set to insert, this indicates it is inserted by the Server Load Balancer. When set to server, this indicates the Server Load Balancer learns from the backend server.
CookieTimeout	Integer	Depends on the situation	Cookie timeout time. This parameter is

			required when StickySession is On and StickySessionType is Insert. In other situations, this parameter is ignored. Value: 1-86400 (unit: seconds)
Cookie	String	Depends on the situation	Server' s cookie configuration. This parameter is only required when StickySession is On and StickySessionType is Insert. In other situations, this parameter is ignored. Value:A 1-200 character string following RFC 2965 format. It can only contain ASCII English letters and numbers, and cannot contain commas, semicolons, or spaces, nor can it begin with a "\$" character.
HealthCheck	String	Yes	Whether or not health checks are enabled. Value:on / off
HealthCheckDomain	String	No	Health check domain name. Value:\$ _ip / custom string / null Custom string rules: 1-80 characters. Only letters, numbers, '-' , and '.' are allowed. When users set this parameter as '\$ _ip' or null, Server Load Balancer will use the private IPs for each backend server as the domain for performing health checks.

HealthCheckURI	String	Depends on the situation	Health check URI. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value: Length: 1-80, must start with '/' . Only letters, numbers, '-', '_', '/', '.', '%', '?', '#', and '&' are allowed.
HealthCheckConnectPort	Integer	Depends on the situation	Port used for health checks. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value: 1-65535, or '-520' . When users set this parameter to '-520' , this indicates BackendServerPort is used.
HealthyThreshold	Integer	Depends on the situation	Threshold value for determining health check results as Success. That is, after this number of successful health checks, the backend server's health check results will change from Fail to Success. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value:1-10
UnhealthyThreshold	Integer	Depends on the situation	Threshold value for determining health check results as Fail. That is, after this number of failed health checks, the backend server's health check results will change from

			Success to Fail. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value:1-10
HealthCheckTimeout	Integer	Depends on the situation	Maximum timeout time for each health check response. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value:1-50 (unit: seconds) Note:If HealthCheckTimeout < HealthCheckInterval, HCTimeout is invalid, and the timeout time is the HealthCheckInterval.
HealthCheckInterval	Integer	Depends on the situation	Interval between health checks. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value:1-5 (unit: seconds)
HealthCheckHttpCode	String	Depends on the situation	Normal health check HTTP status codes. Separate multiple status codes with " " . When HealthCheck is On, this parameter is optional. When HealthCheck is Off, this parameter is ignored. Value: http_2xx / http_3xx / http_4xx / http_5xx Default value: http_2xx
ServerCertificateId	String	Yes	Security certificate ID.

Gzip	String	No	Whether to open the Gzip compression. If open, the specific file types will be compressed; If not, any type of file won' t be compressed. Value : on / off Default : on
------	--------	----	---

Return Parameters

All are public return parameters. See Public Parameters.

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  
&HealthCheckHttpCode=http_2xx,http_3xx  
&ServerCertificateId=idkp-123-cn-test-01  
&<Public Request Parameters>
```

Return 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"}
}
```

CreateLoadBalancerTCPLListener

Description

- Create TCP Listener; create Listeners based on the TCP protocol for the Server Load Balancer instance, including policies and health check configurations based on the TCP protocol.
- The newly created Listener is in the Stopped status, and **StartLoadBalancerListener** shall be called to make it work. See the state transition diagram of the Server Load Balancer Listener for the state transition diagram of Listener.
- The health check about the TCP Listener is always on, and users can set various parameter configurations of health checks but close the health check.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : CreateLoadBalancerTCPLListener
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Port used by the Server Load Balancer instance frontend Value : 1-65535
BackendServerPort	Integer	Yes	Port used by the Server Load Balancer instance backend Value : 1-65535
Bandwidth	Integer	Yes	Bandwidth peak of Listener Value : -1 1-1000Mbps

			For the public network instance charged per traffic consumed, the Bandwidth on Listener can be set to -1, indicating the bandwidth peak is unlimited.
Scheduler	String	No	Scheduling algorithm Value : wrr wlc Default : wrr
PersistenceTimeout	Integer	No	Timeout of connection persistence Value : 0-3600 (in seconds) Default : 0 The value 0 indicates to close it.
HealthCheckType	String	No	Type of health check Value : tcp http Default : tcp TCP supports TCP and HTTP health check mode, you can select the particular mode depending on your application.
HealthCheckDomain	String	No	Domain name used for health check. When TCP listener need to use HTTP health check, this parameter will be configured; and when TCP health check is used, the parameter will be ignored. Value : \$_ip custom string Rules of the custom string: its length is limited to 1-80 and only characters such as letters, digits, '-' and '.' are allowed. When the parameter is set to \$_ip by the user, Server Load Balancer uses the private

			network IP address of each backend server as Domain used for health check.
HealthCheckURI	String	As appropriate	URI used for health check. When TCP listener need to use HTTP health check, this parameter will be configured; and when TCP health check is used, the parameter will be ignored. Value : Its length is limited to 1-80 and it must start with /. Only characters such as letters, digits, '-', '/', '?', '#', and '%' are allowed.
HealthCheckConnect Port	Integer	No	Port used for health check Value : 1-65535 Default : None When the parameter is not set, it means the backend server port is used (BackendServerPort).
HealthyThreshold	Integer	No	Threshold determining the result of the health check is success. Namely, after how many successive successful health checks, the health check result of the Value : 1-10 Default : 3
UnhealthyThreshold	Integer	As appropriate	Threshold determining the result of the health check is fail. Namely, after how many successive failed health checks, the health check result of the backend server is changed from success to fail.

			Value : 1-10 Default : 3
HealthCheckConnect Timeout	Integer	No	Timeout of the health check connection Value : 1-50 (in seconds) Default : 5
HealthCheckInterval	Integer	No	Time interval of health checks Value : 1-5 (in seconds) Default : 2
HealthCheckHttpCo de	String	As appropriate	Regular health check HTTP status code. Multiple codes are segmented by "," . When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : http_2xx http_3xx http_4xx http_5xx Default: http_2xx
VServerGroupId	String	No	Virtual server group ID. Virtual server group ID and master-slave server group ID cannot be both used at the same time.
MasterSlaveServerGr oupId	String	No	Master-slave server group. Virtual server group ID and master-slave server group ID cannot be both used at the same time.

Return parameter

They are all common response parameters. For details see [Common parameters](#).

Example

Request example

```
https://slb.aliyuncs.com/  
&Action=CreateLoadBalancerTCPLListener  
&LoadBalancerId=139a00604ad-cn-east-hangzhou-01  
&ListenerPort=443  
&BackendServerPort=443  
&Bandwidth=-1  
&VServerGroupId=rsd-cige6j5e7p  
&<common request parameter>
```

Return example

- XML format

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

- JSON format

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

CreateLoadBalancerUDPListener

Description

Creates a UDP Listener. This creates a listener based on UDP protocol for an Server Load Balancer instance, including UDP-based policies and health check configurations.

New listeners are in the Stopped status. The user must call StartLoadBalancerListener to activate them.

Health checks for UDP Listeners are permanently enabled. Users can configure various parameters for health checks, but cannot disable them.

Note: Currently, UDP protocol for classic Server Load Balancer instances does not allow users to view source addresses.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value:CreateLoadBalancerUDPListener
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value:1-65535
BackendServerPort	Integer	Yes	Server Load Balancer instance' s backend port. Value:1-65535
Bandwidth	Integer	No	Listener' s upper limit bandwidth. Value: -1 1-1000Mbps; For public instances using the PayByTraffic billing method, users can set the listener bandwidth to -1. This indicates the peak bandwidth is not restricted.
Scheduler	String	No	Scheduling algorithm. Value:wrr wlc Default value:wrr
PersistenceTimeout	Integer	No	Connection persistence timeout time. Value: 0-3600 (unit: seconds) Default value: 0 0 indicates disabled.
HealthCheckConnectPort	Integer	No	Port used for health checks. Value: 1-65535 Default value: None

			When users do not set this parameter, this indicates BackendServerPort is used.
HealthyThreshold	Integer	No	Threshold value for determining health check results as Success. That is, after this number of successful health checks, the backend server' s health check results will change from Fail to Success. Value: 1-10 Default value:3
UnhealthyThreshold	Integer	No	Threshold value for determining health check results as Fail. That is, after this number of failed health checks, the backend server' s health check results will change from Success to Fail. Value:1-10 Default value:3
HealthCheckConnect Timeout	Integer	No	Health check connection timeout time. Value: 1-50 (unit: seconds) Default value:5
HealthCheckInterval	Integer	No	Interval between health checks. Value: 1-5 (unit: seconds) Default value:2
VServerGroupId	String	No	Virtual server group ID. Virtual server group ID and master-slave server group ID cannot be both used at the same time.
MasterSlaveServerGroupId	String	No	Master-slave server group. Virtual server group ID and master-slave server group ID cannot be both used at the

			same time.
--	--	--	------------

Return Parameters

All are public return parameters. See [Public Parameters](#).

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>
```

Return Example

- XML format

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

- JSON format

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

DeleteLoadBalancerListener

Description

- Delete Listener; delete the Listener corresponding to ListenerPort.
- Only when the Listener is in the stopped or running status can it be deleted. See the **state transition diagram of the Server Load Balancer Listener** for the state transition diagram of Listener.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : DeleteLoadBalancerListener
LoadBalancerId	String	Yes	The unique ID of an 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. See **Public Parameters** for details.

Example

Request example

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

Return 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 the specified Listener.

- After successfully calling this interface, the Listener will change to the Starting status.
- The interface can be called only when the instance status is Stopped.
- When the status of the LoadBalancer to which the Listener belongs is "locked", it will fail to call the interface.
- See the state transition diagram of the Server Load Balancer Listener for the state transition diagram of Listener.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : StartLoadBalancerListener
LoadBalancerId	String	Yes	The unique ID of an 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. See Public Parameters for details.

Example

Request example

```
https://slb.aliyuncs.com/  
&Action= StartLoadBalancerListener  
&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"  
}
```

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

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : StopLoadBalancerListener
LoadBalancerId	String	Yes	The unique ID of an 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. See [Public Parameters](#) for details.

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

- Enables/Disables the access control function for the specified listener.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value:SetListenerAccessControlStatus
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value:1-65535
AccessControlStatus	String	Yes	Whether or not access control is enabled. open_white_list indicates the white list access control function is enabled. Note: If this function is enabled, but no white list is set, all access is blocked, so please be careful when using white lists. Values: open_white_list close. The SourceItems set though AddListenerWhiteListItem and RemoveListenerWhiteListItem will not be cleared because of changes to the AccessControlStatus.

Return Parameters

All are public return parameters. See [Public Parameters](#).

Example

Request Example

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

Return 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

- Adds an IP or IP segment to the access control list of the specified listener. This interface supports incremental updates.

Request Parameters

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

Action	String	Yes	Operator interface name, required parameter. Value: AddListenerWhiteListItem
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value: 1-65535
SourceItems	String	Yes	Access control list. This is effective when the listener' s AccessControlStatus is open_white_list. Enter IP addresses or IP address segments here. Separate multiple entries with ",". Users cannot enter 0.0.0.0 or similar addresses. The only method provided by Server Load Balancer that allows all access is to call the SetListenerAccessControlStatus interface and set it to Close

Return Parameters

All are public return parameters. See Public Parameters.

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>
```

Return 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

- Deletes an IP or IP segment from the access control list of the specified listener. This interface supports incremental updates.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value:RemoveListenerWhiteListItem
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value:1-65535
SourceItems	String	Yes	Access control list. Enter IP addresses or IP address segments here. Separate multiple entries with "," . Note: If the

			AccessControlStatus is open_white_list and the user removes all IPs, all access will be blocked.
--	--	--	--

Return Parameters

All are public return parameters. See [Public Parameters](#).

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>
```

Return 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

Configure HTTP Listener, including Scheduler,StickySession and HealthCheck.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : SetLoadBalancerHTTPListenerAttribute
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
ListenerPort	Integer	Yes	Port used by the Server Load Balancer instance frontend Value : 1-65535
Bandwidth	Integer	Yes	Bandwidth peak of Listener Value : -1 1-1000Mbps For the public network instance charged per traffic consumed, the Bandwidth on Listener can be set to -1, indicating the bandwidth peak is unlimited
XForwardedFor	String	No	Whether to start to obtain the actual IP address of a visitor by means of X-Forwarded-For Value : on off Default: None When the parameter is not specified, it means this configuration item is not changed in the call, and the former configuration is maintained
Scheduler	String	No	Scheduling algorithm

			Value : wrr wlc Default : wrr
StickySession	String	Yes	Whether to enable session persistence Value : on off
StickySessionType	String	As appropriate	Mode for handling the cookie. If StickySession is on, the parameter is mandatory, and if StickySession is off, the parameter will be ignored. Value : insert server If it is set to insert, it means it is inserted from Server Load Balancer; and if it is set to server, it means the Server Load Balancer learns from the backend server.
CookieTimeout	Integer	As appropriate	Cookie timeout. The parameter is mandatory when StickySession is on and StickySessionType is insert. Otherwise, it will be ignored. Value : 1-86400(in seconds)
Cookie	String	As appropriate	The cookie configured on the server It is mandatory only when StickySession is on and StickySessionType is server; otherwise, the parameter will be ignored. Value : String in line with RFC 2965, with length being 1- 200. It only contains characters such as ASCII codes, English letters and digits instead of the comma, semicolon or spacing, and it cannot start with \$.

HealthCheck	String	Yes	Whether to enable health check Value : on off
HealthCheckDomain	String	As appropriate	Domain name used for health check. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : \$_ip custom string Rules of the custom string: its length is limited to 1-80 and only characters such as letters, digits, '-' and '.' are allowed. When the parameter is set to \$_ip by the user, Server Load Balancer uses the private network IP address of each backend server as Domain used for health check.
HealthCheckURI	String	As appropriate	URI used for health check. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value: Its length is limited to 1-80 and it must start with /. Only characters such as letters, digits, '-', '/', '.', ':', '%', '?', '#', and '&' are allowed.
HealthCheckConnectPort	Integer	As appropriate	Port used for health check When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : 1-65535 or '-520' .

			When the parameter is set to -520, it means the backend server port (BackendServerPort) is used.
HealthyThreshold	Integer	As appropriate	Threshold determining the result of the health check is success. Namely, after how many successive successful health checks, the health check result of the backend server is changed from fail to success. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : 1-10
UnhealthyThreshold	Integer	As appropriate	Threshold determining the result of the health check is fail. Namely, after how many successive failed health checks, the health check result of the backend server is changed from success to fail. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : 1-10
HealthCheckTimeout	Integer	As appropriate	Maximum timeout of each health check response. When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : 1-50(in seconds) Note: If HealthCheckTimeout < HealthCheck

			kInterval, HCTimeout is invalid, and the timeout is HealthCheckInterval.
HealthCheckInterval	Integer	As appropriate	Time interval of health checks When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored Value : 1-5 (in seconds)
HealthCheckHttpCode	String	As appropriate	Regular health check HTTP status code. Multiple codes are segmented by "," . When HealthCheck is on, the parameter is mandatory; and when HealthCheck is off, the parameter will be ignored. Value : http_2xx http_3xx http_4xx http_5xx Default: http_2xx

Return parameter

They are all common return parameters. See [Public Parameters](#) for details.

Example

Request example

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

Return 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

- Configures an HTTPS Listener, including Scheduler, StickySession, HealthCheck, ServerCertificateId, etc.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value: SetLoadBalancerHTTPSListenerAttribute
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value: 1-65535
Bandwidth	Integer	Yes	Listener' s peak bandwidth. Value: -1/1-1000Mbps For public instances using the PayByTraffic billing method, users can set the listener bandwidth to -1.

			This indicates the peak bandwidth is not restricted.
XForwardedFor	String	No	Whether or not the X-Forwarded-For method is enabled to retrieve visitors' real IPs. Value: On/Off Default value: None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained. Note: For security considerations, this parameter is required to be set to On since May 15, 2015. For interface compatibility considerations, this interface incoming parameter is maintained.
Scheduler	String	No	Scheduling algorithm. Value: wrrwlc Default value:None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained.
StickySession	String	Yes	Whether or not session persistence is enabled. Value: on/off
StickySessionType	String	Depends on the situation	Cookie processing method. This parameter is required when StickySession is set to On. When

			StickySession is Off, the setting of this parameter is ignored. Value: insert server. When set to insert, this indicates it is inserted by the Server Load Balancer. When set to server, this indicates the Server Load Balancer learns from the backend server.
CookieTimeout	Integer	Depends on the situation	Cookie timeout time. This parameter is required when StickySession is On and StickySessionType is Insert. In other situations, this parameter is ignored. Value: 1-86400 (unit: seconds)
Cookie	String	Depends on the situation	Server' s cookie configuration. This parameter is only required when StickySession is On and StickySessionType is Insert. In other situations, this parameter is ignored. Value: A 1-200 character string following RFC 2965 format. It can only contain ASCII English letters and numbers, and cannot contain commas, semicolons, or spaces, nor can it begin with a "\$" character.
HealthCheck	String	Yes	Whether or not health checks are enabled. Value: on/off

HealthCheckDomain	String	No	Health check domain name. Value: \$_ip custom string null Custom string rules: 1-80 characters. Only letters, numbers, '-', and '.' are allowed. When users set this parameter as '\$_ip' or null, Server Load Balancer will use the private IPs for each backend server as the domain for performing health checks.
HealthCheckURI	String	Depends on the situation	Health check URI. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value: Length: 1-80, must start with '/'. Only letters, numbers, '-', '.', '%', '?', '#', and '&' are allowed.
HealthCheckConnectPort	Integer	Depends on the situation	Port used for health checks. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value: 1-65535 When users do not set this parameter, this indicates BackendServerPort is used.
HealthyThreshold	Integer	Depends on the situation	Threshold value for determining health check results as Success. That is, after this number of successful health checks, the backend server's health check results will change from Fail to

			Success. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value:1-10
UnhealthyThreshold	Integer	Depends on the situation	Threshold value for determining health check results as Fail. That is, after this number of failed health checks, the backend server's health check results will change from Success to Fail. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value:1-10
HealthCheckTimeout	Integer	Depends on the situation	Maximum timeout time for each health check response. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value: 1-50 (unit: seconds) Note: If HealthCheckTimeout < HealthCheckInterval, HCTimeout is invalid, and the timeout time is the HealthCheckInterval.
HealthCheckInterval	Integer	Depends on the situation	Interval between health checks. When HealthCheck is On, this parameter is required. When HealthCheck is Off, this parameter is ignored. Value: 1-5 (unit: seconds)
HealthCheckHttpCo	String	Depends on the	Normal health check

de		situation	HTTP status codes. Separate multiple status codes with " , ". When HealthCheck is On, this parameter is optional. When HealthCheck is Off, this parameter is ignored. Value: http_2xx , http_3xx , http_4xx , http_5xx Default value:http_2xx
ServerCertificateId	String	Yes	Security certificate ID.

Return Parameters

All are public return parameters. See [Public Parameters](#).

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>
```

Return 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

Configure HTTP Listener, including Scheduler, SticySession and HealthCheck.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : SetLoadBalancerTCPListenerAttribute
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
Bandwidth	Integer	Yes	Bandwidth peak of Listener Value : -1 1-1000Mbps For the public network instance charged per traffic consumed, the Bandwidth on Listener can be set to -1, indicating the bandwidth peak is unlimited.
ListenerPort	Integer	Yes	Port used by the Server Load Balancer instance frontend Value : 1-65535
SynProxy	String	否	Whether to open SynProxy , SynProxy is the protection function of Server Load Balancer. It is recommended that users generally do

			not adjust this parameter. Value : enable disable Default : disable
Scheduler	String	No	Scheduling algorithm Value : wrr wlc Default : None When the parameter is not specified by the user, it means this configuration item is not changed in the call, and the former configuration is maintained.
PersistenceTimeout	Integer	No	Timeout of connection persistence Value : 0-3600 (in seconds) Default : None When the parameter is not specified by the user, it means this configuration item is not changed in the call, and the former configuration is maintained. The value 0 indicates to close it.
HealthCheckDomain	String	No	Domain name used for health check. When TCP listener need to use HTTP health check, the parameter is mandatory. Otherwise, the parameter will be ignored. Value : \$_ip custom string Rules of the custom string: its length is limited to 1-80 and only characters such as letters, digits, '-' and '.' are allowed. When the parameter is set to \$_ip by the user, Server Load Balancer uses the

			private network IP address of each backend server as Domain used for health check. .
HealthCheckURI	String	As appropriate	URI used for health check. When TCP listener need to use HTTP health check, the parameter will be configured. If it is not configured, TCP health check will be used. Value : Its length is limited to 1-80 and it must start with /. Only characters such as letters, digits, '-', '/', ':', '?', '#', and '%' are allowed.
HealthyThreshold	Integer	No	Threshold determining the result of the health check is success. Namely, after how many successive successful health checks, the health check result of the backend server is changed from fail to success. Value : 1-10 Default : None
UnhealthyThreshold	Integer	No	Threshold determining the result of the health check is fail. Namely, after how many successive failed health checks, the health check result of the backend server is changed from success to fail. Value : 1-10 Default : None
HealthCheckConnect Timeout	Integer	No	Maximum timeout of each health check response. Value : 1-50 (in seconds)

			Default : None
HealthCheckInterval	Integer	No	Time interval of health checks. Value : 1-5 (in seconds) Default : None
HealthCheckHttpCode	String	No	Regular health check HTTP status code. Multiple codes are segmented by "," . When HTTP health check is required for TCP listening, configure this parameter; if this parameter is not configured, TCP health check will be used. Value: http_2xx http_3xx / http_4xx / http_5xx Default: http_2xx
VServerGroup	String	No	Whether to use virtual server group. It can be on or off. The default value is off. VserverGroup and MasterSlaveServerGroup cannot be both set to on.
VServerGroupId	String	No	Virtual server group ID. The VServerGroupId value takes effect only when VserverGroup is set to on.
MasterSlaveServerGroup	String	No	Whether to use master-slave server group. It can be on or off. The default value is off. VserverGroup and MasterSlaveServerGroup cannot be both set to on.
MasterSlaveServerGroupId	String	No	Master-slave server group ID. The MasterSlaveserverGroupId value takes effect only when MasterSlaveserverGr

			oup is set to on.
--	--	--	-------------------

Return parameter

They are all common return parameters. See [Public Parameters](#) for details.

Example

Request example

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

Return 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

Configures a UDP Listener, including Scheduler, StickySession, HealthCheck, etc.

Note: Currently, UDP protocol for classic Server Load Balancer instances does not allow users to view source addresses.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value:SetLoadBalancerUDPListenerAttribute
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
Bandwidth	Integer	Yes	Listener' s peak bandwidth. Value:-1 1-1000Mbps For public instances using the PayByTraffic billing method, users can set the listener bandwidth to -1. This indicates the peak bandwidth is not restricted.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value:1-65535
Scheduler	String	No	Scheduling algorithm. Value:wrr wlc Default value:None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained.
PersistenceTimeout	Integer	No	Connection persistence timeout time. Value: 0-3600 (unit: seconds)

			Default value: None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained. 0 indicates disabled.
HealthyThreshold	Integer	No	Threshold value for determining health check results as Success. That is, after this number of successful health checks, the backend server's health check results will change from Fail to Success. Value:1-10 Default value: None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained.
UnhealthyThreshold	Integer	No	Threshold value for determining health check results as Fail. That is, after this number of failed health checks, the backend server's health check results will change from Success to Fail. Value:1-10 Default value:None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained.

HealthCheckConnect Timeout	Integer	No	Maximum timeout time for each health check response. Value:1-50 (unit: seconds) Default value:None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained. Note: If HCTimeout < Interval, HCTimeout is invalid and the timeout time is the HealthCheckInterval.
HealthCheckConnect Port	Integer	No	Port used for health checks. Value:1-65535 Default value:None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained.
HealthCheckInterval	Integer	No	Interval between health checks. Value:1-5 (unit: seconds) Default value:None When users do not specify this parameter, this indicates that this call does not modify this configuration option and the previous configuration is maintained.

Return Parameters

All are public return parameters. See [Public Return Parameters](#)

Example

Request Example

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

Return Example

- XML format

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

- JSON format

```
{  
  "RequestId": "C0FD0EED-F90D-4479-803D-DD62335357E"  
}
```

DescribeLoadBalancerHTTPListenerAttribute

Description

- Query the information about the HTTP Listener.
- The Listener involves five statuses: starting, running, configuring, stopping, and stopped. See the state transition diagram of the Server Load Balancer Listener for the state transition diagram of Listener and detailed descriptions for each.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface,

			which is specified in the system. Value : DescribeLoadBalancerHTTPListenerAttribute
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
ListenerPort	Integer	Yes	Port used by the Server Load Balancer instance frontend. Value : 1-65535.

Return parameter

Name	Type	Description
Common Parameter		See Public Parameters
ListenerPort	Integer	Port used by the Server Load Balancer instance frontend
BackendServerPort	Integer	Port used by the Server Load Balancer instance backend
Bandwidth	Integer	Bandwidth peak of Listener
Status	String	Current status of Listener. It includes such five statuses: starting, running, configuring, stopping and stopped.
XForwardedFor	String	Whether to start to obtain the actual IP address of a visitor by means of X-Forwarded-For. On is for enabling XForwardedFor, and off is for disabling it.
Scheduler	String	Scheduling algorithm. Wrr or wlc.
StickySession	String	Whether to enable session persistence. On is for enabling session persistence, and off is for disabling it.
CookieTimeout	Integer	Timeout of the cookie
Cookie	String	Cookie configured on the server. It is valid only when Type is server.
HealthCheck	String	Whether to enable health check. On is for enabling health check, and off is for

		disabling it.
HealthCheckDomain	String	Domain name used for health check.
HealthCheckURI	String	URI used for health check.
HealthyThreshold	Integer	Times of successive successful health checks from fail to success on the backend server.
UnhealthyThreshold	Integer	Times of successive failed health checks from success to fail on the backend server.
HealthCheckTimeout	Integer	Maximum timeout of each health check response, in seconds.
HealthCheckInterval	Integer	Time interval of health checks, in seconds.
HealthCheckConnectPort	Integer	Port for health check
Gzip	String	Whether to open Gzip compression.

Example

Request example

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

Return 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

Queries HTTPS Listener information. Listeners have 5 statuses: starting, running, configuring, stopping, and stopped. For the listener status transition chart and descriptions of each status, refer to the [appendixServer Load Balancer Listener Status Transition Chart](#)

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value: DescribeLoadBalancerHTTPSListenerAttribute
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance's frontend port. Values: 1-65535

Return Parameters

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

Public Return Parameters		For details, see Public Parameters .
ListenerPort	Integer	Server Load Balancer instance' s frontend port.
BackendServerPort	Integer	Server Load Balancer instance' s backend port.
Bandwidth	Integer	Listener' s peak bandwidth.
Status	String	Current listener status. There are 5 statuses: starting, running, configuring, stopping, and stopped.
XForwardedFor	String	Whether or not the X-Forwarded-For method is enabled to retrieve visitors' real IPs. On enables XForwardedFor and Off disables XForwardedFor. Note: For security considerations, this parameter is required to be set to On since May 15, 2015.
Scheduler	String	Scheduling algorithm. wrr or wlc.
StickySession	String	Whether or not session persistence is enabled. On enables session persistence and Off disables session persistence.
StickySessionType	String	Cookie processing method. When set to insert, this indicates it is inserted by the Server Load Balancer. When set to server, this indicates the Server Load Balancer learns from the backend server.
CookieTimeout	Integer	Cookie timeout time.
Cookie	String	Server' s cookie configuration. Only effective when Type is set to server.
HealthCheck	String	Whether or not health checks are enabled. On enables health checks and Off disables them.
HealthCheckDomain	String	Health check domain name.
HealthCheckURI	String	Health check URI.
HealthyThreshold	Integer	Number of successive successful health checks to

		change the backend server' s status from Fail to Success.
UnhealthyThreshold	Integer	Number of successive failed health checks to change the backend server' s status from Success to Fail.
HealthCheckTimeout	Integer	Maximum timeout time for each health check response, in seconds.
HealthCheckInterval	Integer	Interval between health checks, in seconds.
HealthCheckHttpCode	String	Normal health check HTTP status code.
HealthCheckConnectPort	Integer	Port used for health checks.
ServerCertificateId	String	Security certificate ID.
Gzip	String	Whether to open Gzip compression.

Example

Request Example

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

Return 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 information about the TCP Listener.
- The Listener involves five statuses: starting, running, configuring, stopping, and stopped. See the state transition diagram of the Server Load Balancer Listener for the state transition diagram of Listener and detailed descriptions for each.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : DescribeLoadBalancerTCPListenerAttribute
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
ListenerPort	Integer	Yes	Port used by the Server Load Balancer instance frontend. Value : 1-65535.

Return parameter

Name	Type	Description
Common Paramete		See Common Return Parameter for details.
ListenerPort	Integer	Port used by the Server Load Balancer instance frontend
BackendServerPort	Integer	Port used by the Server Load Balancer instance backend
Bandwidth	Integer	Bandwidth peak of Listener
Status	String	Current status of Listener. It includes such five statuses: starting, running, configuring, stopping and stopped.
SynProxy	String	Whether to enable SynProxy. SynProxy is for synflood protection. It suggests that you not to change the parameter, and the parameter is controlled by the Server Load Balancer. Enable is for starting the function of synflood, and disable is for closing the function of synflood.
Scheduler	String	Scheduling algorithm. Wrr or wlc.
PersistenceTimeout	Integer	Timeout of connection persistence. The value 0 indicates to close it.
HealthCheck	String	Whether to enable health check. On is for enabling health check, and off is for disabling it.
HealthyThreshold	Integer	Times of successive successful health checks from fail to success on the backend server.
UnhealthyThreshold	Integer	Times of successive failed health checks from success to fail on the backend server.
HealthCheckConnectTimeout	Integer	Timeout of the health check connection
HealthCheckConnectPort	Integer	Port for health check
HealthCheckInterval	Integer	Time interval of health checks, in seconds.

HealthCheckDomain	String	Domain name used for health check.
HealthCheckURI	String	URI used for health check.
HealthCheckHttpCode	String	Regular health check HTTP status code.
VServerGroupId	String	Virtual server group ID being bound.
MasterSlaveServerGroupId	String	Master-slave server group ID being bound.

Example

Request example

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

Return 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

Queries UDP Listener information.

Listeners have 5 statuses: starting, running, configuring, stopping, and stopped. For the listener status transition chart and descriptions of each status, refer to the appendix [Server Load Balancer Listener Status Transition Chart](#).

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value: DescribeLoadBalancerUDPListenerAttribute
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Value: 1-65535

Return Parameters

Name	Type	Description
Public Return Parameters		For details, see Common parameters
ListenerPort	Integer	Server Load Balancer instance' s frontend port,

		range: 1-65535.
BackendServerPort	Integer	Server Load Balancer instance' s backend port, range: 1-65535.
Bandwidth	Integer	Listener' s peak bandwidth, range: 1-1000Mbps.
Status	String	Current listener status. There are 5 statuses: starting, running, configuring, stopping, and stopped.
Scheduler	String	Scheduling algorithm. wrr or wlc.
PersistenceTimeout	Integer	Connection persistence timeout time. 0 indicates disabled.
StickySessionType	String	Cookie processing method. When set to insert, this indicates it is inserted by the Server Load Balancer. When set to server, this indicates the Server Load Balancer learns from the backend server.
HealthCheck	String	Whether or not health checks are enabled. On enables health checks and Off disables them.
HealthyThreshold	Integer	Number of successive successful health checks to change the backend server' s status from Fail to Success.
UnhealthyThreshold	Integer	Number of successive failed health checks to change the backend server' s status from Success to Fail.
HealthCheckConnectTimeout	Integer	Health check connection timeout time.
HealthCheckConnectPort	Integer	Port used for health checks.
HealthCheckInterval	Integer	Interval between health checks, in seconds.
VServerGroupId	String	Virtual server group ID being bound.
MasterSlaveServerGroupId	String	Master-slave server group ID being bound.

Example

Request Example

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

Return 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>  
<StickySession>on</StickySession>  
<PersistenceTimeout>0</PersistenceTimeout>  
</DescribeLoadBalancerUDPLListenerAttributeResponse>
```

- JSON format

```
{  
  "RequestId": "365F4154-92F6-4AE4-92F8-7FF34B540710",  
  "ListenerPort": 53,  
  "BackendServerPort": 53,  
  "Bandwidth": -1,  
  "Status": "stopped",  
  "Schedule": "wrr",  
  "StickySession": "on",  
  "PersistenceTimeout": 0  
}
```

DescribeListenerAccessControlAttribute Description

- Queries the access control configuration information for the specified listener.

Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter. Value:DescribeListenerAccessControlAttribute
LoadBalancerId	String	Yes	Unique ID of an Server Load Balancer instance.
ListenerPort	Integer	Yes	Server Load Balancer instance' s frontend port. Values:1-65535.

Return Parameters

Name	Type	Description
Public Return Parameters		For details, see Public Parameters
AccessControlStatus	String	Whether or not access control is enabled. open_white_list indicates the white list access control function is enabled. close indicates the access control function is disabled.
SourceItems	String	Access control list. IPs or IP segments.

Example

Request Example

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

Return Example

- XML format

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

- JSON format

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

MasterSlaveServerGroup API

CreateMasterSlaveServerGroup

Description

The master-slave server group contains two different “ECS instance + port” . Wherein, one of the two “ECS instance + port” must be set as master and the other be set as slave. They cannot be both set as master or slave.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value:

			CreateMasterSlaveServerGroup.
RegionId	String	Yes	Region ID of Loadbalancer instance.
LoadBalancerId	String	Yes	Server Load Balancer instance ID.
MasterSlaveServerGroupName	String	Yes	Name of the master-slave server group.
MasterSlaveBackendServers	String	Yes	The master-slave server list to be added. Value: It is a Jsonstring and its structure is a JsonList. The List must contain and can only contain 2 elements in one request. See the following table for the detailed structure of the List.

- MasterSlaveBackendServers

Name	Type	Mandatory or not	Description
ServerId	String	Yes	Backend server ID (ECS instance ID).
Port	Integer	Yes	The port used by the backend server. Range of the value: 1~65535.
Weight	Integer	Yes	Weight of the backend server. Range of the value: 0~100. The default value is 100.
ServerType	String	No	It can be Master or Slave. The default value is Master.

Return parameter

Name	Type	Description
Common Parameter		See Common parameters for details.

MasterSlaveServerGroupId	String	The unique ID of an master-slave server group.
MasterSlaveBackendServers	List	The list of the backend servers in the master-slave server group in array format. See the following table for details.

- MasterSlaveBackendServers

Name	Type	Mandatory or not	Description
ServerId	String	Yes	Backend server ID (ECS instance ID).
Port	Integer	Yes	The port used by the backend server. Range of the value: 1~65535.
Weight	Integer	Yes	Weight of the backend server. Range of the value: 0~100. The default value is 100.
ServerType	String	No	It can be Master or Slave. The default value is Master.

Example

Request example

```
https://slb.aliyuncs.com/?<Common request parameter>
&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'}]
```

Return 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" }
    ]
  }
}
```

DescribeMasterSlaveServerGroupAttribute

Description

Query detailed information of the master-slave server group specified by MasterSlaveServerGroupId.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value: DescribeMasterSlaveServerGroupAttribut

			e.
RegionId	String	Yes	Region ID of Loadbalancer instance.
MasterSlaveServerGroupId	String	Yes	The unique ID of the master-slave server group.

Return parameter

Name	Type	Description
Common Parameter		See Common parameters for details.
MasterSlaveServerGroupId	String	The unique ID of the master-slave server group.
MasterSlaveServerGroupName	String	Name of the master-slave server group.
MasterSlaveBackendServers	List	List of all backend servers in the master-slave server group. See the following table for the list elements.

- MasterSlaveBackendServers

Name	Type	Mandatory or not	Description
ServerId	String	Yes	Backend server ID (ECS instance ID).
Port	Integer	Yes	Port used by the backend server. Range of the value: 1~65535.
Weight	Integer	Yes	Weight of the backend server. Range of the value: 0~100. The default value is 100.
ServerType	String	No	It can be Master or Slave. The default value is Master.

Return 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 all master-slave server groups under the specified Server Load Balancer instance.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in

			the system. Value: DescribeMasterSlave ServerGroups.
RegionId	String	Yes	Region ID of Loadbalancer instance.
LoadBalancerId	String	Yes	Server Load Balancer instance ID.

Return parameter

Name	Type	Description
Common Parameter		See Common parameters for details.
MasterSlaveBackendServers	List	List of the backend servers in the master-slave server group in array format. See the following table for details of the list elements.

Name	Type	Description
MasterSlaveServerGroupId	String	The unique ID of the master-slave server group.
MasterSlaveServerGroupName	String	The name of the master-slave server group.

Example

Request example

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

Return example

XML format

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

```
<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>
</DescribeMasterSlaveServerGroups>
```

JSON format

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

DeleteMasterSlaveServerGroup

Description

Delete the master-slave server group specified by MasterSlaveServerGroupId.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value: DeleteServerGroup.
RegionId	String	Yes	Region ID of Loadbanlacer instance.
MasterSlaveServerGr oupId	String	Yes	The unique ID of the master-slave server group. Note: If the master-slave server group is

			referenced, it cannot be deleted.
--	--	--	-----------------------------------

Return parameter

Name	Type	Description
Common Parameter		See Common parameters for details.

Example

Request example

```
https://slb.aliyuncs.com/?<Common request parameter>
&Action=DeleteMasterSlaveServerServerGroup
&RegionId=cn-east-hangzhou-01
&MasterSlaveServerGroupId=rsp-cige6j5e7p
```

Return 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"
}
```

Backend server API

AddBackendServers

Description

- Add the backend server; add a group of backend servers to the Server Load Balancer instance (ECS instance) to return the backend server list of the Server Load Balancer instance.
- Note: If BackendServers contains ECS instance already added, the ECS instance will be ignored, without any error being reported. If multiple identical ECS instances are to be added in one request, only the first instance will be taken while other identical instances will be ignored.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : AddBackendServers
LoadBalancerId	String	Yes	The unique ID of the Server Load Balancer instance
BackendServers	String	Yes	Backend server list to be added. Value : It is a Jsonstring, and its structure is a JsonList. The List can only contain 20 elements at most in one request. See the following table and call example for the detailed structure of the List.

- Backend server information (BackendServers)

Name	Type	Description
ServerId	String	Backend server ID (ECS instance ID)
Weight	Integer	Weight of the backend server, in the range of 1-100 default: 100

Return parameter

Name	Type	Description
Common Parameter		See Common Parameter for details.
LoadBalancerId	String	The unique ID of the Server Load Balancer instance
BackendServers	List	Information of multiple backend servers in the Server Load Balancer instance is returned in the array format. See the following table for details

- Backend server information (BackendServers)

Name	Type	Description
ServerId	String	Backend server ID (ECS instance ID)
Weight	Integer	Weight of the backend server, in the range of 1-100.

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}]
&<common request parameter>
```

Return 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

- Delete the backend server; delete a group of backend servers from the Server Load Balancer instance to return the backend server list in the Server Load Balancer instance.
- Note: If some backend servers in BackendServers do not exist in the Server Load Balancer instance, they will be ignored directly without any error being reported.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : RemoveBackendServers
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance

BackendServers	String	Yes	Backend server list to be removed. Value : It is a Jsonstring, and its structure is a JsonList. The elements in the List are in String type, which are ServerIds of the backend Server. The List can only contain 20 elements at most in one request.
----------------	--------	-----	--

Return parameter

Name	Type	Description
Common Parameter		See Common Parameter for details.
LoadBalancerId	String	The unique ID of an Server Load Balancer instance
BackendServers	List	Information of multiple backend servers in the Server Load Balancer instance is returned in the array format. See the following table for details.

Example

Request example

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

Return 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

- Set Backend Servers; set weight for the backend ECSs; return to the backend servers list for the Server Load Balancer instance.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system. Value : SetBackendServers
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer

			instance
BackendServers	String	Yes	The backend servers list which need to be added. Value: a Json string , the structure is a JsonList. the number of backend servers contained in a list must be less than 20. The structure of the list elements is shown in the following table.

- Backend server list(BackendServers)

Name	Type	Description
ServerId	String	Backend server ID (ECS instance ID)
Weight	Integer	Backend server Weight. Value: 0-100. Default: 100

Return parameter

Name	Type	Description
Common Parameter		See Common Parameter for details.
LoadBalancerId	String	The unique ID of an Server Load Balancer instance
BackendServers	List	Information of multiple backend servers in the Server Load Balancer instance is returned in the array format. See the following table for details.

- Backend server information (BackendServers)

Name	Type	Description
ServerId	String	Backend server ID (ECS instance ID)
Weight	Integer	Backend server Weight. Value: 0-100

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"}]  
&<common request parameter>
```

Return 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>0</Weight>  
</BackendServer>  
<BackendServer>  
<ServerId>vm-234</ServerId>  
<Weight>0</Weight>  
</BackendServer>  
</BackendServers>  
</AddBackendServersResponse>
```

- 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

- Health checks on backend servers; perform health checks on backend servers of the Server Load Balancer instance to return the health status of backend servers.
- The health status of the backend server consists of normal, abnormal and unavailable. Unavailable indicates the Server Load Balancer instance is not configured with the health check, and the health status of the backend server cannot be obtained.

Request parameter

Name	Type	Mandatory or not	Description
Action	String	Yes	Name of the operating interface, which is specified in the system Value : DescribeHealthStatus
LoadBalancerId	String	Yes	The unique ID of an Server Load Balancer instance
ListenerPort	Integer	No	Port used by the Server Load Balancer instance frontend Value : 1-65535. Default: None. If the parameter is not set, it means to obtain the health status of every port.

Return parameter

Name	Type	Description
Common Parameter		See Common parameters for details.
BackendServers	List	Information of multiple backend servers in the Server Load Balancer instance is returned in the array format. See the following table for details.

- Backend server information (BackendServers)

Name	Type	Description
ServerId	String	Backend server ID (ECS instance ID)
ServerHealthStatus	String	The health status of the backend server involves normal, abnormal and unavailable. _Normal indicates the status is healthy; abnormal indicates unhealthy; and unavailable indicates that the health check is not finished, and the specific causes may be: the health check is not initiated; or the health check is not triggered normally for some reason. For the last case, please contact us to locate the cause.

Example

Request example

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

Return example

XML format

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

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" } ]
  }
}
```

Appendix

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	400

	allowed operated.	
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. 法	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

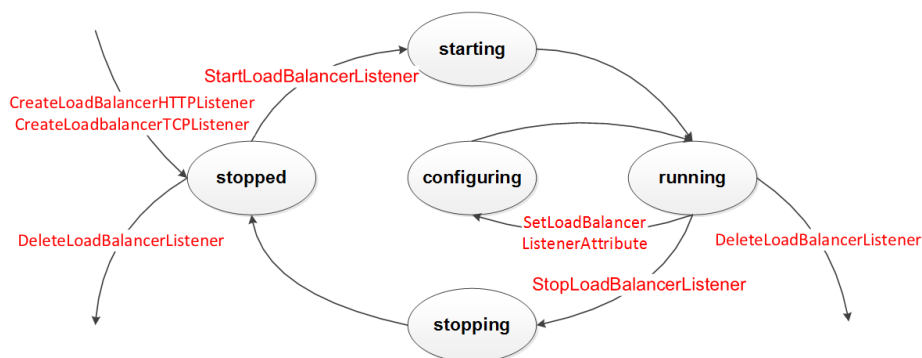
InvalidWeight.Malformed	A specified weight is not valid.	400
IpNotAvailable	The specified parameter Address is not valid.	400
ListenerAlreadyExists	There is already a listener bound to the port on the specified load balancer.	400
ListenerNotFound	No Listener to the specified port of the Load Balancer.	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 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. By this time, it cannot be modified via API;
 - After the service is successfully started, Listener is in the running status. By this time, it can be modified via API;
 - After the configuration of Listener is modified, the service is in the configuring status. By this time, Listener cannot be modified via API;
 - After StopLoadBalancerListener, Listener is in the stopping status;
 - When the service is stopped successfully, Listener is in the stopped status.

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.

- 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 <code>CreateLoadBalancer</code> , 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.