

# Alibaba Cloud

## Server Load Balancer Monitoring

Document Version: 20211216

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# Document conventions

| Style                                                                                            | Description                                                                                                                       | Example                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>Danger</b>  | A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results. |  <b>Danger:</b><br>Resetting will result in the loss of user configuration data.                                       |
|  <b>Warning</b> | A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results. |  <b>Warning:</b><br>Restarting will cause business interruption. About 10 minutes are required to restart an instance. |
|  <b>Notice</b>  | A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.      |  <b>Notice:</b><br>If the weight is set to 0, the server no longer receives new requests.                              |
|  <b>Note</b>  | A note indicates supplemental instructions, best practices, tips, and other content.                                              |  <b>Note:</b><br>You can use Ctrl + A to select all files.                                                            |
| >                                                                                                | Closing angle brackets are used to indicate a multi-level menu cascade.                                                           | Click <b>Settings</b> > <b>Network</b> > <b>Set network type</b> .                                                                                                                                      |
| <b>Bold</b>                                                                                      | Bold formatting is used for buttons, menus, page names, and other UI elements.                                                    | Click <b>OK</b> .                                                                                                                                                                                       |
| <code>Courier font</code>                                                                        | Courier font is used for commands                                                                                                 | Run the <code>cd /d C:/window</code> command to enter the Windows system folder.                                                                                                                        |
| <i>Italic</i>                                                                                    | Italic formatting is used for parameters and variables.                                                                           | <code>bae log list --instanceid</code><br><i>Instance_ID</i>                                                                                                                                            |
| [ ] or [a b]                                                                                     | This format is used for an optional value, where only one item can be selected.                                                   | <code>ipconfig [-all -t]</code>                                                                                                                                                                         |
| { } or {a b}                                                                                     | This format is used for a required value, where only one item can be selected.                                                    | <code>switch {active stand}</code>                                                                                                                                                                      |

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# 1. Monitoring and alerting metrics

This topic lists major metrics for Server Load Balancer (SLB) Layer 4 and Layer 7 protocols and provides corresponding descriptions. You can set the thresholds of metrics, and create alert rules to trigger alerts.

## Precautions

- Call the Cloud Monitor API to query monitoring data from the last 31 days.
- Set Project to `acs_slb_dashboard`, and set the data sampling period to 60 seconds. The Period parameter can be set only to a multiple of 60.
- Set the Dimensions parameter to a JSON string. Example: `[{"instanceId": "lb-bplr92vzpemy099f****"}]`.

In Dimensions, `instanceId` specifies the ID of the SLB instance, `port` specifies the port number of the SLB instance, and `vip` specifies the service address of the SLB instance.

## Layer 4 protocol metrics

| Metric               | Description                                                  | Unit         | Dimension                 | Statistics                    |
|----------------------|--------------------------------------------------------------|--------------|---------------------------|-------------------------------|
| HealthyServerCount   | The number of healthy ECS instances.                         | Count        | instanceId                | Average, Minimum, and Maximum |
| UnhealthyServerCount | The number of unhealthy ECS instances.                       | Count        | instanceId                | Average, Minimum, and Maximum |
| PacketTX             | The number of outbound packets sent per second on a port.    | Count/Second | instanceId, port, and vip | Average, Minimum, and Maximum |
| PacketRX             | The number of inbound packets received per second on a port. | Count/Second | instanceId, port, and vip | Average, Minimum, and Maximum |
| TrafficRXNew         | The amount of data received per second on a port.            | bit/s        | instanceId, port, and vip | Average, Minimum, and Maximum |
| TrafficTXNew         | The amount of data sent per second on a port.                | bit/s        | instanceId, port, and vip | Average, Minimum, and Maximum |

| Metric             | Description                                                                                                                                                                                                                                                                                                                                               | Unit  | Dimension                 | Statistics                    |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------|-------------------------------|
| ActiveConnection   | <p>The number of active connections to an SLB instance on a port, which indicates the number of connections that clients set up to access the SLB instance.</p> <p>It indicates the number of TCP connections that are in the ESTABLISHED state. If persistent connections are used, a connection can transfer multiple file requests simultaneously.</p> | Count | instanceId, port, and vip | Average, Minimum, and Maximum |
| InactiveConnection | <p>The number of inactive connections to an SLB instance on a port, which indicates the number of idle connections to the SLB instance.</p> <p>It indicates the number of TCP connections that are not in the ESTABLISHED state. You can run the <code>netstat -an</code> command to view the connections for both Windows and Linux instances.</p>       | Count | instanceId, port, and vip | Average, Minimum, and Maximum |

| Metric                   | Description                                                                                                    | Unit         | Dimension                 | Statistics                    |
|--------------------------|----------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-------------------------------|
| NewConnection            | The number of new TCP connections established between clients and an SLB instance within a statistical period. | Count        | instanceId, port, and vip | Average, Minimum, and Maximum |
| MaxConnection            | The number of established TCP connections.                                                                     | Count        | instanceId, port, and vip | Average, Minimum, and Maximum |
| DropConnection           | The number of connections dropped per second.                                                                  | Count/Second | instanceId, port, and vip | Average, Minimum, and Maximum |
| DropPacketRX             | The number of inbound packets dropped per second.                                                              | Count/Second | instanceId, port, and vip | Average, Minimum, and Maximum |
| DropPacketTX             | The number of outbound packets dropped per second.                                                             | Count/Second | instanceId, port, and vip | Average, Minimum, and Maximum |
| DropTrafficRX            | The amount of inbound traffic dropped per second.                                                              | bit/s        | instanceId, port, and vip | Average, Minimum, and Maximum |
| DropTrafficTX            | The amount of outbound traffic dropped per second.                                                             | bit/s        | instanceId, port, and vip | Average, Minimum, and Maximum |
| InstanceActiveConnection | The number of active connections per second on an instance.                                                    | Count/Second | instanceId                | Average, Minimum, and Maximum |
| InstanceDropConnection   | The number of connections dropped per second on an instance.                                                   | Count/Second | instanceId                | Average, Minimum, and Maximum |

| Metric                     | Description                                                             | Unit         | Dimension  | Statistics                    |
|----------------------------|-------------------------------------------------------------------------|--------------|------------|-------------------------------|
| InstanceDropPacketRX       | The number of inbound packets dropped per second on an instance.        | Count/Second | instanceId | Average, Minimum, and Maximum |
| InstanceDropPacketTX       | The number of outbound packets dropped per second on an instance.       | Count/Second | instanceId | Average, Minimum, and Maximum |
| InstanceDropTrafficRX      | The amount of inbound traffic dropped per second on an instance.        | bit/s        | instanceId | Average, Minimum, and Maximum |
| InstanceDropTrafficTX      | The amount of outbound traffic dropped per second on an instance.       | bit/s        | instanceId | Average, Minimum, and Maximum |
| InstanceInactiveConnection | The number of idle connections per second on an instance.               | Count/Second | instanceId | Average, Minimum, and Maximum |
| InstanceMaxConnection      | The maximum number of concurrent connections per second on an instance. | Count/Second | instanceId | Average, Minimum, and Maximum |
| InstanceNewConnection      | The number of new connections per second on an instance.                | Count/Second | instanceId | Average, Minimum, and Maximum |
| InstancePacketRX           | The number of request packets received by an SLB instance per second.   | Count/Second | instanceId | Average, Minimum, and Maximum |
| InstancePacketTX           | The number of packets sent by an SLB instance per second.               | Count/Second | instanceId | Average, Minimum, and Maximum |

| Metric                           | Description                                                       | Unit  | Dimension  | Statistics                    |
|----------------------------------|-------------------------------------------------------------------|-------|------------|-------------------------------|
| InstanceTrafficRX                | The traffic consumed to access an SLB instance from the Internet. | bit/s | instanceld | Average, Minimum, and Maximum |
| InstanceTrafficTX                | The traffic consumed by an SLB instance to access the Internet.   | bit/s | instanceld | Average, Minimum, and Maximum |
| InstanceMaxConnectionUtilization | The maximum utilization of connections.                           | %     | instanceld | Average, Minimum, and Maximum |
| InstanceNewConnectionUtilization | The utilization of new connections.                               | %     | instanceld | Average, Minimum, and Maximum |

## Layer 7 protocol metrics

| Metric        | Description                                                                                                              | Unit         | Dimensions                | Statistics |
|---------------|--------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------|------------|
| Qps           | The queries per second (QPS) through a port, which indicates the number of HTTP and HTTPS requests processed per second. | Count/Second | instanceld, port, and vip | Average    |
| Rt            | The average latency of requests on a port, which indicates the average response time of an SLB instance.                 | ms           | instanceld, port, and vip | Average    |
| StatusCode2xx | The number of 2xx status codes returned by an SLB instance to the client through a port.                                 | Count/Second | instanceld, port, and vip | Average    |

| Metric          | Description                                                                                   | Unit         | Dimensions                | Statistics |
|-----------------|-----------------------------------------------------------------------------------------------|--------------|---------------------------|------------|
| StatusCode3xx   | The number of 3xx status codes returned by an SLB instance to the client through a port.      | Count/Second | instanceId, port, and vip | Average    |
| StatusCode4xx   | The number of 4xx status codes returned by an SLB instance to the client through a port.      | Count/Second | instanceId, port, and vip | Average    |
| StatusCode5xx   | The number of 5xx status codes returned by an SLB instance to the client through a port.      | Count/Second | instanceId, port, and vip | Average    |
| StatusCodeOther | The number of other status codes returned by an SLB instance to the client through a port.    | Count/Second | instanceId, port, and vip | Average    |
| UpstreamCode4xx | The number of 4xx status codes returned by backend servers to an SLB instance through a port. | Count/Second | instanceId, port, and vip | Average    |
| UpstreamCode5xx | The number of 5xx status codes returned by backend servers to the client through a port.      | Count/Second | instanceId, port, and vip | Average    |
| UpstreamRt      | The average latency of requests sent by backend servers to the proxy through a port.          | ms           | instanceId, port, and vip | Average    |

| Metric                  | Description                                                                                                              | Unit         | Dimensions | Statistics |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------|------------|------------|
| InstanceQps             | The queries per second (QPS) on an instance, which indicates the number of HTTP and HTTPS requests processed per second. | Count/Second | instanceId | Average    |
| InstanceRt              | The average response latency of an instance.                                                                             | ms           | instanceId | Average    |
| InstanceStatusCode2xx   | The number of 2xx status codes returned by an SLB instance to the client.                                                | Count/Second | instanceId | Average    |
| InstanceStatusCode3xx   | The number of 3xx status codes returned by an SLB instance to the client.                                                | Count/Second | instanceId | Average    |
| InstanceStatusCode4xx   | The number of 4xx status codes returned by an SLB instance to the client.                                                | Count/Second | instanceId | Average    |
| InstanceStatusCode5xx   | The number of 5xx status codes returned by an SLB instance to the client.                                                | Count/Second | instanceId | Average    |
| InstanceStatusCodeOther | The number of other status codes returned by an SLB instance to the client.                                              | Count/Second | instanceId | Average    |
| InstanceUpstreamCode4xx | The number of 4xx status codes returned by backend servers to an SLB instance.                                           | Count/Second | instanceId | Average    |

| Metric                  | Description                                                                              | Unit         | Dimensions | Statistics                    |
|-------------------------|------------------------------------------------------------------------------------------|--------------|------------|-------------------------------|
| InstanceUpstreamCode5xx | The number of 5xx status codes returned by backend servers to an SLB instance.           | Count/Second | instanceId | Average                       |
| InstanceUpstreamRt      | The average latency of requests sent from backend servers of an SLB instance to a proxy. | ms           | instanceId | Average                       |
| InstanceQpsUtilization  | The QPS utilization.                                                                     | %            | instanceId | Average, Minimum, and Maximum |

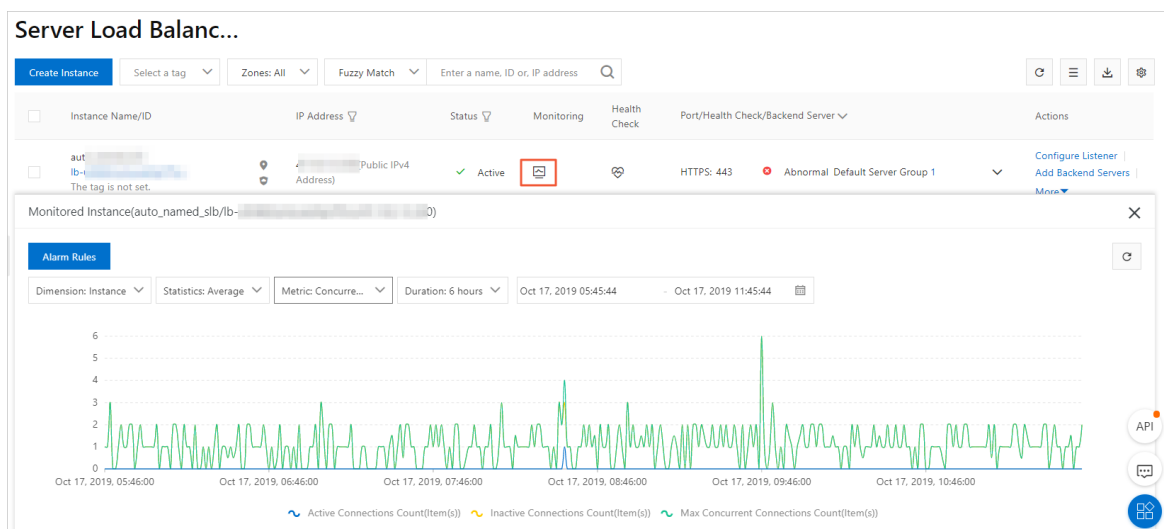
## 2. Monitoring

### 2.1. View monitoring data in the console

You can use Cloud Monitor to view the monitoring data of a Server Load Balancer (SLB) instance, such as the number of connections, number of packets, and traffic.

#### Procedure

1. Log on to the [SLB console](#).
2. On the **Instances** page, select the region in which the SLB instance that you want to view resides.
3. Find the SLB instance and click the monitoring icon .
4. Select the monitoring metrics that you want to view.



The following table lists the monitoring metrics of SLB instances.

| Monitoring metric | Description                                                                                                                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Traffic</b>    | <ul style="list-style-type: none"> <li>◦ Inbound Traffic: the amount of traffic consumed to access an SLB instance.</li> <li>◦ Outbound Traffic: the amount of traffic consumed by an SLB instance to access the Internet.</li> </ul> |
| <b>Packets</b>    | <ul style="list-style-type: none"> <li>◦ Inbound Packets: the number of request packets received per second.</li> <li>◦ Outbound Packets: the number of response packets sent per second.</li> </ul>                                  |

| Monitoring metric                                                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Concurrent Connections</b>                                              | <ul style="list-style-type: none"> <li>Active Connections Count: the number of TCP connections that are in the ESTABLISHED state. If persistent connections are used, a connection may transfer multiple file requests simultaneously.</li> <li>Inactive Connections Count: the number of TCP connections that are not in the ESTABLISHED state. You can run the <code>netstat -an</code> command to view the connections for both Windows and Linux instances.</li> <li>Maximum Concurrent Connections Count: the total number of TCP connections.</li> </ul> |
| <b>New Connections</b>                                                     | The average number of new TCP connections established between clients and SLB instances in a statistical period.                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Dropped Traffic</b>                                                     | <ul style="list-style-type: none"> <li>Dropped Inbound Traffic: the amount of inbound traffic dropped per second.</li> <li>Dropped Outbound Traffic: the amount of outbound traffic dropped per second.</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| <b>Dropped Packets</b>                                                     | <ul style="list-style-type: none"> <li>Dropped Inbound Packets: the number of inbound packets dropped per second.</li> <li>Dropped Outbound Packets: the number of outbound packets dropped per second.</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| <b>Dropped Connections</b>                                                 | The number of connections dropped per second.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Metrics specific to Layer 7 (HTTP or HTTPS) listeners                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Layer-7 QPS</b>                                                         | The number of HTTP or HTTPS requests that can be processed per second.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Response Time (Listener)</b>                                            | The average response time of an SLB instance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>HTTP Status Code 2XX/3XX/4XX/5XX/Other HTTP Status Codes (Listener)</b> | The number of HTTP response codes returned by listeners.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>HTTP Status Code 4XX/5XX (Server)</b>                                   | The number of HTTP response codes returned by backend servers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Response Time (Server)</b>                                              | The average response time of backend servers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## 2.2. View monitoring data by calling API operations

This topic describes how to view the monitoring metrics and detailed monitoring data of an SLB instance by calling the CloudMonitor API operations.

## Prerequisites

Note that SLB is the product label that has been configured in CloudMonitor.

## Context

The procedure is as follows:

1. You can call the DescribeProjectMeta operation to query the namespace of SLB in CloudMonitor.
2. (Optional) You can call the DescribeMetricMetaList operation to query the descriptions of SLB time series metrics that are supported in CloudMonitor. For more information, see [Monitoring and alerting metrics](#).
3. View monitoring metrics.
  - You can call the DescribeMetricLast operation to query the up-to-date monitoring data of a specified metric for SLB.
  - You can call the DescribeMetricList operation to query the monitoring data of time series metrics for an SLB instance within a specified time period.

This topic takes the QPS metric as an example. The SLB instance ID is lb-bp1r92vzpemy099\*\*\*\*\*, and a Layer-7 listener has been configured.

## DescribeProjectMeta

You can call this operation to query the namespace of SLB in CloudMonitor. For more information, see [DescribeProjectMeta](#).

1. Set the value of the request parameter **Labels** to `[{"name": "product", "value": "SLB"}]`, and keep all other parameters as default.

Sample requests

```
http(s)://[Endpoint]/? Action=DescribeProjectMeta
&Labels=[{"name": "product", "value": "SLB"}]
&<Common request parameters>
```

2. Based on the returned parameters, the value of **Namespace** in CloudMonitor is `acs_slb_dashboa`  
`rd`.

Sample responses:

```
{
  "PageSize": 30,
  "RequestId": "75B895A2-62A4-411E-871C-0EED97CC0D26",
  "PageNumber": 1,
  "Total": 1,
  "Resources": {
    "Resource": [
      {
        "Description": "SLB",
        "Labels": "[{\"name\":\"product\",\"value\":\"SLB\"},{\"name\":\"productCategory\",\"value\":\"slb\"},{\"name\":\"groupFlag\",\"value\":\"true\"},{\"name\":\"cnName\",\"value\":\"SLB\"},{\"name\":\"enName\",\"value\":\"Server Load Balancer\"}]",
        "Namespace": "acs_slb_dashboard"
      }
    ]
  },
  "Code": 200,
  "Success": true
}
```

## DescribeMetricMetaList

You can call this operation to query the descriptions of time series metrics that are supported in CloudMonitor. For more information, see [DescribeMetricMetaList](#).

1. Set the value of the request parameter **Namespace** to `acs_slb_dashboard`, and keep all other parameters as default.

### Sample requests

```
http(s)://[Endpoint]/? Action=DescribeMetricMetaList
&Namespace=acs_slb_dashboard
&<Common request parameters>
```

2. You can view the time series metrics of SLB based on the returned parameters. Check whether the **Qps** parameter is returned in this example.

### Sample responses:

```
{
  "TotalCount": 53,
  "RequestId": "789846B4-56FC-4681-998C-5B7DBDFBE28F",
  "Resources": {
    "Resource": [
      {
        "MetricName": "ActiveConnection",
        "Periods": "60,300",
        "Description": "Number of active connections on the port",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
      }
    ]
  }
}
```

```

    },
    {
        "MetricName": "DropConnection",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Counts/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropPacketRX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropPacketTX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropTrafficRX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropTrafficTX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",

```

```

        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "GroupTrafficRX",
        "Periods": "60",
        "Description": "",
        "Dimensions": "groupId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"groupId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average,Minimum,Maximum,Sum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "GroupTrafficTX",
        "Period": "60",
        "Description": "",
        "Dimensions": "groupId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"groupId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average,Minimum,Maximum,Sum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "HeathyServerCount",
        "Periods": "60,300",
        "Description": "Number of healthy ECS instances",
        "Dimensions": "userId,instanceId,port,vip",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InactiveConnection",
        "Periods": "60,300",
        "Description": "Number of inactive connections on the port",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    }

```

```

    },
    {
      "MetricName": "InstanceActiveConnection",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Count/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropConnection",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Count/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropPacketRX",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Count/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropPacketTX",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Counts/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropTrafficRX",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "bits/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    }
  ]
}

```

```

        "Labels": "[{\"name\": \"alertUnit\", \"value\": \"bits/s\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average, Minimum, Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceDropTrafficTX",
        "Periods": "60, 300",
        "Description": "",
        "Dimensions": "userId, instanceId",
        "Labels": "[{\"name\": \"alertUnit\", \"value\": \"bits/s\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average, Minimum, Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceInactiveConnection",
        "Periods": "60, 300",
        "Description": "",
        "Dimensions": "userId, instanceId",
        "Labels": "[{\"name\": \"alertUnit\", \"value\": \"Count/Second\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]",
        "Unit": "Counts/s",
        "Statistics": "Average, Minimum, Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceMaxConnection",
        "Periods": "60, 300",
        "Description": "",
        "Dimensions": "userId, instanceId",
        "Labels": "[{\"name\": \"alertUnit\", \"value\": \"Count/Second\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]",
        "Unit": "Counts/s",
        "Statistics": "Average, Minimum, Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceMaxConnectionUtilization",
        "Periods": "60, 300",
        "Description": "Maximum connection utilization",
        "Dimensions": "userId, instanceId",
        "Labels": "[{\"name\": \"alertUnit\", \"value\": \"%\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]",
        "Unit": "%",
        "Statistics": "Average, Minimum, Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {

```

```

    {
        "MetricName": "InstanceNewConnection",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Counts/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceNewConnectionUtilization",
        "Periods": "60,300",
        "Description": "New connection utilization",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"%\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "%",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstancePacketRX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Counts/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstancePacketTX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Counts/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceQps",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Counts/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    }
]

```

```

minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}}\",
    \"Unit\" : \"Counts/s\"
    \"Statistics\": \"Average\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceQpsUtilization\",
    \"Periods\": \"60,300\",
    \"Description\": \"QPS utilization\",
    \"Dimensions\": \"userId,instanceId\",
    \"Labels\": \"[{\\\"name\\\":\\\"alertUnit\\\",\\\"value\\\":\\\"%\\\"},{\\\"name\\\":\\\"minAlertPeriod\\\",\\\"value\\\":\\\"60\\\"},{\\\"name\\\":\\\"metricCategory\\\",\\\"value\\\":\\\"instanceId\\\"},{\\\"name\\\":\\\"is_alarm\\\",\\\"value\\\":\\\"true\\\"}]\",
    \"Unit\": \"%\",
    \"Statistics\": \"Average,Minimum,Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceRt\",
    \"Periods\": \"60,300\",
    \"Description\": \"\",
    \"Dimensions\": \"userId,instanceId\",
    \"Labels\": \"[{\\\"name\\\":\\\"alertUnit\\\",\\\"value\\\":\\\"ms\\\"},{\\\"name\\\":\\\"minAlertPeriod\\\",\\\"value\\\":\\\"60\\\"},{\\\"name\\\":\\\"metricCategory\\\",\\\"value\\\":\\\"instanceId\\\"},{\\\"name\\\":\\\"is_alarm\\\",\\\"value\\\":\\\"true\\\"}]\",
    \"Unit\": \"ms\",
    \"Statistics\": \"Average\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceStatusCode2xx\",
    \"Periods\": \"60,300\",
    \"Description\": \"\",
    \"Dimensions\": \"userId,instanceId\",
    \"Labels\": \"[{\\\"name\\\":\\\"alertUnit\\\",\\\"value\\\":\\\"Count/Second\\\"},{\\\"name\\\":\\\"minAlertPeriod\\\",\\\"value\\\":\\\"60\\\"},{\\\"name\\\":\\\"metricCategory\\\",\\\"value\\\":\\\"instanceId\\\"},{\\\"name\\\":\\\"is_alarm\\\",\\\"value\\\":\\\"true\\\"}]\",
    \"Unit\": \"Count/Second\",
    \"Statistics\": \"Average\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceStatusCode3xx\",
    \"Periods\": \"60,300\",
    \"Description\": \"\",
    \"Dimensions\": \"userId,instanceId\",
    \"Labels\": \"[{\\\"name\\\":\\\"alertUnit\\\",\\\"value\\\":\\\"Count/Second\\\"},{\\\"name\\\":\\\"minAlertPeriod\\\",\\\"value\\\":\\\"60\\\"},{\\\"name\\\":\\\"metricCategory\\\",\\\"value\\\":\\\"instanceId\\\"},{\\\"name\\\":\\\"is_alarm\\\",\\\"value\\\":\\\"true\\\"}]\",
    \"Unit\": \"Count/Second\",
    \"Statistics\": \"Average\",
    \"Namespace\": \"acs_slb_dashboard\"
},

```

```

        {
            "MetricName": "InstanceStatusCode4xx",
            "Periods": "60,300",
            "Description": "",
            "Dimensions": "userId,instanceId",
            "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
            "Unit": "Count/Second",
            "Statistics": "Average",
            "Namespace": "acs_slb_dashboard"
        },
        {
            "MetricName": "InstanceStatusCode5xx",
            "Periods": "60,300",
            "Description": "",
            "Dimensions": "userId,instanceId",
            "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
            "Unit": "Count/Second",
            "Statistics": "Average",
            "Namespace": "acs_slb_dashboard"
        }
    ]
},
"Code": 200,
"Success": true
}

```

## DescribeMetricLast

You can call this operation to query the up-to-date monitoring data of a specified metric for SLB. This example queries the up-to-date monitoring data of the **Qps** metric for Layer-7 protocols. For more information, see [DescribeMetricLast](#).

The monitoring items and monitoring metrics for Layer-4 and Layer-7 protocols are different. For more information, see [Monitoring and alerting metrics](#).

1. In the request parameters, set the Qps parameter.

In this example, configure the following parameters and keep all other parameters as default.

- **MetricName**: the name of the monitoring metric. In this example, set the value to **Qps**.
- **Dimensions**: the dimension map that is used to query the monitoring data of the specified resource. In this example, set the value to `[{"instanceId":"lb-bp1r92vzpemy099f*****"}]`.
- **Namespace**: the namespace of the service. In this example, set the value to **acs\_slb\_dashboard**.

Sample requests

```
http(s)://[Endpoint]/? Action=DescribeMetricLast
&MetricName=Qps
&Namespace=acs_slb_dashboard
&Dimensions=[{"instanceId":"lb-bp1r92vzpemy099f*****"}]
&<Common request parameters>
```

2. You can view the up-to-date Qps data based on the returned parameters.

Sample responses:

```
{
  "RequestId": "B0EED5A2-7FE2-4A0C-B5E9-3D961F86DC9D",
  "Period": "60",
  "Datapoints": "[{\"timestamp\":1586248680000,\"userId\":\"16884015959*****\", \"instanceId\":\"lb-bp1r92vzpemy099f*****\", \"port\":\"80\", \"protocol\":\"http\", \"vip\":\"121.43. **. **\", \"Average\":0}]",
  "Code": "200",
  "Success": true
}
```

## DescribeMetricList

You can call this operation to query the monitoring data of the time series metrics for SLB within a specified time period. For more information, see [DescribeMetricList](#).

1. Set the request parameters to query the Qps data within a specified time period.

In this example, configure the following parameters and keep all other parameters as default.

- **MetricName**: the name of the monitoring metric. In this example, set the value to **Qps**.
- **Namespace**: the namespace of the service. In this example, set the value to **acs\_slb\_dashboard**.
- **Dimensions**: the dimension map that is used to query the monitoring data of the specified resource. In this example, set the value to `[{"instanceId":"lb-bp1r92vzpemy099f*****"}]`.
- **StartTime**: the start time. The start time must not be equal to or later than the end time. In this example, set the value to `2020-03-28 00:10:00`.

Supported formats:

- **UNIX timestamp**: This value is a UNIX timestamp representing the number of seconds that have elapsed since the epoch time January 1, 1970, 00:00:00 UTC.
- **Time format**: This value is in the YYYY-MM-DDThh:mm:ssZ format.
- **EndTime**: the end time. The supported format is the same as that of the start time. In this example, set the value to `2020-03-28 00:11:00`.

Sample requests

```
http(s)://[Endpoint]/? Action=DescribeMetricList
&MetricName=Qps
&Namespace=acs_slb_dashboard
&Dimensions=[{"instanceId":"lb-bp1r92vzpemy099f*****"}]
&StartTime=2020-03-28 00:10:00
&EndTime=2020-03-28 00:11:00
&<Common request parameters>
```

2. You can view the Qps data within a specified time period based on the returned parameters.

Sample responses:

```
{
  "RequestId": "DFF0A853-0E37-4108-A9AF-5B3D609BD489",
  "Period": "60",
  "Datapoints": "[{\"timestamp\":1585325460000,\"userId\":\"168840159596****\",\"instanceId\":\"lb-bp1r92vzpey099f*****\",\"port\":\"80\",\"protocol\":\"http\",\"vip\":\"121.43. **. **\",\"Average\":0}]",
  "Code": "200",
  "Success": true
}
```

## 2.3. View monitoring data through the SDK

This topic describes how to view the metrics and detailed monitoring data of a Server Load Balancer (SLB) instance by using the CloudMonitor SDKs for Java and Python.

### Prerequisites

Note that SLB is the product label that has been configured in CloudMonitor.

### Context

The procedure is as follows:

1. You can call the DescribeProjectMeta operation to query the namespace of SLB in CloudMonitor.
2. You can call the DescribeMetricMetaList operation to query the descriptions of time series metrics provided by CloudMonitor for SLB.
3. View monitoring metrics.
  - You can call the DescribeMetricLast operation to query the up-to-date monitoring data of a specified metric for SLB.
  - You can call the DescribeMetricList operation to query the monitoring data of time series metrics for SLB within a specified time period.

### Python

This topic takes the QPS metric as an example. The SLB instance ID is lb-f8zbff0i07sv4qr1\*\*\*\*, and a Layer-7 listener has been configured.

The sample code for querying the QPS metric through the SDK for Python is as follows:

```
from aliynsdckms.request.v20190101 import DescribeProjectMetaRequest, DescribeMetricMetaListRequest, \
    DescribeMetricLastRequest, DescribeMetricListRequest
from aliynsdckcore.client import AcsClient
import json

if __name__ == '__main__':
    #1. Initialize the SDK
    ACS_CLIENT = AcsClient(
        'LTAI4FicM86BTPDyP*****', # your-access-key-id
        'VRj7d6LOl2ZyFyFYTWYzGk0*****', # your-access-key-secret
        'cn-heyuan', # your-region-id
    )
```

```

/
# Product labels. Specify the SLB label to query SLB monitoring data.
labels = "[{\"name\": \"product\", \"value\": \"SLB\"}]"
# Monitoring dimensions. In this example, query the monitoring data of the backend server.
dimensions = "[{\"instanceId\": \"lb-f8zbff0i07sv4qr1*****\"}]"
# Specify a time range as needed
startTime = "2020-04-08 11:39:30"
endTime = "2020-04-08 11:50:30"
# The interval at which the monitoring data is collected
period = "60"
# 2. You can call the DescribeProjectMeta operation to query the SLB namespace
describeProjectMetaRequest = DescribeProjectMetaRequest.DescribeProjectMetaRequest()
describeProjectMetaRequest.set_Labels(labels)
describeProjectMetaResponse = ACS_CLIENT.do_action_with_exception(describeProjectMetaRequest)
describeProjectMetaResponse_json = json.loads(describeProjectMetaResponse)
namespace = describeProjectMetaResponse_json['Resources']['Resource'][0]['Namespace']
print("SLB Namespace: ", namespace)
# 3. You can call the DescribeMetricMetaList operation to query the time series metrics available for SLB in CloudMonitor
describeMetricMetaListRequest = DescribeMetricMetaListRequest.DescribeMetricMetaListRequest()
describeMetricMetaListRequest.set_Namespace(namespace)
describeMetricMetaListRequest.set_PageSize(100)
describeMetricMetaListResponse = ACS_CLIENT.do_action_with_exception(describeMetricMetaListRequest)
describeMetricMetaListResponse_json = json.loads(describeMetricMetaListResponse)
metricMetaListResources = describeMetricMetaListResponse_json['Resources']['Resource']
print(metricMetaListResources)
# For example, query the ActiveConnection metric (number of active connections on the port)
metricName = "Qps" # Set the monitoring metric
# 4. You can query the up-to-date monitoring data of a specified monitoring metric
describeMetricLastRequest = DescribeMetricLastRequest.DescribeMetricLastRequest()
describeMetricLastRequest.set_Namespace(namespace)
describeMetricLastRequest.set_MetricName(metricName)
describeMetricLastRequest.set_Dimensions(dimensions)
describeMetricLastRequest.set_Period(period)
describeMetricLastResponse = ACS_CLIENT.do_action_with_exception(describeMetricLastRequest)
describeMetricLastResponse_json = json.loads(describeMetricLastResponse)
print("The up-to-date monitoring data: \n", describeMetricLastResponse_json['Datapoints'])
# 5. You can query data of a specified metric within a specified time period
describeMetricListRequest = DescribeMetricListRequest.DescribeMetricListRequest()
describeMetricListRequest.set_Namespace(namespace)
describeMetricListRequest.set_MetricName(metricName)
describeMetricListRequest.set_Dimensions(dimensions)
describeMetricListRequest.set_Period(period)
describeMetricListRequest.set_StartTime(startTime)
describeMetricListRequest.set_EndTime(endTime)
describeMetricListResponse = ACS_CLIENT.do_action_with_exception(describeMetricListRequest)
print(describeMetricListResponse)

```

```

describeMetricListResponse_json = json.loads(describeMetricListResponse)
print(describeMetricListResponse_json)
print("Monitoring data within the specified time period: \n", describeMetricListResponse_json['Datapoints'])

```

## Java

This topic takes the QPS metric as an example. The SLB instance ID is lb-f8zbff0i07sv4qr1\*\*\*\*, and a Layer-7 listener has been configured.

The sample code for querying the QPS metric through the SDK for Java is as follows:

```

package com.aliyun.cms;
import com.aliyun.CommonConfig;
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.cms.model.v20190101.*;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.List;
public class DescribeSLBMonitorData {
    public static void main(String[] args) {
        // 1. Initialize the SDK
        DefaultProfile profile = DefaultProfile.getProfile(
            "cn-hangzhou", // The ID of the region
            CommonConfig.ACCESSKEY_ID, // Your AccessKey ID
            CommonConfig.ACCESSKEY_SECRET); // Your AccessKey secret
        IAcsClient client = new DefaultAcsClient(profile);
        Gson gson = new Gson();
        // Product labels. Specify the SLB label to query SLB monitoring data.
        String labels = "[{\"name\":\"product\",\"value\":\"SLB\"}]";
        // Monitoring dimensions. In this example, query the monitoring data of the SLB instance.
        String dimensions = "[{\"instanceId\":\"lb-f8zbff0i07sv4qr1****\"}]";
        // Specify a time range as needed
        String startTime = "2020-04-08 11:39:30";
        String endTime = "2020-04-08 11:50:30";
        // The interval at which the monitoring data is collected
        String period = "60";
        DescribeSLBMonitorData describeSLBMonitorData = new DescribeSLBMonitorData();
        // 2. You can call the DescribeProjectMeta operation to query the SLB namespace
        DescribeProjectMetaRequest describeProjectMetaRequest = new DescribeProjectMetaRequest();
        describeProjectMetaRequest.setLabels(labels);
        DescribeProjectMetaResponse describeProjectMetaResponse = describeSLBMonitorData.describeProjectMeta(describeProjectMetaRequest, client);
        DescribeProjectMetaResponse.Resource projectMetaResource = describeProjectMetaResponse.getResources().get(0);
        String namespace = projectMetaResource.getNamespace();
        System.out.printf("SLB Namespace: %s\n", namespace);
        // 3. You can call the DescribeMetricMetaList operation to query the time series metrics available for SLB in CloudMonitor
    }
}

```

```

        DescribeMetricMetaListRequest describeMetricMetaListRequest = new DescribeMetricMetaListRequest();
        describeMetricMetaListRequest.setNamespace(namespace);
        describeMetricMetaListRequest.setPageSize(100);
        DescribeMetricMetaListResponse describeMetricMetaListResponse = describeSLBMonitorData.describeMetricMetaList(describeMetricMetaListRequest, client);
        List<DescribeMetricMetaListResponse.Resource> metricMetaListResources = describeMetricMetaListResponse.getResources();
        System.out.println(gson.toJson(metricMetaListResources));
        // For example, query the ActiveConnection metric (number of active connections on a port)
        String metricName = "Qps"; // Set the monitoring metric
        // 4. You can query the up-to-date monitoring data of a specified monitoring metric
        DescribeMetricLastRequest describeMetricLastRequest = new DescribeMetricLastRequest();
        describeMetricLastRequest.setNamespace(namespace);
        describeMetricLastRequest.setMetricName(metricName);
        describeMetricLastRequest.setDimensions(dimensions);
        describeMetricLastRequest.setPeriod(period);
        DescribeMetricLastResponse describeMetricLastResponse = describeSLBMonitorData.describeMetricLast(describeMetricLastRequest, client);
        System.out.printf("The up-to-date monitoring data: \n%s", describeMetricLastResponse.getDataPoints());
        // 5. You can query data of a specified metric within a specified time period
        DescribeMetricListRequest describeMetricListRequest = new DescribeMetricListRequest();
        describeMetricListRequest.setNamespace(namespace);
        describeMetricListRequest.setMetricName(metricName);
        describeMetricListRequest.setDimensions(dimensions);
        describeMetricListRequest.setPeriod(period);
        describeMetricListRequest.setStartTime(startTime);
        describeMetricListRequest.setEndTime(endTime);
        DescribeMetricListResponse describeMetricListResponse = describeSLBMonitorData.describeMetricList(describeMetricListRequest, client);
        System.out.printf("\n Monitoring data within the specified time period: \n%s", describeMetricListResponse.getDataPoints());
    }
    /**
     * You can retrieve information about the connected cloud services, including descriptions, namespaces, and labels.
     */
    private DescribeProjectMetaResponse describeProjectMeta(DescribeProjectMetaRequest request, IAcsClient client) {
        try {
            // Send a request by calling the SDK
            return client.getAcsResponse(request);
        } catch (ClientException e) {
            e.printStackTrace();
            // If an error occurs while calling the SDK, a runtime error is returned
            throw new RuntimeException();
        }
    }
}
/**
 * Query up-to-date monitoring data of a specified monitoring metric

```

```

    */
    private DescribeMetricLastResponse describeMetricLast(DescribeMetricLastRequest request
, IAcsClient client) {
        try {
            // Send a request by calling an SDK
            return client.getAcsResponse(request);
        } catch (ClientException e) {
            e.printStackTrace();
            // If an error occurs while calling the SDK, a runtime error is returned
            throw new RuntimeException();
        }
    }
}
/**
 * Query the time series metrics supported by CloudMonitor
 */
private DescribeMetricMetaListResponse describeMetricMetaList(DescribeMetricMetaListReq
uest request, IAcsClient client) {
    try {
        // Send a request by calling the SDK
        return client.getAcsResponse(request);
    } catch (ClientException e) {
        e.printStackTrace();
        // If an error occurs while calling the SDK, a runtime error is returned
        throw new RuntimeException();
    }
}
/**
 * Query the monitoring data of time series metrics of cloud services within a specifie
d time period
 */
private DescribeMetricListResponse describeMetricList(DescribeMetricListRequest request
, IAcsClient client) {
    try {
        // Send a request by calling the SDK
        return client.getAcsResponse(request);
    } catch (ClientException e) {
        e.printStackTrace();
        // If an error occurs while calling the SDK, a runtime error is returned
        throw new RuntimeException();
    }
}
}
}

```

## Responses

The returned parameters are as follows:

```

SLB Namespace:    acs_slb_dashboard
[{'MetricName': 'ActiveConnection', 'Periods': '60,300', 'Description': 'Number of act
ive connections on the port', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels':
'[{ "name": "alertUnit", "value": "Count"}, {"name": "minAlertPeriod", "value": "60"}, {"name": "metr
icCategory", "value": "port"}, {"name": "is_alarm", "value": "true"}]', 'Unit': 'Count', 'Stat
istics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName':
'DropConnection', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,insta

```

```

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The up-to-date monitoring data:

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```

```
timestamp":1586317740000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4qr1*****",
"port":"8090","protocol":"http","vip":"47.115. **. **","Average":0},{ "timestamp":15863178
00000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4qr1*****","port":"8090","pr
otocol":"http","vip":"47.115. **. **","Average":0}]]', 'Code': '200', 'Success': True}
Monitoring data within the specified time period:
[{"timestamp":1586317200000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4qr1q
*****","port":"80","protocol":"http","vip":"47.115. **. **","Average":0},{ "timestamp":158631
7260000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4qr1*****","port":"80","pr
otocol":"http","vip":"47.115. **. **","Average":0},{ "timestamp":1586317320000,"userId":"185
76685985*****","instanceId":"lb-f8zbff0i07sv4qr1*****","port":"80","protocol":"http","vip":
"47.115. **. **","Average":0},{ "timestamp":1586317380000,"userId":"18576685985*****","insta
nceId":"lb-f8zbff0i07sv4qr1*****","port":"80","protocol":"http","vip":"47.115. **. **","Ave
rage":0},{ "timestamp":1586317440000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07
sv4qr1*****","port":"8090","protocol":"http","vip":"47.115. **. **","Average":0},{ "timestam
p":1586317500000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4qr1*****","port"
:"8090","protocol":"http","vip":"47.115. **. **","Average":0},{ "timestamp":1586317560000,"u
serId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4qr1*****","port":"8090","protocol":
"http","vip":"47.115. **. **","Average":0},{ "timestamp":1586317620000,"userId":"18576685985
*****","instanceId":"lb-f8zbff0i07sv4qr1*****","port":"8090","protocol":"http","vip":"47.11
5. **. **","Average":0},{ "timestamp":1586317680000,"userId":"18576685985*****","instanceId"
:"lb-f8zbff0i07sv4qr1*****","port":"8090","protocol":"http","vip":"47.115. **. **","Average
":0},{ "timestamp":1586317740000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4q
r1*****","port":"8090","protocol":"http","vip":"47.115. **. **","Average":0},{ "timestamp":1
586317800000,"userId":"18576685985*****","instanceId":"lb-f8zbff0i07sv4qr1*****","port":"80
90","protocol":"http","vip":"47.115. **. **","Average":0}]
```

## 3.Alerting

### 3.1. Set alert rules in the CloudMonitor console

This topic describes how to set alert rules. After you activate the CloudMonitor service, you can configure alert rules for Classic Load Balancer (CLB) instances in the CloudMonitor console.

#### Context

 **Note** If a listener or a CLB instance is deleted, its alert rules are also deleted.

#### Procedure

1. Log on to the [CLB console](#).
2. Select the region where the CLB instance is deployed.
3. On the **Instances** page, find the CLB instance that you want to manage and click



in the **Monitoring** column.

 **Notice** Make sure that a listener is configured and the health check feature is enabled for the CLB instance.

4. In the **Monitored Instance** panel, click **Alert Rules** to go to the CloudMonitor console.
5. On the **Threshold Value Alert** tab of the CloudMonitor console, click **Create Alert Rule**.
6. Configure an alert rule. For more information, see [Create a threshold-triggered alert rule](#).

### 3.2. Set alert rules by calling the Cloud Monitor API

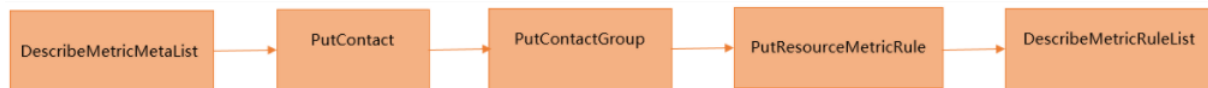
This topic describes how to call the Cloud Monitor API to set alert rules for the metrics of Server Load Balancer (SLB).

#### Prerequisites

- SLB is the product label that has been configured in Cloud Monitor.
- The namespace of SLB in Cloud Monitor is `acs_slb_dashboard`. For more information about how to obtain the value, see [DescribeProjectMeta](#).

#### Context

The following figure shows the process to set alert rules by calling the Cloud Monitor API.



The following section describes the process:

1. (Optional) Call the DescribeMetricMetaList operation to query the descriptions of SLB time series metrics that are supported in Cloud Monitor. For more information, see [Monitoring and alerting metrics](#).
2. Call the PutContact operation to create or modify an alert contact.
3. Call the PutContactGroup operation to create or modify an alert contact group.
4. Call the PutResourceMetricRule operation to set an alert rule for a performance metric of a resource.
5. Call the DescribeMetricRuleList operation to query a list of alert rules.

For example, assume that a TCP listener has been configured for the lb-bp1rbwvouuyipbc\*\*\* instance. The following section describes how to set rules to trigger Critical, Warn, and Info alerts when the number of unhealthy ECS instances exceeds the specified thresholds.

## DescribeMetricMetaList

You can call this operation to query the descriptions of time series metrics that are supported in Cloud Monitor. For more information, see [DescribeMetricMetaList](#).

1. Set the value of the request parameter **Namespace** to `acs_slb_dashboard`, and set other parameters to default values.

Sample requests:

```
http(s)://[Endpoint]/? Action=DescribeMetricMetaList
&Namespace=acs_slb_dashboard
&<Common request parameters>
```

2. View the time series metrics of SLB based on the returned parameters. Check whether the **Qps** parameter is returned in this example.

Sample responses:

```
{
  "TotalCount": 53,
  "RequestId": "789846B4-56FC-4681-998C-5B7DBDFBE28F",
  "Resources": {
    "Resource": [
      {
        "MetricName": "ActiveConnection",
        "Periods": "60,300",
        "Description": "Number of active connections on the port",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
      }
    ]
  }
}
```

```

    {
        "MetricName": "DropConnection",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropPacketRX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropPacketTX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropTrafficRX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "DropTrafficTX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId,port,protocol",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"port\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "bits/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    }
]

```

```

inAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"port\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]]\",
    \"Unit\": \"bits/s\",
    \"Statistics\": \"Average, Minimum, Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
  },
  {
    \"MetricName\": \"GroupTrafficRX\",
    \"Periods\": \"60\",
    \"Description\": \"\",
    \"Dimensions\": \"groupId\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"bits/s\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"groupId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]]\",
    \"Unit\": \"bits/s\",
    \"Statistics\": \"Average, Minimum, Maximum, Sum\",
    \"Namespace\": \"acs_slb_dashboard\"
  },
  {
    \"MetricName\": \"GroupTrafficTX\",
    \"Periods\": \"60\",
    \"Description\": \"\",
    \"Dimensions\": \"groupId\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"bits/s\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"groupId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]]\",
    \"Unit\": \"bits/s\",
    \"Statistics\": \"Average, Minimum, Maximum, Sum\",
    \"Namespace\": \"acs_slb_dashboard\"
  },
  {
    \"MetricName\": \"HeathyServerCount\",
    \"Periods\": \"60,300\",
    \"Description\": \"Number of healthy ECS instances\",
    \"Dimensions\": \"userId,instanceId,port,vip\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"Count\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"port\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]]\",
    \"Unit\": \"Count\",
    \"Statistics\": \"Average, Minimum, Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
  },
  {
    \"MetricName\": \"InactiveConnection\",
    \"Periods\": \"60,300\",
    \"Description\": \"Number of inactive connections on the port\",
    \"Dimensions\": \"userId,instanceId,port,protocol\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"Count\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"port\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]]\",
    \"Unit\": \"Count\",
    \"Statistics\": \"Average, Minimum, Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
  },

```

```

    {
      "MetricName": "InstanceActiveConnection",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Count/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropConnection",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Count/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropPacketRX",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Count/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropPacketTX",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
      "Unit": "Count/s",
      "Statistics": "Average,Minimum,Maximum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceDropTrafficRX",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[{\"name\":\"alertUnit\",\"value\":\"bits/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"}]"
    }
  ]
}

```

```

inAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}}\",
    \"Unit\": \"bits/s\",
    \"Statistics\": \"Average, Minimum, Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceDropTrafficTX\",
    \"Periods\": \"60, 300\",
    \"Description\": \"\",
    \"Dimensions\": \"userId, instanceId\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"bits/s\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]\",
    \"Unit\": \"bits/s\",
    \"Statistics\": \"Average, Minimum, Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceInactiveConnection\",
    \"Periods\": \"60, 300\",
    \"Description\": \"\",
    \"Dimensions\": \"userId, instanceId\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"Count/Second\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]\",
    \"Unit\": \"Count/s\",
    \"Statistics\": \"Average, Minimum, Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceMaxConnection\",
    \"Periods\": \"60, 300\",
    \"Description\": \"\",
    \"Dimensions\": \"userId, instanceId\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"Count/Second\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]\",
    \"Unit\": \"Count/s\",
    \"Statistics\": \"Average, Minimum, Maximum\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{
    \"MetricName\": \"InstanceMaxConnectionUtilization\",
    \"Periods\": \"60, 300\",
    \"Description\": \"Maximum connection usage\",
    \"Dimensions\": \"userId, instanceId\",
    \"Labels\": \"[{\"name\": \"alertUnit\", \"value\": \"%\"}, {\"name\": \"minAlertPeriod\", \"value\": \"60\"}, {\"name\": \"metricCategory\", \"value\": \"instanceId\"}, {\"name\": \"is_alarm\", \"value\": \"true\"}]\",
    \"Unit\": \"%\",
    \"Statistics\": \"Average, Maximum, Minimum\",
    \"Namespace\": \"acs_slb_dashboard\"
},
{

```

```

        "MetricName": "InstanceNewConnection",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceNewConnectionUtilization",
        "Periods": "60,300",
        "Description": "New connection usage",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"%\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "%",
        "Statistics": "Average,Maximum,Minimum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstancePacketRX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstancePacketTX",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/s",
        "Statistics": "Average,Minimum,Maximum",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceQps",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/s\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"}]",

```

```

    }, {"name\\":\\"is_alarm\\",\\"value\\":\\"true\\"}],
      "Unit": "Count/s",
      "Statistics": "Average",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceQpsUtilization",
      "Periods": "60,300",
      "Description": "QPS usage",
      "Dimensions": "userId,instanceId",
      "Labels": "[\\"name\\":\\"alertUnit\\",\\"value\\":\\"%\\",{\\"name\\":\\"minAlertPeriod\\",\\"value\\":\\"60\\"},{\\"name\\":\\"metricCategory\\",\\"value\\":\\"instanceId\\"},{\\"name\\":\\"is_alarm\\",\\"value\\":\\"true\\"}]",
      "Unit": "%",
      "Statistics": "Average,Maximum,Minimum",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceRt",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[\\"name\\":\\"alertUnit\\",\\"value\\":\\"ms\\",{\\"name\\":\\"minAlertPeriod\\",\\"value\\":\\"60\\"},{\\"name\\":\\"metricCategory\\",\\"value\\":\\"instanceId\\"},{\\"name\\":\\"is_alarm\\",\\"value\\":\\"true\\"}]",
      "Unit": "ms",
      "Statistics": "Average",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceStatusCode2xx",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[\\"name\\":\\"alertUnit\\",\\"value\\":\\"Count/Second\\",{\\"name\\":\\"minAlertPeriod\\",\\"value\\":\\"60\\"},{\\"name\\":\\"metricCategory\\",\\"value\\":\\"instanceId\\"},{\\"name\\":\\"is_alarm\\",\\"value\\":\\"true\\"}]",
      "Unit": "Count/Second",
      "Statistics": "Average",
      "Namespace": "acs_slb_dashboard"
    },
    {
      "MetricName": "InstanceStatusCode3xx",
      "Periods": "60,300",
      "Description": "",
      "Dimensions": "userId,instanceId",
      "Labels": "[\\"name\\":\\"alertUnit\\",\\"value\\":\\"Count/Second\\",{\\"name\\":\\"minAlertPeriod\\",\\"value\\":\\"60\\"},{\\"name\\":\\"metricCategory\\",\\"value\\":\\"instanceId\\"},{\\"name\\":\\"is_alarm\\",\\"value\\":\\"true\\"}]",
      "Unit": "Count/Second",
      "Statistics": "Average",
      "Namespace": "acs_slb_dashboard"
    },
    {

```

```

        "MetricName": "InstanceStatusCode4xx",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/Second",
        "Statistics": "Average",
        "Namespace": "acs_slb_dashboard"
    },
    {
        "MetricName": "InstanceStatusCode5xx",
        "Periods": "60,300",
        "Description": "",
        "Dimensions": "userId,instanceId",
        "Labels": "[{\"name\":\"alertUnit\",\"value\":\"Count/Second\"},{\"name\":\"minAlertPeriod\",\"value\":\"60\"},{\"name\":\"metricCategory\",\"value\":\"instanceId\"},{\"name\":\"is_alarm\",\"value\":\"true\"}]",
        "Unit": "Count/Second",
        "Statistics": "Average",
        "Namespace": "acs_slb_dashboard"
    }
]
},
"Code": 200,
"Success": true
}

```

## PutContact

You can call this operation to create an alert contact. If you have already added an alert contact, you can call this operation to modify the alert contact. For more information, see [PutContact](#).

1. In the request parameters, set the name and contact information of the alert contact.

In this example, configure the following parameters and set other parameters to default values:

- **ContactName**: the name of the alert contact.
- **Channels.Mail**: the email address of the alert contact. After you add or modify an email address, the recipient receives an email that contains an activation link. The system adds the recipient to the list of alert contacts only after the recipient activates the email address.

Sample requests:

```

http(s)://[Endpoint]/? Action=PutContact
&ContactName=doctest
&Channels.Mail=test@example.com
&<Common request parameters>

```

2. Check whether the alert contact is created based on the returned parameters.

Sample responses:

```
{
  "RequestId": "50E26BC3-B211-4713-9608-EE8CE2EAB7E1",
  "Code": "200",
  "Success": true
}
```

## PutContactGroup

You can call this operation to create an alert contact group and modify an existing alert contact group. For more information, see [PutContactGroup](#).

1. In the request parameters, set the name and description of an alert contact group, and the names of the alert contacts in the group.

In this example, configure the following parameters and set other parameters to default values:

- **ContactGroupName**: the name of the alert contact group.
- **Describe**: the description of the alert contact group.
- **ContactNames**: the names of the alert contacts in the group.

Sample requests:

```
http(s)://[Endpoint]/? Action=PutContactGroup
&ContactGroupName=doctestgroup
&ContactNames.1=doctest
&Describe=SLB alert contact group
&<Common request parameters>
```

2. Check whether the alert contact group is created based on the returned parameters.

Sample responses:

```
{
  "RequestId": "B8B88837-99A4-4F0D-B445-5E9C072D154D",
  "Code": "200",
  "Success": true
}
```

## PutResourceMetricRule

You can call this operation to configure an alert rule for a performance metric of a resource. For more information, see [PutResourceMetricRule](#).

1. In the request parameters, set the alert threshold for the number of unhealthy ECS instances.

In this example, configure the following parameters and set other parameters to default values.

| Parameter        | Description                                                       |
|------------------|-------------------------------------------------------------------|
| <b>RuleId</b>    | The ID of the alert rule.                                         |
| <b>Namespace</b> | The namespace of SLB. Set the value to <b>acs_slb_dashboard</b> . |

| Parameter                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>MetricName</b>                              | <p>The names of metrics. You can query the result according to <a href="#">DescribeMetricMetaList</a> or set the parameter according to <a href="#">Monitoring and alerting metrics</a>.</p> <p>In this example, the metric that indicates the number of unhealthy ECS instances is <b>UnhealthyServerCount</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Resources</b>                               | <p>The resources to be associated with the alert rules. If you want to associate SLB instances with the alert rule, specify the instances in the <code>[{"instanceId": "lb-bp1rbwvuu*****"}]</code> format.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>ContactGroups</b>                           | <p>The alert contact group. Separate multiple groups with commas (,).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Escalations.Critical.Statistics</b>         | <p>The method that is used to collect statistics about Critical alerts. Valid values:</p> <ul style="list-style-type: none"> <li>◦ Average: the average value</li> <li>◦ Minimum: the minimum value</li> <li>◦ Maximum: the maximum value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Escalations.Critical.ComparisonOperator</b> | <p>The comparison operator of the threshold for Critical alerts. Valid values:</p> <ul style="list-style-type: none"> <li>◦ GreaterThanOrEqualToThreshold: greater than or equal to the threshold</li> <li>◦ GreaterThanThreshold: greater than the threshold</li> <li>◦ LessThanOrEqualToThreshold: less than or equal to the threshold</li> <li>◦ LessThanThreshold: less than the threshold</li> <li>◦ NotEqualToThreshold: not equal to the threshold</li> <li>◦ GreaterThanYesterday: greater than the metric value at the same time yesterday</li> <li>◦ LessThanYesterday: less than the metric value at the same time yesterday</li> <li>◦ GreaterThanLastWeek: greater than the metric value at the same time last week</li> <li>◦ LessThanLastWeek: less than the metric value at the same time last week</li> <li>◦ GreaterThanLastPeriod: greater than the metric value in the last monitoring cycle</li> <li>◦ LessThanLastPeriod: less than the metric value in the last monitoring cycle</li> </ul> |

| Parameter                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Escalations.Critical.Threshold</b>      | The threshold for triggering Critical alerts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Escalations.Critical.Times</b>          | The number of times that the metric value consecutively exceeds the threshold before a Critical alert is triggered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Escalations.Warn.Statistics</b>         | <p>The method that is used to collect statistics about Warn alerts. Valid values:</p> <ul style="list-style-type: none"> <li>◦ Average: the average value</li> <li>◦ Minimum: the minimum value</li> <li>◦ Maximum: the maximum value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Escalations.Warn.ComparisonOperator</b> | <p>The comparison operator of the threshold for Warn alerts. Valid values:</p> <ul style="list-style-type: none"> <li>◦ GreaterThanOrEqualToThreshold: greater than or equal to the threshold</li> <li>◦ GreaterThanThreshold: greater than the threshold</li> <li>◦ LessThanOrEqualToThreshold: less than or equal to the threshold</li> <li>◦ LessThanThreshold: less than the threshold</li> <li>◦ NotEqualToThreshold: not equal to the threshold</li> <li>◦ GreaterThanYesterday: greater than the metric value at the same time yesterday</li> <li>◦ LessThanYesterday: less than the metric value at the same time yesterday</li> <li>◦ GreaterThanLastWeek: greater than the metric value at the same time last week</li> <li>◦ LessThanLastWeek: less than the metric value at the same time last week</li> <li>◦ GreaterThanLastPeriod: greater than the metric value in the last monitoring cycle</li> <li>◦ LessThanLastPeriod: less than the metric value in the last monitoring cycle</li> </ul> |
| <b>Escalations.Warn.Threshold</b>          | The threshold for triggering Warn alerts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Escalations.Warn.Times</b>              | The number of times that the metric value consecutively exceeds the threshold before a Warn alert is triggered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Parameter                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Escalations.Info.Statistics</b>         | <p>The method that is used to collect statistics about Info alerts. Valid values:</p> <ul style="list-style-type: none"> <li>◦ Average: the average value</li> <li>◦ Minimum: the minimum value</li> <li>◦ Maximum: the maximum value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Escalations.Info.ComparisonOperator</b> | <p>The comparison operator of the threshold for Info alerts. Valid values:</p> <ul style="list-style-type: none"> <li>◦ GreaterThanOrEqualToThreshold: greater than or equal to the threshold</li> <li>◦ GreaterThanThreshold: greater than the threshold</li> <li>◦ LessThanOrEqualToThreshold: less than or equal to the threshold</li> <li>◦ LessThanThreshold: less than the threshold</li> <li>◦ NotEqualToThreshold: not equal to the threshold</li> <li>◦ GreaterThanYesterday: greater than the metric value at the same time yesterday</li> <li>◦ LessThanYesterday: less than the metric value at the same time yesterday</li> <li>◦ GreaterThanLastWeek: greater than the metric value at the same time last week</li> <li>◦ LessThanLastWeek: less than the metric value at the same time last week</li> <li>◦ GreaterThanLastPeriod: greater than the metric value in the last monitoring cycle</li> <li>◦ LessThanLastPeriod: less than the metric value in the last monitoring cycle</li> </ul> |
| <b>Escalations.Info.Threshold</b>          | The threshold for triggering Info alerts.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Escalations.Info.Times</b>              | The number of times that the metric value consecutively exceeds the threshold before an Info alert is triggered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

Sample requests:

```
http(s)://[Endpoint]/? Action=PutResourceMetricRule
&ContactGroups=doctestgroup
&MetricName=UnhealthyServerCount
&Namespace=acs_slb_dashboard
&Resources=[{"instanceId":"lb-bp1rbwvuuuyipbc*****}]
&Escalations.Critical.Statistics=Minimum
&Escalations.Critical.ComparisonOperator=GreaterThanOrEqualToThreshold
&Escalations.Critical.Threshold=100
&Escalations.Warn.Statistics=Average
&Escalations.Warn.ComparisonOperator=GreaterThanOrEqualToThreshold
&Escalations.Warn.Threshold=30
&Escalations.Info.Statistics=Maximum
&Escalations.Info.ComparisonOperator=30
&Escalations.Info.Threshold=30
&<Common request parameters>
```

2. Check whether the alert rule is created based on the returned **Success** value.

Sample responses:

```
{
  "Message": "",
  "RequestId": "C65B0B84-DDE8-4DCA-8663-5836773102D4",
  "Success": true,
  "Code": "200"
}
```

## DescribeMetricRuleList

You can call this operation to query a list of alert rules. For more information, see [DescribeMetricRuleList](#).

1. In the request parameters, specify the SLB namespace and alert metrics to query detailed information about the alert metrics.

In this example, configure the following parameters and set other parameters to default values:

- **Namespace**: Set the namespace of SLB to **acs\_slb\_dashboard**.
- **MetricName**: Specify the alert metrics to be queried.

Request parameters:

```
http(s)://[Endpoint]/? Action=DescribeMetricRuleList
&Namespace=acs_slb_dashboard
&MetricName=UnhealthyServerCount
&<Common request parameters>
```

2. View the details of the alert metrics specified in this example based on the returned parameters.

Sample responses:

```

{
  "RequestId": "F249E314-1763-4662-A347-BD54C739191E",
  "Total": 1,
  "Alarms": {
    "Alarm": [
      {
        "GroupName": "",
        "SilenceTime": 86400,
        "ContactGroups": "doctestgroup",
        "NoEffectiveInterval": "",
        "MailSubject": "${serviceType}-${metricName}-${levelDescription} notification (${dimensions})",
        "RuleId": "123",
        "SourceType": "METRIC",
        "Period": 300,
        "Dimensions": "",
        "EffectiveInterval": "",
        "Namespace": "acs_slb_dashboard",
        "AlertState": "INSUFFICIENT_DATA",
        "GroupId": "",
        "MetricName": "UnhealthyServerCount",
        "EnableState": true,
        "Escalations": {
          "Critical": { },
          "Info": {
            "ComparisonOperator": "LessThanThreshold",
            "Times": 3,
            "Statistics": "Average",
            "Threshold": "3"
          },
          "Warn": {
            "ComparisonOperator": "GreaterThanThreshold",
            "Times": 3,
            "Statistics": "Average",
            "Threshold": "10"
          }
        },
        "Webhook": "",
        "Resources": "[{\"instanceId\": \"lb-bplrbwvouuyipbc*****\"}]",
        "RuleName": "UnhealthyServerCount"
      }
    ]
  },
  "Code": "200",
  "Success": true
}

```

### 3.3. Set alert rules by using Cloud Monitor SDKs

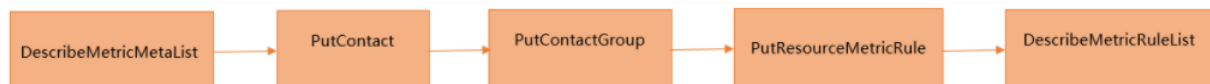
This topic describes how to use Cloud Monitor SDKs to set alert rules for the metrics of Server Load Balancer (SLB).

## Prerequisites

- SLB is the product label that has been configured in Cloud Monitor.
- The namespace of SLB in Cloud Monitor is `acs_slb_dashboard`. For more information about how to query the namespace, see [DescribeProjectMeta](#).

## Context

The following figure shows the procedure to set alert rules by calling Cloud Monitor API operations.



The following section describes the process:

1. (Optional) Call the `DescribeMetricMetaList` operation to query the descriptions of SLB time series metrics that are supported in Cloud Monitor. For more information, see [Monitoring and alerting metrics](#).
2. Call the `PutContact` operation to create or modify an alert contact.
3. Call the `PutContactGroup` operation to create or modify an alert contact group.
4. Call the `PutResourceMetricRule` operation to set an alert rule for a performance metric of a resource.
5. Call the `DescribeMetricRuleList` operation to query a list of alert rules.

## Python

For example, assume that a TCP listener has been configured for the `lb-bp13hithhod4aoxc*****` instance. The following section describes how to set rules to trigger Critical, Warn, and Info alerts when the number of unhealthy ECS instances exceeds the specified thresholds.

```

from aliyunsdkcms.request.v20190101 import DescribeMetricMetaListRequest, PutContactRequest, \
    PutContactGroupRequest, \
    PutResourceMetricRuleRequest, DescribeMetricRuleListRequest
from aliyunsdkcore.client import AcsClient
import json, uuid
if __name__ == '__main__':
    # 1. Initialize the SDK.
    ACS_CLIENT = AcsClient(
        'LTAI4FicM86BTPDyP*****', # your-access-key-id
        'VRj7d6LOl2ZyFyFTWYzGk0e*****', # your-access-key-secret
        'cn-hangzhou', # your-region-id
    )
    # The namespace.
    namespace = "acs_slb_dashboard"
    # 2. Query the descriptions of time series metrics that are supported in Cloud Monitor.
    describeMetricMetaListRequest = DescribeMetricMetaListRequest.DescribeMetricMetaListRequest()
    # Set the namespace.
    describeMetricMetaListRequest.set_Namespace(namespace)
    # The number of records on each page. Default value: 30.
    describeMetricMetaListRequest.set_PageSize(100)
  
```

```

describeMetricMetaListResponse = ACS_CLIENT.do_action_with_exception(describeMetricMeta
ListRequest)
print(json.loads(describeMetricMetaListResponse))
# 3. Create an alert contact.
putContactRequest = PutContactRequest.PutContactRequest()
# The name of the alert contact.
putContactRequest.set_ContactName("doctest")
# The description of the alert contact.
putContactRequest.set_Describe("doctest")
# The email address of the alert contact.
putContactRequest.set_ChannelsMail("test@example.com")
putContactResponse = ACS_CLIENT.do_action_with_exception(putContactRequest)
print(json.loads(putContactResponse))
# 4. Create an alert contact group.
putContactGroupRequest = PutContactGroupRequest.PutContactGroupRequest()
# The name of the alert contact group.
putContactGroupRequest.set_ContactGroupName("the default alert contact group")
# The description of the alert contact group.
putContactGroupRequest.set_Describe("the default alert contact group")
putContactGroupRequest.set_ContactNames(["doctest"])
putContactGroupResponse = ACS_CLIENT.do_action_with_exception(putContactGroupRequest)
print(json.loads(putContactGroupResponse))
# 5. Set an alert rule for a performance metric of a resource.
putResourceMetricRuleRequest = PutResourceMetricRuleRequest.PutResourceMetricRuleReques
t()
# The ID of the alert rule.
putResourceMetricRuleRequest.set_RuleId(uuid.uuid1())
# The name of the alert rule.
putResourceMetricRuleRequest.set_RuleName("alert rule for unhealthy SLB backend servers
")
# The alert contact group. Separate multiple groups with commas (,).
putResourceMetricRuleRequest.set_ContactGroups("the default alert contact group")
# Set the namespace of SLB to acs_slb_dashboard.
putResourceMetricRuleRequest.set_Namespace(namespace)
# The metric name, which is UnhealthyServerCount in this example. UnhealthyServerCount
measures the number of unhealthy ECS instances.
putResourceMetricRuleRequest.set_MetricName("UnhealthyServerCount")
# The resources to be associated with the alert rule.
putResourceMetricRuleRequest.set_Resources(["{'instanceId':'lb-bp13hithhod*****'}"])
# Set Critical alerts.
# The method that is used to collect statistics about Critical alerts. Average: average
value.
putResourceMetricRuleRequest.set_EscalationsCriticalStatistics("Average")
# The comparison operator of the threshold for Critical alerts. GreaterThanOrEqualToThr
eshold: greater than or equal to the threshold.
putResourceMetricRuleRequest.set_EscalationsCriticalComparisonOperator("GreaterThanOrEq
ualToThreshold")
# The threshold for triggering Critical alerts.
putResourceMetricRuleRequest.set_EscalationsCriticalThreshold("2")
# The number of times that the metric value consecutively exceeds the threshold before
a Critical alert is triggered.
putResourceMetricRuleRequest.set_EscalationsCriticalTimes(5)
# Set Info alerts.
# The method that is used to collect statistics about Info alerts. Average: average val

```

```

ue.
    putResourceMetricRuleRequest.set_EscalationsInfoStatistics("Average")
    # The comparison operator of the threshold for Info alerts. GreaterThanOrEqualToThreshold: greater than or equal to the threshold.
    putResourceMetricRuleRequest.set_EscalationsInfoComparisonOperator("GreaterThanOrEqualToThreshold")
    # The threshold for triggering Info alerts.
    putResourceMetricRuleRequest.set_EscalationsInfoThreshold("1")
    # The number of times that the metric value consecutively exceeds the threshold before an Info alert is triggered.
    putResourceMetricRuleRequest.set_EscalationsInfoTimes(5)
    # Set Warn alerts.
    # The method that is used to collect statistics about Warn alerts. Average: average value.
ue.
    putResourceMetricRuleRequest.set_EscalationsWarnStatistics("Average")
    # The comparison operator of the threshold for Warn alerts. GreaterThanOrEqualToThreshold: greater than or equal to the threshold.
    putResourceMetricRuleRequest.set_EscalationsWarnComparisonOperator("GreaterThanOrEqualToThreshold")
    # The threshold for triggering Warn alerts.
    putResourceMetricRuleRequest.set_EscalationsWarnThreshold("1")
    # The number of times that the metric value consecutively exceeds the threshold before a Warn alert is triggered.
    putResourceMetricRuleRequest.set_EscalationsWarnTimes(5)
    putResourceMetricRuleResponse = ACS_CLIENT.do_action_with_exception(putResourceMetricRuleRequest)
    print(json.loads(putResourceMetricRuleResponse))
    # 6. Query the alert rules.
    describeMetricRuleListRequest = DescribeMetricRuleListRequest.DescribeMetricRuleListRequest()
    # Set the namespace of SLB to acs_slb_dashboard.
    describeMetricRuleListRequest.set_Namespace(namespace)
    # Set the alert metrics that you want to query.
    describeMetricRuleListRequest.set_MetricName("UnhealthyServerCount")
    describeMetricRuleListResponse = ACS_CLIENT.do_action_with_exception(describeMetricRuleListRequest)
    print(json.loads(describeMetricRuleListResponse))

```

## Java

For example, assume that a TCP listener has been configured for the lb-bp13hithhod4aoxc\*\*\*\*\* instance. The following section describes how to set rules to trigger Critical, Warn, and Info alerts when the number of unhealthy ECS instances exceeds the specified thresholds.

```

package com.aliyun.cms;
import com.aliyun.CommonConfig;
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.cms.model.v20190101.*;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.ArrayList;

```

```

import java.util.List;
import java.util.UUID;
public class CreateMetricRuleDemo {
    public static void main(String[] args) throws ClientException {
        // 1. Initialize the SDK.
        DefaultProfile profile = DefaultProfile.getProfile(
            "cn-hangzhou", // The ID of the region.
            CommonConfig.ACCESSKEY_ID, // Your AccessKey ID.
            CommonConfig.ACCESSKEY_SECRET); // Your AccessKey secret.
        IAcsClient client = new DefaultAcsClient(profile);
        // The namespace.
        String namespace = "acs_slb_dashboard";
        Gson gson = new Gson();
        // 2. Query the descriptions of time series metrics that are supported in Cloud Monitor.
        DescribeMetricMetaListRequest describeMetricMetaListRequest = new DescribeMetricMetaListRequest();
        // Set the namespace.
        describeMetricMetaListRequest.setNamespace(namespace);
        // The number of records on each page. Default value: 30.
        describeMetricMetaListRequest.setPageSize(100);
        DescribeMetricMetaListResponse describeMetricMetaListResponse = client.getAcsResponse(describeMetricMetaListRequest);
        System.out.println(gson.toJson(describeMetricMetaListResponse));
        // 3. Create an alert contact.
        PutContactRequest putContactRequest = new PutContactRequest();
        // The name of the alert contact.
        putContactRequest.setContactName("doctest");
        // The description of the alert contact.
        putContactRequest.setDescribe("doctest");
        // The email address of the alert contact.
        putContactRequest.setChannelsMail("test@example.com");
        PutContactResponse putContactResponse = client.getAcsResponse(putContactRequest);
        System.out.println(gson.toJson(putContactResponse));
        // 4. Create an alert contact group.
        PutContactGroupRequest putContactGroupRequest = new PutContactGroupRequest();
        // The name of the alert contact group.
        putContactGroupRequest.setContactGroupName("the default alert contact group");
        // The description of the alert contact group.
        putContactGroupRequest.setDescribe("the default alert contact group");
        // The contacts in the alert contact group.
        List<String> contactNames = new ArrayList<>();
        contactNames.add("doctest");
        putContactGroupRequest.setContactNames(contactNames);
        PutContactGroupResponse putContactGroupResponse = client.getAcsResponse(putContactGroupRequest);
        System.out.println(gson.toJson(putContactGroupResponse));
        // 5. Set an alert rule for a performance metric of a resource.
        PutResourceMetricRuleRequest putResourceMetricRuleRequest = new PutResourceMetricRuleRequest();
        // Generate a UUID that is in all lowercase letters and contains no hyphens (-) as the unique ID of the alert rule.
        String uuid = UUID.randomUUID().toString().replace("-", "").toLowerCase();
        // The ID of the alert rule.

```

```

    putResourceMetricRuleRequest.setRuleId(uuid);
    // The name of the alert rule.
    putResourceMetricRuleRequest.setRuleName("alert rule for unhealthy SLB backend serv
ers");
    // The alert contact group. Separate multiple groups with commas (,).
    putResourceMetricRuleRequest.setContactGroups("the default alert contact group");
    // Set the namespace of SLB to acs_slb_dashboard.
    putResourceMetricRuleRequest.setNamespace(namespace);
    // The metric name, which is UnhealthyServerCount in this example. UnhealthyServerC
ount measures the number of unhealthy ECS instances.
    putResourceMetricRuleRequest.setMetricName("UnhealthyServerCount");
    // The resources to be associated with the alert rule.
    putResourceMetricRuleRequest.setResources("[{\"instanceId\":\"lb-bp13hithhod4aoxc**
***\"}]");
    // Set Critical alerts.
    // The method used to collect statistics about Critical alerts. Average: average va
lue.
    putResourceMetricRuleRequest.setEscalationsCriticalStatistics("Average");
    // The comparison operator of the threshold for Critical alerts. GreaterThanOrEqual
ToThreshold: greater than or equal to the threshold.
    putResourceMetricRuleRequest.setEscalationsCriticalComparisonOperator("GreaterThanO
rEqualToThreshold");
    // The threshold for triggering Critical alerts.
    putResourceMetricRuleRequest.setEscalationsCriticalThreshold("2");
    // The number of times that the metric value consecutively exceeds the threshold be
fore a Critical alert is triggered.
    putResourceMetricRuleRequest.setEscalationsCriticalTimes(5);
    // Set Info alerts.
    // The method that is used to collect statistics about Info alerts. Average: averag
e value.
    putResourceMetricRuleRequest.setEscalationsInfoStatistics("Average");
    // The comparison operator of the threshold for Info alerts. GreaterThanOrEqualToTh
reshold: greater than or equal to the threshold.
    putResourceMetricRuleRequest.setEscalationsInfoComparisonOperator("GreaterThanOrEqu
alToThreshold");
    // The threshold for triggering Info alerts.
    putResourceMetricRuleRequest.setEscalationsInfoThreshold("1");
    // The number of times that the metric value consecutively exceeds the threshold be
fore an Info alert is triggered.
    putResourceMetricRuleRequest.setEscalationsInfoTimes(5);
    // Set Warn alerts.
    // The method that is used to collect statistics about Warn alerts. Average: averag
e value.
    putResourceMetricRuleRequest.setEscalationsWarnStatistics("Average");
    // The comparison operator of the threshold for Warn alerts. GreaterThanOrEqualToTh
reshold: greater than or equal to the threshold.
    putResourceMetricRuleRequest.setEscalationsWarnComparisonOperator("GreaterThanOrEqu
alToThreshold");
    // The threshold for triggering Warn alerts.
    putResourceMetricRuleRequest.setEscalationsWarnThreshold("1");
    // The number of times that the metric value consecutively exceeds the threshold be
fore a Warn alert is triggered.
    putResourceMetricRuleRequest.setEscalationsWarnTimes(5);
    PutResourceMetricRuleResponse putResourceMetricRuleResponse = client.getAcsResponse

```

```
(putResourceMetricRuleRequest);
    System.out.println(gson.toJson(putResourceMetricRuleResponse));
    // 6. Query the alert rules.
    DescribeMetricRuleListRequest describeMetricRuleListRequest = new DescribeMetricRuleListRequest();
    // Set the namespace of SLB to acs_slb_dashboard.
    describeMetricRuleListRequest.setNamespace(namespace);
    // Set the alert metrics that you want to query.
    describeMetricRuleListRequest.setMetricName("UnhealthyServerCount");
    DescribeMetricRuleListResponse describeMetricRuleListResponse = client.getAcsResponse(describeMetricRuleListRequest);
    System.out.println(gson.toJson(describeMetricRuleListResponse));
}
}
```

## Responses

The following responses are returned:

```
{'TotalCount': 53, 'RequestId': '96E7FB37-8BD5-48C3-AE0C-CBC03F8B7FD7', 'Resources': {'Resource': [{'MetricName': 'ActiveConnection', 'Periods': '60,300', 'Description': 'the number of active connections on a port', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'DropConnection', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'DropPacketRX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'DropPacketTX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'DropTrafficRX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"bits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'DropTrafficTX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"bits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'GroupTrafficRX', 'Periods': '60', 'Description': '', 'Dimensions': 'groupId', 'Labels': '[{"name":"alertUnit","value":"bits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"groupId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum,Sum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'GroupTrafficTX', 'Periods': '60', 'Description': '', 'Dimensions': 'groupId', 'Labels': '[{"name":"alertUnit","value":"bits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"groupId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum,Sum', 'Namespace': 'acs_slb_dashboard'}]}
```

```

: 'bits/s', 'Statistics': 'Average,Minimum,Maximum,Sum', 'Namespace': 'acs_slb_dashboard'},
{'MetricName': 'HealthyServerCount', 'Periods': '60,300', 'Description': 'the number of healthy ECS instances', 'Dimensions': 'userId,instanceId,port,vip', 'Labels': '[{"name":"alertUnit","value":"Count"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InactiveConnection', 'Periods': '60,300', 'Description': 'the number of inactive connections on a port', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceActiveConnection', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceDropConnection', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceDropPacketRX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceDropPacketTX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceDropTrafficRX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"bits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceDropTrafficTX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"bits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceInactiveConnection', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceMaxConnection', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceMaxConnectionUtilization', 'Periods': '60,300', 'Description': 'the maximum connection usage', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"%"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': '%', 'Statistics': 'Average,Maximum,Minimum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceNewConnection', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceNewConnectionUtilization', 'Periods': '60

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,300', 'Description': 'the usage of new connections', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":""}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': '%', 'Statistics': 'Average,Maximum,Minimum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstancePacketRX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstancePacketTX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceQps', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/s', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceQpsUtilization', 'Periods': '60,300', 'Description': 'QPS usage', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":""}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': '%', 'Statistics': 'Average,Maximum,Minimum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceRt', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"ms"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'ms', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceStatusCode2xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceStatusCode3xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceStatusCode4xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceStatusCode5xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceStatusCodeOther', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceTrafficRX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Mbits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"unitFactor","value":"1048576"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceTrafficTX', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Mbits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"unitFactor","value":"1048576"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}
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e': 'acs_slb_dashboard'}, {'MetricName': 'InstanceUpstreamCode4xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceUpstreamCode5xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"instanceId"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'InstanceUpstreamRt', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId', 'Labels': '[{"name":"alertUnit","value":"ms"}, {"name":"minAlertPeriod","value":"60"}, 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{'MetricName': 'StatusCode3xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'StatusCode4xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, {'MetricName': 'StatusCode5xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, 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    }, { 'name': 'metricCategory', 'value': 'port' }, { 'name': 'is_alarm', 'value': 'true' } ], 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, { 'MetricName': 'StatusCodeOther', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[[{"name":"alertUnit","value":"Count/Second"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]]', 'Unit': 'Count/Second', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}, { 'MetricName': 'TrafficRXNew', 'Periods': '60,300', 'Description': 'the amount of data received over a port per second', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[[{"name":"alertUnit","value":"Mbits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"unitFactor","value":"1048576"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, { 'MetricName': 'TrafficTXNew', 'Periods': '60,300', 'Description': 'the amount of data sent over a port per second', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[[{"name":"alertUnit","value":"Mbits/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"unitFactor","value":"1048576"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]]', 'Unit': 'bits/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, { 'MetricName': 'UnhealthyServerCount', 'Periods': '60,300', 'Description': 'the current number of unhealthy ECS instances', 'Dimensions': 'userId,instanceId,port,vip', 'Labels': '[[{"name":"alertUnit","value":"Count"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]]', 'Unit': 'Count', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, { 'MetricName': 'UpstreamCode4xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[[{"name":"alertUnit","value":"Count/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, { 'MetricName': 'UpstreamCode5xx', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[[{"name":"alertUnit","value":"Count/s"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]]', 'Unit': 'Count/s', 'Statistics': 'Average,Minimum,Maximum', 'Namespace': 'acs_slb_dashboard'}, { 'MetricName': 'UpstreamRt', 'Periods': '60,300', 'Description': '', 'Dimensions': 'userId,instanceId,port,protocol', 'Labels': '[[{"name":"alertUnit","value":"ms"}, {"name":"minAlertPeriod","value":"60"}, {"name":"metricCategory","value":"port"}, {"name":"is_alarm","value":"true"}]]', 'Unit': 'ms', 'Statistics': 'Average', 'Namespace': 'acs_slb_dashboard'}], 'Code': 200, 'Success': True}
{'RequestId': '653C4634-C32B-4858-B2BA-BAFC22DAF8FF', 'Code': '200', 'Success': True}
{'RequestId': '088D3BFF-DCED-4892-AE1D-468120BB6D74', 'Code': '200', 'Success': True}
{'Message': '', 'RequestId': '149A6CBC-1182-4749-8AD6-F55C563B9020', 'Code': 200, 'Success': True}
{'RequestId': '3E6ED37E-F5F3-472D-AF4D-8117329EAE5', 'Total': 1, 'Alarms': {'Alarm': [{'GroupName': '', 'SilenceTime': 86400, 'ContactGroups': 'the default alert contact group', 'NoEffectiveInterval': '', 'MailSubject': '${serviceType}-${metricName}-${levelDescription}notification(${dimensions})', 'RuleId': 'edc0elae-7ef8-11ea-bf2d-54ee75d07c7c', 'SourceType': 'METRIC', 'Period': 300, 'Dimensions': '', 'EffectiveInterval': '', 'Namespace': 'acs_slb_dashboard', 'AlertState': 'OK', 'GroupId': '', 'MetricName': 'UnhealthyServerCount', 'EnableState': True, 'Escalations': {'Critical': {'ComparisonOperator': 'GreaterThanOrEqualToThreshold', 'Times': 5, 'Statistics': 'Average', 'Threshold': '2'}, 'Info': {'ComparisonOperator': 'GreaterThanOrEqualToThreshold', 'Times': 5, 'Statistics': 'Average', 'Threshold': '1'}, 'Warn': {'ComparisonOperator': 'GreaterThanOrEqualToThreshold', 'Times': 5, 'Statistics': 'Average', 'Threshold': '1'}}, 'Webhook': '', 'Resources': '[{"instanceId":"lb-bp13hithhod4aoxc*****"}]', 'RuleName': 'alert rule for unhealthy SLB backend servers'}]}, 'Code': '200', 'Success': True}

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