AOM

API Reference

Issue 01

Date 2023-11-16

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1 Before You Start

1.1 Overview

Welcome to use Application Operations Management (AOM). AOM is a one-stop and multi-dimensional O&M management platform for cloud applications. It monitors your applications and related cloud resources in real time, collects and associates the data of resource metrics, logs, and events to analyze application health status, and provides flexible alarms and abundant data visualization. With AOM, you can detect faults in a timely manner and master the running status of applications, resources, and services in real time.

This document describes how to use APIs to perform operations on AOM, such as creation, deletion, and query. For details about all supported operations, see **API Overview**.

If you plan to call AOM APIs, ensure that you are familiar with AOM concepts.

1.2 API Calling

AOM supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS. For details about API calling, see **Calling APIs**.

1.3 Endpoints

An endpoint is the request address for calling an API. Endpoints vary depending on services and regions. For the endpoints of all services, see Regions and Endpoints.

1.4 Concepts

- **Account**

  An account is created upon successful registration with the cloud. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity and should not be used directly to perform routine

management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- **IAM user**

  An IAM user is created using an account to use cloud services. Each IAM user has its own identity credentials (password and access keys).

  An IAM user can view the account ID and user ID on the **My Credentials** page of the console. The account name, username, and password will be required for API authentication.

- **Region**

  Regions are geographic areas isolated from each other. Resources are region-specific and cannot be used across regions through internal network connections. For low network latency and quick resource access, select the nearest region.

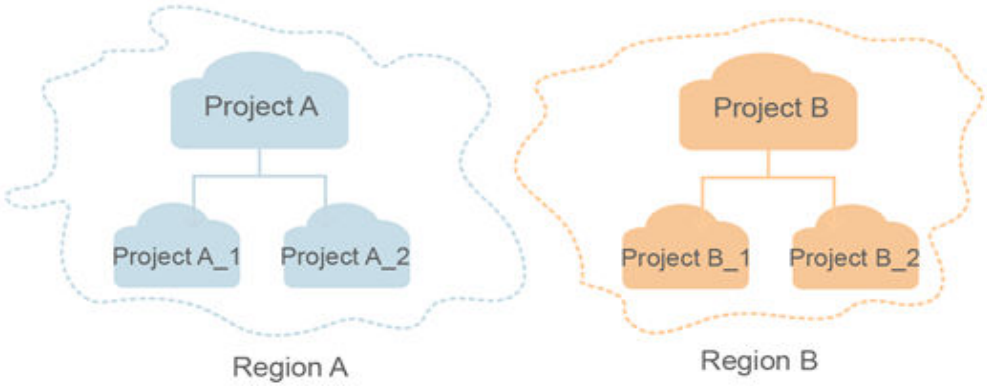
- **AZ**

  An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to support cross-AZ high-availability systems.

- **Project**

  Projects group and isolate resources (including compute, storage, and network resources) across physical regions. A default project is provided for each cloud region. Users can be granted permissions to access all resources in a specific project. For more refined access control, create subprojects under a project and purchase resources in the subprojects. Users can then be assigned permissions to access only specific resources in the subprojects.

  Figure 1-1 Project isolating model



- **Enterprise project**

  Enterprise projects group and manage resources across regions. Resources in enterprise projects are logically isolated. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from enterprise projects.

  For details about how to obtain enterprise project IDs and features, see the **Enterprise Management User Guide**.

2 API Overview

AOM provides common monitoring, Prometheus monitoring, alarm, and log APIs, enabling quick and cost-effective application O&M.

Table 2-1 API overview

Type	Description
Monitoring	Common monitoring APIs, including the APIs for querying metrics; querying and adding monitoring data; adding, modifying, querying, and deleting threshold rules; adding, modifying, querying, and deleting application discovery rules.
Prometheus Monitoring	Prometheus monitoring APIs, including the APIs for querying data in a specified period, data at a specified time point, tag values, tag names, and metadata.
Log	Log APIs, including the API for querying logs.
Alarm	Event and alarm APIs, including the APIs for querying, counting, and reporting events and alarms.

Common Monitoring APIs

API	Description
Querying Time Series Objects	Query the metrics that can be monitored in the system. You can specify the namespace, metric name, dimension, resource ID (format: **resType_resId**), start position, and maximum number of returned records in pagination queries.
Querying Time Series Data	Query monitoring data in a specified period. You can specify a dimension or period to query.

API	Description
Querying Metrics	Query the metrics that can be monitored in the system. You can specify the namespace, metric name, dimension, resource ID (format: **resType_resId**), start position, and maximum number of returned records in pagination queries.
Querying Monitoring Data	Query monitoring data in a specified period. You can specify a dimension or period to query.
Adding Monitoring Data	Add one or more monitoring data records.
Adding or Modifying One or More Service Discovery Rules	Add or modify one or more service discovery rules.
Deleting a Service Discovery Rule	Delete one or more service discovery rules.
Querying Existing Service Discovery Rules	Query an existing service discovery rule in the system.
Adding a Threshold Rule	Add a threshold rule.
Querying the Threshold Rule List	Query all threshold rules.
Modifying a Threshold Rule	Modify a threshold rule.
Deleting a Threshold Rule	Delete a threshold rule.
Querying a Threshold Rule	Query a threshold rule.
Deleting Threshold Rules in Batches	Delete threshold rules in batches.

Prometheus Monitoring APIs

API	Description
Querying Expression Calculation Results in a Specified Period	Query the calculation results of a PromQL expression in a specified period.
Querying Expression Calculation Results in a Specified Period	Query the calculation results of a PromQL expression in a specified period.

API	Description
Querying the Expression Calculation Result at a Specified Time Point	Query the calculation results of a PromQL expression at a specified time point.
Querying the Expression Calculation Result at a Specified Time Point	Query the calculation results of a PromQL expression at a specified time point.
Querying Tag Values	Query the values of a specified tag.
Obtaining the Tag Name List	Obtain the tag name list.
Obtaining the Tag Name List	Obtain the tag name list.
Querying Metadata	Query the metadata of time series and corresponding tags.

Log APIs

API	Description
Querying Logs	Query logs by different dimensions, such as by cluster, IP address, or application.

Alarm APIs

API	Description
Querying Events and Alarms	Query events and alarms of a user.
Counting Events and Alarms	Count events and alarms that meet specified conditions.
Reporting Events and Alarms	Report events and alarms of a user.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for **obtaining a user token** as an example to demonstrate how to call an API. The obtained token can then be used to authenticate the calling of other APIs.

Request URI

A request URI is in the following format:

{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

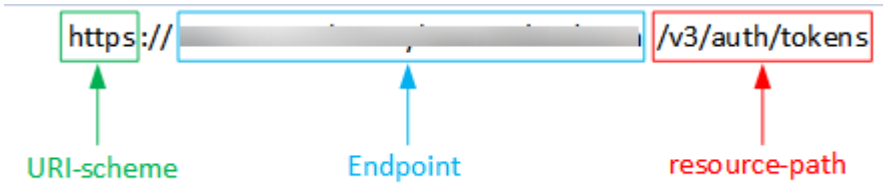
Although a request URI is included in the request header, most programming languages or frameworks require the request URI to be transmitted separately.

- **URI-scheme**: Protocol used to transmit requests. All APIs use HTTPS.
- **Endpoint**: Domain name or IP address of the server where the REST service is deployed. The endpoint varies depending on services and regions.

  For example, the endpoint of IAM in the **AP-Singapore** region is **iam.ap-southeast-3.myhwcloud.com**.
- **resource-path**: Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.
- **query-string**: Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, **? limit=10** indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the *xxx* region, obtain the endpoint of IAM for this region and the **resource-path** in the URI of the API used to obtain a user token. Then, construct the URI as follows:

Figure 3-1 Example URI



NOTE

To simplify the URI display in this document, each API is provided only with a **resource-path** and a request method. The **URI-scheme** of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server:

- **GET**: requests the server to return specified resources.
- **PUT**: requests the server to update specified resources.
- **POST**: requests the server to add resources or perform special operations.
- **DELETE**: requests the server to delete specified resources, for example, an object.
- **HEAD**: requests the server to return the response header only.
- **PATCH**: requests the server to update partial content of a specified resource. If the resource does not exist, a new resource will be created.

For example, in the case of the API used to obtain a user token, the request method is POST. The request is as follows:

```
POST https://Endpoint/v3/auth/tokens
```

Request Header

You can also add additional header fields to a request, such as the fields required by a specified URI or HTTP method. For example, to request for the authentication information, add **Content-Type**, which specifies the request body type.

Common request header fields are as follows:

- **Content-Type**: specifies the request body type or format. This field is mandatory and its default value is **application/json**. Other values of this field will be provided for specific APIs if any.
- **X-Auth-Token**: specifies a user token only for token-based API authentication. The user token is a response to the API used to obtain a user token. This API is the only one that does not require authentication.

> **NOTE**
>
> In addition to supporting token-based authentication, public cloud APIs also support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign the request, and the **Authorization** (signature information) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.
>
> For more information, see **AK/SK-based Authentication**.

The API used to obtain a user token does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests is as follows:

```
POST https://Endpoint/v3/auth/tokens
Content-Type: application/json
```

Request Body

The body of a request is often sent in a structured format as specified in the **Content-Type** header field. The request body transfers content except the request header.

The request body varies between APIs. Some APIs do not require the request body, such as the APIs requested using the GET and DELETE methods.

In the case of the API used to obtain a user token, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace *username*, *domainname*, ******** (login password), and *xxxxxxxxxxxxxxxxx* (project ID) with the actual values. To learn how to obtain a project ID, see **Obtaining a Project ID**.

> **NOTE**
>
> The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account.

```
POST https://Endpoint/v3/auth/tokens
Content-Type: application/json
{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "id": "xxxxxxxxxxxxxxxxx"
            }
        }
    }
}
```

If all data required for the API request is available, you can send the request to call the API through **curl**, **Postman**, or coding. In the response to the API used to

obtain a user token, **x-subject-token** is the desired user token. This token can then be used to authenticate the calling of other APIs.

3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods:

- Token-based authentication: Requests are authenticated using a token.
- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK pair.

Token-based Authentication

NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the Identity and Access Management (IAM) API used to obtain a user token.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API.

In **Making an API Request**, the process of calling the API used to **obtain a user token** is described. When calling an API to obtain a user token, set **auth.scope** in the request body to **project**.

```
{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "name": "xxxxxxxx"
            }
        }
    }
}
```

After a token is obtained, the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

```
GET https://Endpoint/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```


AK/SK-based Authentication

NOTE

AK/SK-based authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token-based authentication is recommended.

In AK/SK-based authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- AK: access key ID, which is a unique identifier used in conjunction with a secret access key to sign requests cryptographically.
- SK: secret access key used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

In AK/SK-based authentication, you can use an AK/SK to sign requests based on the signature algorithm or use the signing SDK to sign requests. For details about how to sign requests and use the signing SDK, see **API Request Signing Guide**.

CAUTION

The signing SDK is only used for signing requests and is different from the SDKs provided by services.

3.3 Response

Status Code

After sending a request, you will receive a response, including a status code, response header, and response body.

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For more information, see **Status Codes**.

If status code **201** is returned for the calling of the API for **obtaining a user token**, the request is successful.

Response Header

Similar to a request, a response also has a header, for example, **Content-Type**.

For the API used to obtain a user token, the **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

Response Body

The body of a response is often returned in structured format as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to obtain a user token.


```
{
    "token": {
        "expires_at": "2019-02-13T06:52:13.855000Z",
        "methods": [
            "password"
        ],
        "catalog": [
            {
                "endpoints": [
                    {
                        "region_id": "xx-xxxxxx-1",
.....
```

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
    "errorCode": "SVCSTG_AMS_4000001",
    "errorMessage": "Request param invalid"
}
```

In the response body, **errorCode** is an error code, and **errorMessage** provides information about the error.

4 API

4.1 Monitoring

4.1.1 Querying Time Series Objects

Function

This API is used to query the time series objects that can be monitored in the system. You can specify a namespace, name, dimension, and resource ID (format: resType_resId). You can also specify the start position and the maximum number of returned records for a pagination query.

URI

POST /v2/{project_id}/series

Table 4-1 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-2 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	String	Maximum number of returned records. Value range: 1–1000. Default value: 1000.

Parameter	Mandatory	Type	Description
offset	No	String	Start position of a pagination query. The value is a non-negative integer.

Request Parameters

Table 4-3 Request body parameters

Parameter	Mandatory	Type	Description
series	Yes	Array of **QuerySeriesOptionParam** objects	Array for querying time series objects.

Table 4-4 QuerySeriesOptionParam

Parameter	Mandatory	Type	Description
namespace	Yes	String	Namespace of time series objects. Value range: PAAS.CONTAINER, PAAS.NODE, PAAS.SLA, PAAS.AGGR, or CUSTOMMETRICS. PAAS.CONTAINER: namespace of application time series objects. PAAS.NODE: namespace of node time series objects. PAAS.SLA: namespace of SLA time series objects. PAAS.AGGR: namespace of cluster time series objects. CUSTOMMETRICS: namespace of custom time series objects.
metric_name	No	String	Time series name. Length: 1 to 255 characters. Values: cpuUsage: CPU usage. cpuCoreUsed: used CPU cores. Custom time series names.

Parameter	Mandatory	Type	Description
dimensions	No	Array of **DimensionSeries** objects	List of time series dimensions. You can call the /v2/{project_id}/series API to query the time series dimension list by namespace and metric_name.

Table 4-5 DimensionSeries

Parameter	Mandatory	Type	Description
name	No	String	Dimension name.
value	No	String	Dimension value.

Response Parameters

Status code: 200

Table 4-6 Response body parameters

Parameter	Type	Description
series	Array of **SeriesQueryItemResult** objects	List of time series objects.
meta_data	**MetaDataSeries** object	Metadata, including pagination information.

Table 4-7 SeriesQueryItemResult

Parameter	Type	Description
namespace	String	Namespace.
dimensions	Array of **DimensionSeries** objects	Dimension list.
metric_name	String	Time series name.
unit	String	Time series unit.

Table 4-8 DimensionSeries

Parameter	Type	Description
name	String	Dimension name.
value	String	Dimension value.

Table 4-9 MetaDataSeries

Parameter	Type	Description
count	Integer	Number of returned records.
offset	Integer	Start of the next page, which is used for pagination. null: No more data.
total	Integer	Total number of records.
nextToken	Integer	Offset.

Status code: 400

Table 4-10 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.

Example Requests

Query time series objects by namespace and metric_name.

```
https://{Endpoint}/v2/{project_id}/series

{
  "series" : [ {
    "namespace" : "PAAS.CONTAINER",
    "metric_name" : "aom_process_cpu_usage"
  } ]
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "meta_data" : {
```



```
    "count" : 1,
    "offset" : null,
    "total" : 1,
    "nextToken" : 0
  },
  "series" : [ {
    "namespace" : "PAAS.CONTAINER",
    "metric_name" : "cpuUsage",
    "unit" : "Percent",
    "dimensions" : [ {
      "name" : "appName",
      "value" : "appValue"
    } ]
  } ]
}
```


Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.


```
{
  "error_code" : "AOM.04007001",
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```


Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.2 Querying Time Series Data

Function

This API is used to query time series data within a specified time period. You can specify a dimension or period to query.

URI

POST /v2/{project_id}/samples

Table 4-11 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-12 Query Parameters

Parameter	Mandatory	Type	Description
fill_value	No	String	Value filled for breakpoints in time series data. Default value: –1. –1: Breakpoints are filled with –1. 0: Breakpoints are filled with 0. null: Breakpoints are filled with null. average: Breakpoints are filled with the average value of the adjacent valid data. If there is no valid data, breakpoints are filled with null.

Request Parameters

Table 4-13 Request body parameters

Parameter	Mandatory	Type	Description
samples	Yes	Array of **QuerySample** objects	List of time series objects. A JSON array can contain up to 20 objects.
statistics	Yes	Array of strings	Statistic. Values: maximum, minimum, sum, average, and sampleCount.

Parameter	Mandatory	Type	Description
period	Yes	Integer	Granularity for monitoring data, which is an enumerated value. Values: 60: The data monitoring granularity is 1 minute. 300: The data monitoring granularity is 5 minutes. 900: The data monitoring granularity is 15 minutes. 3600: The data monitoring granularity is 1 hour.

Parameter	Mandatory	Type	Description
time_range	Yes	String	Time range specified to query data of the last N minutes when the client time is inconsistent with the server time. It can also be used to accurately query the data of a specified period. Example: ● -1.-1.60: indicates that the data of the latest 60 minutes is queried. This query is based on the server time regardless of the current client time. ● 1650852000000.1650852300000.5: indicates the five minutes from 10:00:00 to 10:05:00 on April 25, 2022 GMT+08:00. Format: startTimeInMillis.endTimeInMillis.durationInMinutes Parameter description: ● startTimeInMillis: Start time of the query, in milliseconds. If this parameter is set to -1, the server calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.1650852300000.5 is equivalent to 1650852000000.1650852300000.5. ● endTimeInMillis: End time of the query, in milliseconds. If this parameter is set to -1, the server calculates the end time as follows: startTimeInMillis + durationInMinutes x 60 x 1000. If the calculated end time is later than the current system time, the current system time is used.

Parameter	Mandatory	Type	Description
			For example, 1650852000000.-1.5 is equivalent to 1650852000000.1650852300000.5. • durationInMinutes: Time span, in minutes. The value must be greater than 0 and greater than or equal to the result of "(endTimeInMillis – startTimeInMillis)/(60 x 1000) – 1". If both the start time and end time are set to -1, the system sets the end time to the current UTC time (in milliseconds) and calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.-1.60 indicates the latest 60 minutes. Constraint: In a single request, the following condition must be met: durationInMinutes x 60/ period ≤ 1440

Table 4-14 QuerySample

Parameter	Mandatory	Type	Description
namespace	Yes	String	Namespace of time series objects. Value range: PAAS.CONTAINER, PAAS.NODE, PAAS.SLA, PAAS.AGGR, or CUSTOMMETRICS. PAAS.CONTAINER: namespace of application time series objects. PAAS.NODE: namespace of node time series objects. PAAS.SLA: namespace of SLA time series objects. PAAS.AGGR: namespace of cluster time series objects. CUSTOMMETRICS: namespace of custom time series objects.
dimensions	Yes	Array of **DimensionSeries** objects	List of time series dimensions.You can call the /v2/{project_id}/series API to query the time series dimension list by namespace and metric_name.
metric_name	Yes	String	Time series name. Length: 1 to 255 characters. Values: cpuUsage: CPU usage. cpuCoreUsed: used CPU cores. Custom time series names.

Table 4-15 DimensionSeries

Parameter	Mandatory	Type	Description
name	No	String	Dimension name.
value	No	String	Dimension value.

Response Parameters

Status code: 200

Table 4-16 Response body parameters

Parameter	Type	Description
samples	Array of **SampleDataValue** objects	List of time series objects.

Table 4-17 SampleDataValue

Parameter	Type	Description
sample	**QuerySample** object	List of time series objects.
data_points	Array of **MetricDataPoints** objects	Time series data.

Table 4-18 QuerySample

Parameter	Type	Description
namespace	String	Namespace of time series objects. Value range: PAAS.CONTAINER, PAAS.NODE, PAAS.SLA, PAAS.AGGR, or CUSTOMMETRICS. PAAS.CONTAINER: namespace of application time series objects. PAAS.NODE: namespace of node time series objects. PAAS.SLA: namespace of SLA time series objects. PAAS.AGGR: namespace of cluster time series objects. CUSTOMMETRICS: namespace of custom time series objects.
dimensions	Array of **DimensionSeries** objects	List of time series dimensions.You can call the /v2/{project_id}/series API to query the time series dimension list by namespace and metric_name.
metric_name	String	Time series name. Length: 1 to 255 characters. Values: cpuUsage: CPU usage. cpuCoreUsed: used CPU cores. Custom time series names.

Table 4-19 DimensionSeries

Parameter	Type	Description
name	String	Dimension name.
value	String	Dimension value.

Table 4-20 MetricDataPoints

Parameter	Type	Description
statistics	Array of StatisticValue objects	Statistic.
timestamp	Long	Timestamp.
unit	String	Time series unit.

Table 4-21 StatisticValue

Parameter	Type	Description
statistic	String	Statistic.
value	Double	Statistical result.

Status code: 400

Table 4-22 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.

Example Requests

Query time series data in the last five minutes by namespace, metric_name, and dimensions.

```
https://{Endpoint}/v2/{project_id}/samples

{
   "samples": [
      {
         "namespace": "PAAS.CONTAINER",
         "metric_name": "aom_process_cpu_usage",
         "dimensions": [
            {
               "name": "appName",
               "value": "aomApp"
            }
         ]
      }
```



```
  ],
  "period": 60,
  "time_range": "-1.-1.5",// Last 5 minutes
    "statistics": [
      "sum"
  ]
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "samples" : [ {
    "sample" : {
      "namespace" : "PAAS.CONTAINER",
      "metric_name" : "aom_process_cpu_usage",
      "dimensions" : [ {
        "name" : "appName",
        "value" : "aomApp"
      } ]
    },
    "data_points" : [ {
      "timestamp" : "1694673300000",
      "unit" : "Percent",
      "statistics" : [ {
        "statistic" : "sum",
        "value" : "23"
      } ]
    } ]
  } ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.04008001",
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

Status Code	Description
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.3 Querying Metrics

Function

This API is used to query the metrics that can be monitored in the system. You can query specific metrics by specifying a namespace, metric name, dimension, and resource ID (format: resType_resId). You can also specify the start position and the maximum number of returned records for a pagination query.

URI

POST /v1/{project_id}/ams/metrics

Table 4-23 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-24 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Metric query mode.
limit	No	String	Maximum number of returned records. Value range: 1–1000. Default value: 1000. Minimum: **0** Maximum: **4**
start	No	String	Start position of a pagination query. The value is a non-negative integer.

Request Parameters

Table 4-25 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-26 Request body parameters

Parameter	Mandatory	Type	Description
inventoryId	No	String	Resource ID, which must be in the format of resType_resId. Enumerated values of resType: host, application, instance, container, process, network, storage, and volume.When type (a URI parameter) is inventory, this parameter instead of metricItems is used for associated metric queries.
metricItems	No	Array of **QueryMetricItemOptionParam** objects	If the value of type in the URI is not inventory, metrics are queried based on the information carried by metricItems.

Table 4-27 QueryMetricItemOptionParam

Parameter	Mandatory	Type	Description
dimensions	No	Array of **Dimension** objects	List of metric dimensions.
metricName	No	String	Metric name. Length: 1 to 255 characters. Value range: cpuUsage, cpuCoreUsed, and other basic metrics provided by AOM. cpuUsage: CPU usage. cpuCoreUsed: used CPU cores. Custom metrics.

Parameter	Mandatory	Type	Description
namespace	Yes	String	Metric namespace. Values: PAAS.CONTAINER: namespace of component, instance, process, and container metrics. PAAS.NODE: namespace of host, network, disk, and file system metrics. PAAS.SLA: namespace of SLA metrics. PAAS.AGGR: namespace of cluster metrics. CUSTOMMETRICS: default namespace of custom metrics. Enumeration values: • **PAAS.CONTAINER** • **PAAS.NODE** • **PAAS.SLA** • **PAAS.AGGR** • **CUSTOMMETRICS**

Table 4-28 Dimension

Parameter	Mandatory	Type	Description
name	Yes	String	Dimension name.
value	Yes	String	Dimension value.

Response Parameters

Status code: 200

Table 4-29 Response body parameters

Parameter	Type	Description
metaData	**metaData** object	Metadata, including pagination information.
metrics	Array of **MetricItemResultAPI** objects	Metric list.

Table 4-30 metaData

Parameter	Type	Description
count	Integer	Number of returned records.
nextToken	Long	Start of the next page, which is used for pagination. null: No more data.
total	Integer	Total number of records.

Table 4-31 MetricItemResultAPI

Parameter	Type	Description
dimensions	Array of **Dimension** objects	List of metric dimensions.
metricName	String	Metric name.
namespace	String	Namespace.
unit	String	Metric unit.

Table 4-32 Dimension

Parameter	Type	Description
name	String	Dimension name.
value	String	Dimension value.

Example Requests

- Query metrics by inventory ID.

```
https://{Endpoint}/v1/{project_id}/ams/metrics

{
  "metricItems" : [ {
    "namespace" : "PAAS.CONTAINER",
    "dimensions" : [ {
      "name" : "appName",
      "value" : "aomApp"
    }, {
      "name" : "clusterName",
      "value" : "aomCluster"
    } ]
  } ]
}
```

- Query metrics by namespace, appName, and clusterName.

```
https://{Endpoint}/v1/{project_id}/ams/metrics?type=inventory

{
```



```
  "inventoryId" : "application_xxxxxxxx-xxxx-xxxx-xxxx-xxxxx3fee10"
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "errorCode" : "SVCSTG_AMS_2000000",
  "errorMessage" : "success",
  "metaData" : {
    "count" : 1,
    "nextToken" : null,
    "total" : 1
  },
  "metrics" : [ {
    "namespace" : "PAAS.CONTAINER",
    "metricName" : "aom_process_cpu_usage",
    "unit" : "Percent",
    "dimensions" : [ {
      "name" : "appName",
      "value" : "aomApp"
    } ]
  } ]
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.4 Querying Monitoring Data

Function

This API is used to query monitoring data of metrics within a specified time period. You can specify a dimension or period to query.

URI

POST /v1/{project_id}/ams/metricdata

Table 4-33 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-34 Query Parameters

Parameter	Mandatory	Type	Description
fillValue	No	String	Value filled for breakpoints in monitoring data. Default value: –1. –1: Breakpoints are filled with –1. 0: Breakpoints are filled with 0. null: Breakpoints are filled with null. average: Breakpoints are filled with the average value of the adjacent valid data. If there is no valid data, breakpoints are filled with null. Default: **-1** Enumeration values: • **-1** • **0** • **null** • **average**

Request Parameters

Table 4-35 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-36 Request body parameters

Parameter	Mandatory	Type	Description
metrics	Yes	Array of **MetricQuery MeritcParam** objects	Metric list. A JSON array can contain up to 20 objects.
period	Yes	Integer	Granularity for monitoring data, which is an enumerated value. Values: 60: The data monitoring granularity is 1 minute. 300: The data monitoring granularity is 5 minutes. 900: The data monitoring granularity is 15 minutes. 3600: The data monitoring granularity is 1 hour.
statistics	Yes	Array of strings	Statistic. Values: maximum, minimum, sum, average, and sampleCount.

Parameter	Mandatory	Type	Description
timerange	Yes	String	Time range specified to query data of the last N minutes when the client time is inconsistent with the server time. It can also be used to accurately query the data of a specified period. Example: ● -1.-1.60: indicates that the data of the latest 60 minutes is queried. This query is based on the server time regardless of the current client time. ● 1650852000000.1650852300000.5: indicates the five minutes from 10:00:00 to 10:05:00 on April 25, 2022 GMT+08:00. Format: startTimeInMillis.endTimeInMillis.durationInMinutes Parameter description: ● startTimeInMillis: Start time of the query, in milliseconds. If this parameter is set to -1, the server calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.1650852300000.5 is equivalent to 1650852000000.1650852300000.5. ● endTimeInMillis: End time of the query, in milliseconds. If this parameter is set to -1, the server calculates the end time as follows: startTimeInMillis + durationInMinutes x 60 x 1000. If the calculated end time is later than the current system time, the current system time is used.

Parameter	Mandatory	Type	Description
			For example, 1650852000000.-1.5 is equivalent to 1650852000000.1650852300000.5. • durationInMinutes: Time span, in minutes. The value must be greater than 0 and greater than or equal to the result of "(endTimeInMillis – startTimeInMillis)/(60 x 1000) – 1". If both the start time and end time are set to -1, the system sets the end time to the current UTC time (in milliseconds) and calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.-1.60 indicates the latest 60 minutes. Constraint: In a single request, the following condition must be met: durationInMinutes x 60/ period ≤ 1440

Table 4-37 MetricQueryMeritcParam

Parameter	Mandatory	Type	Description
dimensions	Yes	Array of **Dimension** objects	List of metric dimensions. Neither the array nor the name or value of any dimension in the array can be left blank.
metricName	Yes	String	Metric name. Length: 1 to 255 characters. Value range: cpuUsage, cpuCoreUsed, and other basic metrics provided by AOM. cpuUsage: CPU usage. cpuCoreUsed: used CPU cores. Custom metrics.

Parameter	Mandatory	Type	Description
namespace	Yes	String	Metric namespace. Values: PAAS.CONTAINER: namespace of component, instance, process, and container metrics. PAAS.NODE: namespace of host, network, disk, and file system metrics. PAAS.SLA: namespace of SLA metrics. PAAS.AGGR: namespace of cluster metrics. CUSTOMMETRICS: default namespace of custom metrics.

Table 4-38 Dimension

Parameter	Mandatory	Type	Description
name	Yes	String	Dimension name.
value	Yes	String	Dimension value.

Response Parameters

Status code: 200

Table 4-39 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.
metrics	Array of **MetricDataValue** objects	Metric list.

Table 4-40 MetricDataValue

Parameter	Type	Description
dataPoints	Array of **MetricDataPoints** objects	Key metric.

Parameter	Type	Description
metric	MetricQueryMeritcParam object	Query parameters.

Table 4-41 MetricDataPoints

Parameter	Type	Description
statistics	Array of StatisticValue objects	Statistic.
timestamp	Long	Timestamp.
unit	String	Time series unit.

Table 4-42 StatisticValue

Parameter	Type	Description
statistic	String	Statistic.
value	Double	Statistical result.

Table 4-43 MetricQueryMeritcParam

Parameter	Type	Description
dimensions	Array of Dimension objects	List of metric dimensions. Neither the array nor the name or value of any dimension in the array can be left blank.
metricName	String	Metric name. Length: 1 to 255 characters. Value range: cpuUsage, cpuCoreUsed, and other basic metrics provided by AOM. cpuUsage: CPU usage. cpuCoreUsed: used CPU cores. Custom metrics.
namespace	String	Metric namespace. Values: PAAS.CONTAINER: namespace of component, instance, process, and container metrics. PAAS.NODE: namespace of host, network, disk, and file system metrics. PAAS.SLA: namespace of SLA metrics. PAAS.AGGR: namespace of cluster metrics. CUSTOMMETRICS: default namespace of custom metrics.

Table 4-44 Dimension

Parameter	Type	Description
name	String	Dimension name.
value	String	Dimension value.

Example Requests

Query the monitoring data of **aom_process_cpu_usage** in the **PAAS.CONTAINER** namespace in the last five minutes.

```
https://{Endpoint}/v1/{project_id}/ams/metricdata

{
  "metrics" : [ {
    "dimensions" : [ {
      "name" : "appName",
      "value" : "aomApp"
    } ],
    "metricName" : "aom_process_cpu_usage",
    "namespace" : "PAAS.CONTAINER"
  } ],
  "period" : 60,
  "statistics" : [ "maximum", "minimum", "sum" ],
  "timerange" : "-1.-1.5"
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "errorCode" : "SVCSTG.AMS.2000",
  "errorMessage" : "success",
  "metrics" : [ {
    "metric" : {
      "namespace" : "PAAS.CONTAINER",
      "metricName" : "aom_process_cpu_usage",
      "dimensions" : [ {
        "name" : "appName",
        "value" : "aomApp"
      } ]
    },
    "dataPoints" : [ {
      "timestamp" : "1467892800000",
      "unit" : "Percent",
      "statistics" : [ {
        "statistic" : "maximum",
        "value" : "23"
      } ]
    } ]
  } ]
}
```


Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.5 Adding Monitoring Data

Function

This API is used to add one or more monitoring data records to a server.

URI

POST /v1/{project_id}/ams/report/metricdata

Table 4-45 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-46 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-47 Request body parameters

Parameter	Mandatory	Type	Description
[items]	Yes	Array of **MetricDataItem** objects	Metric parameters.

Table 4-48 MetricDataItem

Parameter	Mandatory	Type	Description
collect_time	Yes	Long	Data collection time (UNIX timestamp, in ms), which ranges from the last 24 hours to the next 0.5 hour. The following requirement needs to be met: Current UTC time – Data collection time ≤ 24 hours, or Data collection time – Current UTC time ≤ 30 minutes If the data reporting time is earlier than 08:00 of the current day, only the data generated after 08:00 of the current day is displayed on the metric monitoring page.
metric	Yes	**MetricItemInfo** object	Metric details.
values	Yes	Array of **ValueData** objects	Metric value.

Table 4-49 MetricItemInfo

Parameter	Mandatory	Type	Description
dimensions	Yes	Array of **Dimension2** objects	List of metric dimensions. A maximum of 50 dimensions are supported. Each dimension is in JSON format. The structure is as follows: dimension.name: 1–32 characters. dimension.value: 1–64 characters.
namespace	Yes	String	Metric namespace. It cannot contain colons (:). It must be in the format of "service.item". The value must contain 3 to 32 characters starting with a letter. Only letters, digits, and underscores (_) are allowed. In addition, "service" cannot be "PAAS". Minimum: **3** Maximum: **32**

Table 4-50 Dimension2

Parameter	Mandatory	Type	Description
name	Yes	String	Dimension name. Minimum: **1** Maximum: **32**
value	Yes	String	Dimension value. Minimum: **1** Maximum: **64**

Table 4-51 ValueData

Parameter	Mandatory	Type	Description
metric_name	Yes	String	Metric name. Length: 1 to 255 characters.

Parameter	Mandatory	Type	Description
type	No	String	Data type. Values: int and float. Enumeration values: • **int** • **float**
unit	No	String	Data unit. Length: up to 32 characters.
value	Yes	Double	Metric value, which must be of a valid numeric type. Minimum: **0**

Response Parameters

Status code: 200

Table 4-52 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.

Example Requests

Add a piece of monitoring data to the server. (In the following example, set "collect_time" to the latest timestamp.)

```
https://{Endpoint}/v1/{project_id}/ams/report/metricdata

[ {
  "metric" : {
    "namespace" : "NOPAAS.ESC",
    "dimensions" : [ {
      "name" : "instance_id",
      "value" : "instance-101"
    } ]
  },
  "values" : [ {
    "unit" : "percent",
    "metric_name" : "cpu_util",
    "type" : "int",
    "value" : 35
  } ],
  "collect_time" : 1467787152000
} ]
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "errorCode" : "SVCSTG_AMS_2000000",
  "errorMessage" : "success"
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.6 Adding or Modifying One or More Service Discovery Rules

Function

This API is used to add or modify one or more service discovery rules. A maximum of 100 rules can be added to a project.

URI

PUT /v1/{project_id}/inv/servicediscoveryrules

Table 4-53 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-54 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-55 Request body parameters

Parameter	Mandatory	Type	Description
appRules	No	Array of **AppRules** objects	Service parameters.

Table 4-56 AppRules

Parameter	Mandatory	Type	Description
createTime	No	String	Creation time. When creating a service discovery rule, leave this parameter blank. When modifying a service discovery rule, enter the returned createTime. Default: **1599098476654**
enable	Yes	Boolean	Whether a rule is enabled. Values: true and false.
eventName	Yes	String	aom_inventory_rules_event Rule event name. For service discovery, the fixed value is aom_inventory_rules_event.
hostid	No	Array of strings	Host ID. Currently, this parameter is not used and can be left blank.

Parameter	Mandatory	Type	Description
id	Yes	String	Rule ID. When creating a service discovery rule, leave this parameter blank. When modifying a service discovery rule, enter a rule ID.
name	Yes	String	Rule name, which contains a maximum of 64 characters. It must start with a lowercase letter but cannot end with a hyphen (-). Only digits, lowercase letters, and hyphens are allowed.
projectid	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.
spec	Yes	**AppRulesSpec** object	Rule details.
desc	No	String	Custom description

Table 4-57 AppRulesSpec

Parameter	Mandatory	Type	Description
appType	Yes	String	Service type, which is used only for rule classification and UI display. You can enter any field. For example, enter Java or Python by technology stack, or enter collector or database by function.
attrList	No	Array of strings	Attribute list. Currently, this parameter is not used and can be left blank. Values: cmdLine and env.
detectLog	Yes	String	Whether to enable log collection. Values: true and false.

Parameter	Mandatory	Type	Description
discoveryRule	Yes	Array of **DiscoveryRule** objects	Discovery rule. If the array contains multiple conditions, only the processes that meet all the conditions will be matched. If the value of checkType is cmdLine, set the value of checkMode to contain. checkContent is in the format of ["xxx"], indicating that the process must contain the xxx parameter. If the value of checkType is env, set the value of checkMode to contain. checkContent is in the format of ["k1","v1"], indicating that the process must contain the environment variable whose name is k1 and value is v1. If the value of checkType is scope, set the value of checkMode to equals. checkContent is in the format of ["hostId1","hostId2"], indicating that the rule takes effect only on specified nodes. If no nodes are specified, the rule applies to all nodes of the project.
isDefaultRule	Yes	String	Whether the rule is the default one. Values: true and false.
isDetect	Yes	String	Whether the scenario is a pre-check scenario. No rules will be saved in the pre-check scenario. This scenario is designed only to check whether a rule can detect node processes before it is delivered. Values: true and false.
logFileFix	Yes	Array of strings	Log file suffix. Values: log, trace, and out.

Parameter	Mandatory	Type	Description
logPathRule	No	Array of **LogPathRule** objects	Log path configuration rule. If cmdLineHash is a fixed string, logs in the specified log path or log file are collected. Otherwise, only the files whose names end with .log or .trace are collected. If the value of nameType is cmdLineHash, args is in the format of ["00001"] and value is in the format of ["/xxx/xx.log"], indicating that the log path is /xxx/xx.log when the startup command is 00001.
nameRule	Yes	**NameRule** object	Naming rules for discovered services and applications.
priority	Yes	Integer	Rule priority. Value range: 1 to 9999. Default value: 9999.

Table 4-58 DiscoveryRule

Parameter	Mandatory	Type	Description
checkContent	Yes	Array of strings	Matched value.
checkMode	Yes	String	Match condition. Values: contain and equals.
checkType	Yes	String	Match type. Values: cmdLine, env, and scope.

Table 4-59 LogPathRule

Parameter	Mandatory	Type	Description
args	Yes	Array of strings	Command.
nameType	Yes	String	Value type, which can be cmdLineHash.
value	Yes	Array of strings	Log path.

Table 4-60 NameRule

Parameter	Mandatory	Type	Description
appNameRule	Yes	Array of **AppNameRule** objects	Service name rule. If there are multiple objects in the array, the character strings extracted from these objects constitute the service name. If the value of nameType is cmdLine, args is in the format of ["start", "end"], indicating that the characters between start and end in the command are extracted.If the value of nameType is cmdLine, args is in the format of ["aa"], indicating that the environment variable named aa is extracted.If the value of nameType is str, args is in the format of ["fix"], indicating that the service name is suffixed with fix.If the value of nameType is cmdLineHash, args is in the format of ["0001"] and value is in the format of ["ser"], indicating that the service name is ser when the startup command is 0001.

Parameter	Mandatory	Type	Description
applicationNameRule	Yes	Array of **ApplicationNameRule** objects	Application name rule.If the value of nameType is cmdLine, args is in the format of ["start", "end"], indicating that the characters between start and end in the command are extracted.If the value of nameType is cmdLine, args is in the format of ["aa"], indicating that the environment variable named aa is extracted.If the value of nameType is str, args is in the format of ["fix"], indicating that the service name is suffixed with fix.If the value of nameType is cmdLineHash, args is in the format of ["0001"] and value is in the format of ["ser"], indicating that the application name is ser when the startup command is 0001.

Table 4-61 AppNameRule

Parameter	Mandatory	Type	Description
nameType	Yes	String	Value type. Values: cmdLineHash, cmdLine, env, and str.
args	Yes	Array of strings	Input value.
value	No	Array of strings	Service name, which is mandatory only when the value of nameType is cmdLineHash.

Table 4-62 ApplicationNameRule

Parameter	Mandatory	Type	Description
nameType	Yes	String	Value type. Values: cmdLineHash, cmdLine, env, and str.

Parameter	Mandatory	Type	Description
args	Yes	Array of strings	Input value.
value	No	Array of strings	Service name, which is mandatory only when the value of nameType is cmdLineHash.

Response Parameters

Status code: 200

Table 4-63 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.
responseStatus	Integer	Response status code.

Example Requests

Add an application discovery rule whose name is **aom_inventory_rules_event** and project ID is **684fc87a79d7xxxx22e62a7da95b**.

```
https://{endpoint}/v1/{project_id}/inv/servicediscoveryrules

{
  "appRules" : [ {
    "createTime" : "1694705766730",
    "enable" : true,
    "name" : "ica**nt",
    "eventName" : "aom_inventory_rules_event",
    "hostid" : [ ],
    "id" : "b53a5152-****-****-****-302367e04c0b",
    "projectid" : "684fc87a79d7xxxx22e62a7da95b",
    "spec" : {
      "detectLog" : "true",
      "editable" : null,
      "logPathRule" : [ ],
      "priority" : 9999,
      "attrList" : [ "cmdLine" ],
      "nameRule" : {
        "appNameRule" : [ {
          "args" : [ "/opt/******** -DNFW=ica**nt" ],
          "nameType" : "cmdLineHash",
          "value" : [ "aicagentserver" ]
        } ],
        "applicationNameRule" : [ {
          "args" : [ "/opt/********** -DNFW=ica**nt" ],
          "nameType" : "cmdLineHash",
          "value" : [ "aica**nt" ]
```



```
      } ]
    },
    "appType" : "",
    "aom_metric_relabel_configs" : null,
    "logFileFix" : [ "log", "trace", "out" ],
    "isDetect" : "false",
    "isDefaultRule" : null,
    "dataSource" : null,
    "discoveryRule" : [ {
      "checkType" : "cmdLine",
      "checkContent" : [ "-DNFW=ica**nt" ],
      "checkMode" : "contain"
    } ]
  },
  "desc" : "Custom description"
} ],
"errorMessage" : null,
"errorCode" : "SVCSTG.INV.2000000",
"id" : [ ]
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "errorCode" : "SVCSTG.INV.2000000",
  "errorMessage" : null,
  "id" : [ ],
  "results" : [ {
    "name" : "aom_inventory_rules_event",
    "id" : "b53a5152-****-****-****-302367e04c0b"
  } ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "errorCode" : "SVCSTG.INV.4000115",
  "errorMessage" : "Request param is invalid",
  "id" : [ ],
  "results" : [ ]
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

Status Code	Description
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.7 Deleting a Service Discovery Rule

Function

This API is used to delete a service discovery rule.

URI

DELETE /v1/{project_id}/inv/servicediscoveryrules

Table 4-64 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-65 Query Parameters

Parameter	Mandatory	Type	Description
appRulesIds	Yes	Array	Discovery rule ID. Multiple IDs need to be separated by commas (,). The parameter cannot be empty.

Request Parameters

Table 4-66 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Response Parameters

Status code: 200

Table 4-67 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.
responseStatus	Integer	Response status code.

Example Requests

Delete a service discovery rule with a specified ID.

```
https://{Endpoint}/v1/{project_id}/inv/servicediscoveryrules?appRulesIds=b788349e-62b2-xxxx-xxxx-02c611d59801
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "errorCode" : "SVCSTG.INV.2000000",
  "errorMessage" : null,
  "id" : [ ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "errorCode" : "SVCSTG.INV.4000118",
```



```
  "errorMessage" : "Request param is invalid",
  "id" : [ ]
}
```

Status code: 404

Not Found: The requested resource could not be found. The client should not repeat this request without modification.

```
{
  "errorCode" : "SVCSTG.INV.4040000",
  "errorMessage" : "Inventory does not exists",
  "id" : [ ]
}
```

Status code: 500

Internal Server Error: The server is able to receive the request but unable to understand the request.

```
{
  "error_code" : "APM.00000500",
  "error_msg" : "Internal Server Error",
  "trace_id" : ""
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
404	Not Found: The requested resource could not be found. The client should not repeat this request without modification.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Unauthorized: The authentication information is incorrect or invalid.

Error Codes

See **Error Codes**.

4.1.8 Querying Existing Service Discovery Rules

Function

This API is used to query existing service discovery rules in the system.

URI

GET /v1/{project_id}/inv/servicediscoveryrules

Table 4-68 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-69 Query Parameters

Parameter	Mandatory	Type	Description
id	No	String	Service discovery rule ID, which corresponds to a service discovery rule. If this parameter is left blank, all service discovery rules in the project are returned.

Request Parameters

Table 4-70 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Response Parameters

Status code: 200

Table 4-71 Response body parameters

Parameter	Type	Description
appRules	Array of **AppRules** objects	Rule information.
errorCode	String	Response code. AOM_INVENTORY_2000000: Success response.
errorMessage	String	Response message.

Table 4-72 AppRules

Parameter	Type	Description
createTime	String	Creation time. When creating a service discovery rule, leave this parameter blank. When modifying a service discovery rule, enter the returned createTime. Default: **1599098476654**
enable	Boolean	Whether a rule is enabled. Values: true and false.
eventName	String	aom_inventory_rules_event Rule event name. For service discovery, the fixed value is aom_inventory_rules_event.
hostid	Array of strings	Host ID. Currently, this parameter is not used and can be left blank.
id	String	Rule ID. When creating a service discovery rule, leave this parameter blank. When modifying a service discovery rule, enter a rule ID.
name	String	Rule name, which contains a maximum of 64 characters. It must start with a lowercase letter but cannot end with a hyphen (-). Only digits, lowercase letters, and hyphens are allowed.
projectid	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.
spec	**AppRulesSpec** object	Rule details.
desc	String	Custom description

Table 4-73 AppRulesSpec

Parameter	Type	Description
appType	String	Service type, which is used only for rule classification and UI display. You can enter any field. For example, enter Java or Python by technology stack, or enter collector or database by function.
attrList	Array of strings	Attribute list. Currently, this parameter is not used and can be left blank. Values: cmdLine and env.
detectLog	String	Whether to enable log collection. Values: true and false.
discoveryRule	Array of **DiscoveryRule** objects	Discovery rule. If the array contains multiple conditions, only the processes that meet all the conditions will be matched. If the value of checkType is cmdLine, set the value of checkMode to contain. checkContent is in the format of ["xxx"], indicating that the process must contain the xxx parameter. If the value of checkType is env, set the value of checkMode to contain. checkContent is in the format of ["k1","v1"], indicating that the process must contain the environment variable whose name is k1 and value is v1. If the value of checkType is scope, set the value of checkMode to equals. checkContent is in the format of ["hostId1","hostId2"], indicating that the rule takes effect only on specified nodes. If no nodes are specified, the rule applies to all nodes of the project.
isDefaultRule	String	Whether the rule is the default one. Values: true and false.
isDetect	String	Whether the scenario is a pre-check scenario. No rules will be saved in the pre-check scenario. This scenario is designed only to check whether a rule can detect node processes before it is delivered. Values: true and false.
logFileFix	Array of strings	Log file suffix. Values: log, trace, and out.

Parameter	Type	Description
logPathRule	Array of **LogPathRule** objects	Log path configuration rule. If cmdLineHash is a fixed string, logs in the specified log path or log file are collected. Otherwise, only the files whose names end with .log or .trace are collected. If the value of nameType is cmdLineHash, args is in the format of ["00001"] and value is in the format of ["/xxx/xx.log"], indicating that the log path is /xxx/xx.log when the startup command is 00001.
nameRule	**NameRule** object	Naming rules for discovered services and applications.
priority	Integer	Rule priority. Value range: 1 to 9999. Default value: 9999.

Table 4-74 DiscoveryRule

Parameter	Type	Description
checkContent	Array of strings	Matched value.
checkMode	String	Match condition. Values: contain and equals.
checkType	String	Match type. Values: cmdLine, env, and scope.

Table 4-75 LogPathRule

Parameter	Type	Description
args	Array of strings	Command.
nameType	String	Value type, which can be cmdLineHash.
value	Array of strings	Log path.

Table 4-76 NameRule

Parameter	Type	Description
appNameRule	Array of **AppNameRule** objects	Service name rule. If there are multiple objects in the array, the character strings extracted from these objects constitute the service name. If the value of nameType is cmdLine, args is in the format of ["start", "end"], indicating that the characters between start and end in the command are extracted.If the value of nameType is cmdLine, args is in the format of ["aa"], indicating that the environment variable named aa is extracted.If the value of nameType is str, args is in the format of ["fix"], indicating that the service name is suffixed with fix.If the value of nameType is cmdLineHash, args is in the format of ["0001"] and value is in the format of ["ser"], indicating that the service name is ser when the startup command is 0001.
applicationNameRule	Array of **ApplicationNameRule** objects	Application name rule.If the value of nameType is cmdLine, args is in the format of ["start", "end"], indicating that the characters between start and end in the command are extracted.If the value of nameType is cmdLine, args is in the format of ["aa"], indicating that the environment variable named aa is extracted.If the value of nameType is str, args is in the format of ["fix"], indicating that the service name is suffixed with fix.If the value of nameType is cmdLineHash, args is in the format of ["0001"] and value is in the format of ["ser"], indicating that the application name is ser when the startup command is 0001.

Table 4-77 AppNameRule

Parameter	Type	Description
nameType	String	Value type. Values: cmdLineHash, cmdLine, env, and str.
args	Array of strings	Input value.
value	Array of strings	Service name, which is mandatory only when the value of nameType is cmdLineHash.

Table 4-78 ApplicationNameRule

Parameter	Type	Description
nameType	String	Value type. Values: cmdLineHash, cmdLine, env, and str.
args	Array of strings	Input value.
value	Array of strings	Service name, which is mandatory only when the value of nameType is cmdLineHash.

Example Requests

None

Example Responses

Status code: 200

OK: The request is successful.


```
{
  "appRules" : [ {
    "createTime" : "1694705814424",
    "enable" : true,
    "name" : "ica**nt",
    "eventName" : "aom_inventory_rules_event",
    "hostid" : [ ],
    "id" : "b53a5152-****-****-****-302367e04c0b",
    "projectid" : "684fc87a79d7xxxx22e62a7da95b",
    "spec" : {
      "detectLog" : "true",
      "editable" : null,
      "logPathRule" : [ ],
      "priority" : 9999,
      "attrList" : [ "cmdLine" ],
      "nameRule" : {
        "appNameRule" : [ {
          "args" : [ "/opt/********* -DNFW=ica**nt" ],
          "nameType" : "cmdLineHash",
          "value" : [ "aicagentserver" ]
        } ],
        "applicationNameRule" : [ {
          "args" : [ "/opt/********** -DNFW=ica**nt" ],
          "nameType" : "cmdLineHash",
          "value" : [ "aica**nt" ]
        } ]
      },
      "appType" : "",
      "aom_metric_relabel_configs" : null,
      "logFileFix" : [ "log", "trace", "out" ],
      "isDetect" : "false",
      "isDefaultRule" : null,
      "dataSource" : null,
      "discoveryRule" : [ {
        "checkType" : "cmdLine",
        "checkContent" : [ "-DNFW=ica**nt" ],
        "checkMode" : "contain"
      } ]
    },
    "desc" : "Custom description"
```



```
 } ],
 "errorMessage" : null,
 "errorCode" : "SVCSTG.INV.2000000",
 "id" : [ ]
}
```

Status code: 404

Not Found: The requested resource could not be found. The client should not repeat this request without modification.

```
{
 "appRules" : [ ],
 "errorMessage" : "Inventory does not exists",
 "errorCode" : "SVCSTG.INV.4040000",
 "id" : [ ]
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
404	Not Found: The requested resource could not be found. The client should not repeat this request without modification.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.9 Adding a Threshold Rule

Function

This API is used to add a threshold rule.

URI

POST /v2/{project_id}/alarm-rules

Table 4-79 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-80 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-81 Request body parameters

Parameter	Mandatory	Type	Description
action_enabled	No	Boolean	Whether to enable notification.
alarm_actions	No	Array of strings	List of alarm notifications.
alarm_advice	No	String	Alarm clearance suggestion. Minimum: **0** Maximum: **255**
alarm_description	No	String	Threshold rule description. Minimum: **0** Maximum: **1024**

Parameter	Mandatory	Type	Description
alarm_level	Yes	Integer	Alarm severity. Values: 1 (critical), 2 (major), 3 (minor), and 4 (warning). Enumeration values: • **1** • **2** • **3** • **4**
alarm_rule_name	Yes	String	Threshold rule name. Enter a maximum of 100 characters and do not start or end with a special character. Only letters, digits, underscores (_), and hyphens (-) are allowed.
comparison_operator	Yes	String	Comparison operator. Options: <: less than the threshold; >: greater than the threshold; <=: less than or equal to the threshold; >=: greater than or equal to the threshold. Enumeration values: • **<** • **>** • **<=** • **>=**
dimensions	Yes	Array of **Dimension** objects	List of time series dimensions.
evaluation_periods	Yes	Integer	Interval. Minimum: **1** Maximum: **5**
id_turn_on	No	Boolean	Whether to enable the threshold rule.
insufficient_data_actions	No	Array of strings	List of insufficient data notifications.
metric_name	Yes	String	Time series name. Length: 1 to 255 characters.
namespace	Yes	String	Time series objects' namespace.

Parameter	Mandatory	Type	Description
ok_actions	No	Array of strings	List of normal status notifications.
period	Yes	Integer	Statistical period. Options: 60000: one minute; 300000: five minutes; 900000: 15 minutes; 3600000: one hour. Enumeration values: • **60000** • **300000** • **900000** • **36000000**
statistic	Yes	String	Statistic. Enumeration values: • **maximum** • **minimum** • **average** • **sum** • **sampleCount**
threshold	Yes	String	Threshold value.
unit	Yes	String	Time series unit.

Table 4-82 Dimension

Parameter	Mandatory	Type	Description
name	Yes	String	Dimension name.
value	Yes	String	Dimension value.

Response Parameters

Status code: 200

Table 4-83 Response body parameters

Parameter	Type	Description
alarm_rule_id	Long	Threshold rule ID.

Status code: 400

Table 4-84 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.
trace_id	String	Trace ID, which is used to search for logs and locate faults. If **2xx** is returned, **trace_id** is empty. If **4xx**, **trace_id** is not empty.

Example Requests

Add a threshold rule whose name is **testaom**, alarm severity is **3**, namespace is **PAAS.CONTAINER**, and statistical mode is **average**.

```
https://{Endpoint}/v2/{project_id}/alarm-rules

{
  "id_turn_on" : true,
  "action_enabled" : false,
  "alarm_actions" : [ ],
  "alarm_advice" : "",
  "alarm_description" : "",
  "alarm_level" : 3,
  "alarm_rule_name" : "aom_rule",
  "comparison_operator" : ">=",
  "dimensions" : [ {
    "name" : "appName",
    "value" : "rhm-broker"
  } ],
  "evaluation_periods" : 1,
  "insufficient_data_actions" : [ ],
  "metric_name" : "cpuCoreLimit",
  "namespace" : "PAAS.CONTAINER",
  "ok_actions" : [ ],
  "period" : 60000,
  "statistic" : "average",
  "threshold" : 0,
  "unit" : "Core"
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "alarm_rule_id" : 1134050083814244400
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.04001001",
```



```
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.10 Querying the Threshold Rule List

Function

This API is used to query the threshold rule list.

URI

GET /v2/{project_id}/alarm-rules

Table 4-85 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-86 Query Parameters

Parameter	Mandatory	Type	Description
offset	No	String	Pagination information.
limit	No	Integer	Maximum number of returned records. Value range: 1–1000. Default value: 1000.

Request Parameters

Table 4-87 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Response Parameters

Status code: 200

Table 4-88 Response body parameters

Parameter	Type	Description
meta_data	**MetaData** object	Metadata, including pagination information.
thresholds	Array of **QueryAlarmResult** objects	Parameters specified for querying a threshold rule.

Table 4-89 MetaData

Parameter	Type	Description
count	Integer	Number of returned records.
start	String	Start of the next page, which is used for pagination. null: No more data.
total	Integer	Total number of records.

Table 4-90 QueryAlarmResult

Parameter	Type	Description
action_enabled	Boolean	Whether to enable notification.
alarm_actions	Array of strings	List of alarm notifications.
alarm_advice	String	Alarm clearance suggestion.
alarm_description	String	Threshold rule description.
alarm_level	String	Alarm severity.
alarm_rule_id	String	Threshold rule ID.
alarm_rule_name	String	Threshold rule name.
comparison_operator	String	Comparison operator.
dimensions	Array of **Dimension** objects	List of time series dimensions.
evaluation_periods	Integer	Interval.
id_turn_on	Boolean	Whether to enable the threshold rule.
insufficient_data_actions	Array of strings	List of insufficient data notifications.
metric_name	String	Time series name.
namespace	String	Time series objects' namespace.
ok_actions	Array of strings	List of normal status notifications.
period	Integer	Statistical period.
policy_name	String	Threshold rule name.
resources	Array of strings	Resource information (discarded).
state_reason	String	Cause description.
state_updated_timestamp	String	Time when the status was updated.
state_value	String	Service status.

Parameter	Type	Description
statistic	String	Statistic.
threshold	String	Threshold value.
type	String	Threshold rule type.
unit	String	Threshold unit.

Table 4-91 Dimension

Parameter	Type	Description
name	String	Dimension name.
value	String	Dimension value.

Status code: 400

Table 4-92 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.
trace_id	String	Trace ID, which is used to search for logs and locate faults. If **2xx** is returned, **trace_id** is empty. If **4xx**, **trace_id** is not empty.

Example Requests

None

Example Responses

Status code: 200

OK: The request is successful.


```
{
  "meta_data" : [ {
    "count" : 10,
    "total" : 100
  } ],
  "thresholds" : [ {
    "alarm_actions" : null,
    "alarm_advice" : null,
    "alarm_description" : null,
```



```
  "alarm_level" : 3,
  "alarm_rule_id" : 2137,
  "alarm_rule_name" : "aom_rule",
  "comparison_operator" : ">=",
  "dimensions" : [ {
    "name" : "appName"
  }, {
    "value" : "rhm-broker"
  } ],
  "evaluation_periods" : 1,
  "id_turn_on" : true,
  "insufficient_data_actions" : null,
  "metric_name" : "cpuCoreLimit",
  "namespace" : "PAAS.CONTAINER",
  "ok_actions" : null,
  "period" : 60000,
  "policy_name" : "23,",
  "resources" : [ ],
  "state_reason" : null,
  "state_updated_timestamp" : null,
  "state_value" : "alarm",
  "statistic" : "average",
  "threshold" : 0,
  "type" : "single,",
  "unit" : "Core"
 } ]
}
```


Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.


```
{
  "error_code" : "AOM.04003001",
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```


Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.11 Modifying a Threshold Rule

Function

This API is used to modify a threshold rule.

URI

PUT /v2/{project_id}/alarm-rules

Table 4-93 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-94 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-95 Request body parameters

Parameter	Mandatory	Type	Description
action_enabled	No	Boolean	Whether to enable notification.
alarm_actions	No	Array of strings	List of alarm notifications.

Parameter	Mandatory	Type	Description
alarm_advice	No	String	Alarm clearance suggestion, which contains a maximum of 255 characters. Minimum: **0** Maximum: **255**
alarm_description	No	String	Threshold rule description, which contains a maximum of 1024 characters. Minimum: **0** Maximum: **1024**
alarm_level	Yes	Integer	Alarm severity. Values: 1 (critical), 2 (major), 3 (minor), and 4 (warning). Enumeration values: • **1** • **2** • **3** • **4**
alarm_rule_name	Yes	String	Threshold rule name. Enter a maximum of 100 characters and do not start or end with a special character. Only letters, digits, underscores (_), and hyphens (-) are allowed.
comparison_operator	Yes	String	Comparison operator. Options: <: less than the threshold; >: greater than the threshold; <=: less than or equal to the threshold; >=: greater than or equal to the threshold. Enumeration values: • **<** • **>** • **<=** • **>=**
dimensions	Yes	Array of **Dimension** objects	List of time series dimensions.
evaluation_periods	Yes	Integer	Interval at which data is calculated.

Parameter	Mandatory	Type	Description
id_turn_on	No	Boolean	Whether to enable the threshold rule.
insufficient_data_actions	No	Array of strings	List of insufficient data notifications.
metric_name	Yes	String	Time series name. Length: 1 to 255 characters.
namespace	Yes	String	Namespace of time series objects.
ok_actions	No	Array of strings	List of normal status notifications.
period	Yes	Integer	Statistical period. Options: 60000: one minute; 300000: five minutes; 900000: 15 minutes; 3600000: one hour. Enumeration values: • **60000** • **300000** • **900000** • **36000000**
statistic	Yes	String	Statistic. Enumeration values: • **maximum** • **minimum** • **average** • **sum** • **sampleCount**
threshold	Yes	String	Threshold.
unit	Yes	String	Time series unit.

Table 4-96 Dimension

Parameter	Mandatory	Type	Description
name	Yes	String	Dimension name.
value	Yes	String	Dimension value.

Response Parameters

Status code: 200

Table 4-97 Response body parameters

Parameter	Type	Description
alarm_rule_id	Long	Threshold rule ID.

Status code: 400

Table 4-98 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.
trace_id	String	Trace ID, which is used to search for logs and locate faults. If **2xx** is returned, **trace_id** is empty. If **4xx**, **trace_id** is not empty.

Example Requests

Modify a threshold rule whose name is **testaom**, alarm severity is **3**, metric name is **cpuCoreLimit**, and namespace is **PAAS.CONTAINER**.

```
https://{Endpoint}/v2/{project_id}/alarm-rules

{
  "action_enabled" : false,
  "alarm_actions" : [ ],
  "alarm_advice" : "",
  "alarm_description" : "",
  "alarm_level" : 3,
  "alarm_rule_name" : "aom_rule",
  "comparison_operator" : ">=",
  "dimensions" : [ {
    "name" : "appName",
    "value" : "rhm-broker"
  } ],
  "evaluation_periods" : 1,
  "insufficient_data_actions" : [ ],
  "metric_name" : "cpuCoreLimit",
  "namespace" : "PAAS.CONTAINER",
  "ok_actions" : [ ],
  "period" : 60000,
  "statistic" : "average",
  "threshold" : 0,
  "unit" : "Core"
}
```


Example Responses

Status code: 200

OK: The request is successful.

```
{
  "alarm_rule_id" : 91307490000416600
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.04003001",
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.12 Deleting a Threshold Rule

Function

This API is used to delete a threshold rule.

URI

DELETE /v2/{project_id}/alarm-rules/{alarm_rule_id}

Table 4-99 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.
alarm_rule_id	Yes	String	Threshold rule ID.

Request Parameters

Table 4-100 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Response Parameters

Status code: 400

Table 4-101 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.
trace_id	String	Trace ID, which is used to search for logs and locate faults. If **2xx** is returned, **trace_id** is empty. If **4xx**, **trace_id** is not empty.

Example Requests

Delete a threshold rule.

```
https://{Endpoint}/v2/{project_id}/alarm-rules/{alarm_rule_id}
```


Example Responses

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.04005001",
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.13 Querying a Threshold Rule

Function

This API is used to query a threshold rule.

URI

GET /v2/{project_id}/alarm-rules/{alarm_rule_id}

Table 4-102 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.
alarm_rule_id	Yes	String	Threshold rule ID.

Request Parameters

Table 4-103 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Response Parameters

Status code: 200

Table 4-104 Response body parameters

Parameter	Type	Description
meta_data	**MetaData** object	Metadata, including pagination information.
thresholds	Array of **QueryAlarmResult** objects	Threshold rule list.

Table 4-105 MetaData

Parameter	Type	Description
count	Integer	Number of returned records.
start	String	Start of the next page, which is used for pagination. null: No more data.
total	Integer	Total number of records.

Table 4-106 QueryAlarmResult

Parameter	Type	Description
action_enabled	Boolean	Whether to enable notification.
alarm_actions	Array of strings	List of alarm notifications.
alarm_advice	String	Alarm clearance suggestion.
alarm_description	String	Threshold rule description.
alarm_level	String	Alarm severity.
alarm_rule_id	String	Threshold rule ID.
alarm_rule_name	String	Threshold rule name.
comparison_operator	String	Comparison operator.
dimensions	Array of **Dimension** objects	List of time series dimensions.
evaluation_periods	Integer	Interval.
id_turn_on	Boolean	Whether to enable the threshold rule.
insufficient_data_actions	Array of strings	List of insufficient data notifications.
metric_name	String	Time series name.
namespace	String	Time series objects' namespace.
ok_actions	Array of strings	List of normal status notifications.
period	Integer	Statistical period.
policy_name	String	Threshold rule name.
resources	Array of strings	Resource information (discarded).
state_reason	String	Cause description.
state_updated_timestamp	String	Time when the status was updated.
state_value	String	Service status.

Parameter	Type	Description
statistic	String	Statistic.
threshold	String	Threshold value.
type	String	Threshold rule type.
unit	String	Threshold unit.

Table 4-107 Dimension

Parameter	Type	Description
name	String	Dimension name.
value	String	Dimension value.

Status code: 400

Table 4-108 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.
trace_id	String	Trace ID, which is used to search for logs and locate faults. If **2xx** is returned, **trace_id** is empty. If **4xx**, **trace_id** is not empty.

Example Requests

None

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "thresholds" : [ {
    "alarm_actions" : null,
    "alarm_advice" : null,
    "alarm_description" : null,
    "alarm_level" : 3,
    "alarm_rule_id" : 2137,
    "alarm_rule_name" : "aom_rule",
    "comparison_operator" : ">=",
```



```
    "dimensions" : [ {
      "name" : "appName"
    }, {
      "value" : "rhm-broker"
    } ],
    "evaluation_periods" : 1,
    "id_turn_on" : true,
    "insufficient_data_actions" : null,
    "metric_name" : "cpuCoreLimit",
    "namespace" : "PAAS.CONTAINER",
    "ok_actions" : null,
    "period" : 60000,
    "policy_name" : "23,",
    "resources" : [ ],
    "state_reason" : null,
    "state_updated_timestamp" : null,
    "statistic" : "average",
    "threshold" : 0,
    "type" : "single,",
    "unit" : "Core"
  } ]
}
```


Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.


```
{
  "error_code" : "AOM.04004001",
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```


Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.1.14 Deleting Threshold Rules in Batches

Function

This API is used to delete threshold rules in batches.

URI

POST /v2/{project_id}/alarm-rules/delete

Table 4-109 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-110 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-111 Request body parameters

Parameter	Mandatory	Type	Description
alarm_rules	Yes	Array of strings	Name of the rule to be deleted.

Response Parameters

Status code: 400

Table 4-112 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
error_type	String	Error type.
trace_id	String	Trace ID, which is used to search for logs and locate faults. If **2xx** is returned, **trace_id** is empty. If **4xx**, **trace_id** is not empty.

Example Requests

Delete threshold rules in batches by rule name.

```
https://{Endpoint}/v2/{project_id}/alarm-rules/delete

{
  "alarm_rules" : [ ]
}
```

Example Responses

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.04004001",
  "error_msg" : "please check request param",
  "error_type" : "BAD_REQUEST"
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.

Status Code	Description
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2 Prometheus Monitoring

4.2.1 Querying Expression Calculation Results in a Specified Period

Function

This API is used to query the calculation results of a PromQL expression in a specified period. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

GET /v1/{project_id}/aom/api/v1/query_range

Table 4-113 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-114 Query Parameters

Parameter	Mandatory	Type	Description
query	Yes	String	PromQL expression. For details, see https://prometheus.io/docs/prometheus/latest/querying/basics/.
start	Yes	String	Start timestamp (Unix timestamp, in seconds).

Parameter	Mandatory	Type	Description
end	Yes	String	End timestamp (Unix timestamp, in seconds).
step	Yes	String	Query step (in seconds). The task is executed on the step basis within the specified period.

Request Parameters

Table 4-115 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-116 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Object	Response data.

Status code: 400

Table 4-117 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-118 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-119 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-120 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Query the calculation result of PromQL expression "up" every 15s in a specified period.

```
https://{EndPoint}/v1/{project_id}/aom/api/v1/query_range?
query=up&start=1630124012&end=1630127612&step=15s
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : {
    "resultType" : "matrix",
    "result" : [ {
```



```
    "metric" : {
      "__name__" : "up",
      "job" : "prometheus",
      "instance" : "localhost:9090"
    },
    "values" : [ [ 1.435781430781E9, "1" ], [ 1.435781445781E9, "1" ], [ 1.435781460781E9, "1" ] ]
  }, {
    "metric" : {
      "__name__" : "up",
      "job" : "node",
      "instance" : "localhost:9091"
    },
    "values" : [ [ 1.435781430781E9, "0" ], [ 1.435781445781E9, "0" ], [ 1.435781460781E9, "1" ] ]
  } ]
 }
}
```


Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.


```
{
 "status" : "error",
 "errorType" : "bad_param",
 "error" : "param is invalid."
}
```


Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.


```
{
 "status" : "error",
 "errorType" : "auth",
 "error" : "auth project_id not pass."
}
```


Status code: 422

Unprocessable: The expression cannot be executed.


```
{
 "status" : "error",
 "errorType" : "excution",
 "error" : "expression can't be executed."
}
```


Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.


```
{
 "status" : "error",
 "errorType" : "timeout",
 "error" : "query timed out in query execution."
}
```


Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2.2 Querying Expression Calculation Results in a Specified Period

Function

This API is used to query the calculation results of a PromQL expression in a specified period. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

POST /v1/{project_id}/aom/api/v1/query_range

Table 4-121 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-122 Query Parameters

Parameter	Mandatory	Type	Description
query	Yes	String	PromQL expression. For details, see https://prometheus.io/docs/prometheus/latest/querying/basics/.
start	Yes	String	Start timestamp (Unix timestamp, in seconds).
end	Yes	String	End timestamp (Unix timestamp, in seconds).
step	Yes	String	Query step (in seconds). The task is executed on the step basis within the specified period.

Request Parameters

Table 4-123 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-124 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Object	Response data.

Status code: 400

Table 4-125 Response body parameters

Parameter	Type	Description
status	String	Response status.

Parameter	Type	Description
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-126 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-127 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-128 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Query the top N aom_node_status metrics on the step basis in a specified period.

```
https://{EndPoint}/v1/{project_id}/aom/api/v1/query_range?
query=topk(2,aom_node_status)&start=1630386780&end=1630390380&step=15
```


Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : {
    "resultType" : "matrix",
    "result" : [ {
      "metric" : {
        "__name__" : "amm_node_status",
        "clusterId" : "000000-0000-0000-0000-0000000",
        "hostID" : "c9xxcb-2x6c-4h54-8fcd-f68xx85",
        "nameSpace" : "default",
        "nodeIP" : "1xx.1xx.0.1xx",
        "nodeName" : "sis-xxn-amm"
      },
      "values" : [ [ 1630386780, "0" ], [ 1630388610, "0" ], [ 1630388625, "0" ] ]
    }, {
      "metric" : {
        "__name__" : "amm_node_status",
        "clusterId" : "00000000-0000-0000-0000-00000000",
        "hostID" : "ec5xxxb-0xx8-4xxx-bxx-9ecxxf",
        "nameSpace" : "default",
        "nodeIP" : "1xx.168.0.1x",
        "nodeName" : "fdx-ibxxst"
      },
      "values" : [ [ 1630388265, "0" ], [ 1630388280, "0" ], [ 1630388295, "0" ] ]
    } ]
  }
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "bad_param",
  "error" : "param is invalid."
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "auth",
  "error" : "auth project_id not pass."
}
```

Status code: 422

Unprocessable: The expression cannot be executed.

```
{
  "status" : "error",
  "errorType" : "excution",
  "error" : "expression can't be executed."
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "timeout",
  "error" : "query timed out in query execution."
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2.3 Querying the Expression Calculation Result at a Specified Time Point

Function

This API is used to query the calculation result of a PromQL expression at a specified time point. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

GET /v1/{project_id}/aom/api/v1/query

Table 4-129 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-130 Query Parameters

Parameter	Mandatory	Type	Description
query	Yes	String	PromQL expression. For details, see https://prometheus.io/docs/prometheus/latest/querying/basics/.
time	No	String	Timestamp specified for PromQL calculation (Unix timestamp, in seconds).

Request Parameters

Table 4-131 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-132 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Object	Response data.

Status code: 400

Table 4-133 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-134 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-135 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-136 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Query the calculation result of expression "up" at time point "1630124012".

```
https://{EndPoint}/v1/{project_id}/aom/api/v1/query?query=up&time=1630124012
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : {
    "resultType" : "vector",
    "result" : [ ]
  }
}
```


Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "bad_param",
  "error" : "param is invalid."
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "auth",
  "error" : "auth project_id not pass."
}
```

Status code: 422

Unprocessable: The expression cannot be executed.

```
{
  "status" : "error",
  "errorType" : "excution",
  "error" : "expression can't be executed."
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "timeout",
  "error" : "query timed out in query execution."
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2.4 Querying the Expression Calculation Result at a Specified Time Point

Function

This API is used to query the calculation result of a PromQL expression at a specified time point. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

POST /v1/{project_id}/aom/api/v1/query

Table 4-137 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-138 Query Parameters

Parameter	Mandatory	Type	Description
query	Yes	String	PromQL expression. For details, see https://prometheus.io/docs/prometheus/latest/querying/basics/.
time	No	String	Timestamp specified for PromQL calculation (Unix timestamp, in seconds).

Request Parameters

Table 4-139 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-140 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Object	Response data.

Status code: 400

Table 4-141 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-142 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-143 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-144 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Query the top N aom_node_status metrics at time point "1630381536".

```
https://{EndPoint}/v1/{project_id}/aom/api/v1/query?query=topk(2,aom_node_status)&time=1630381536
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : {
    "resultType" : "vector",
    "result" : [ {
      "metric" : {
        "__name__" : "amm_node_status",
        "clusterId" : "00000000-0000-0000-0000-00000000",
        "hostID" : "g947xcxh-2xcxc-xxx-xxcd-f6xxx85",
        "nameSpace" : "default",
        "nodeIP" : "1x6.1xx.0.xxx",
        "nodeName" : "sdxx-jxxxgksi-axx"
      },
      "value" : [ 16303810036, "0" ]
    }, {
      "metric" : {
        "__name__" : "amm_node_status",
        "clusterId" : "00000000-0000-0000-0000-00000000",
        "hostID" : "dc1xxxf7e-b095-4e77-bxx-914dhlxxxbf7",
        "nameSpace" : "default",
        "nodeIP" : "1xx.1xx.0.xxx",
        "nodeName" : "sds-jixxxsi-texxt"
      },
      "value" : [ 1630381536, "0" ]
    } ]
  }
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "bad_param",
  "error" : "param is invalid."
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "auth",
  "error" : "auth project_id not pass."
}
```

Status code: 422

Unprocessable: The expression cannot be executed.

```
{
  "status" : "error",
  "errorType" : "excution",
  "error" : "expression can't be executed."
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "timeout",
  "error" : "query timed out in query execution."
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2.5 Querying Tag Values

Function

This API is used to query the values of a specified tag. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

GET /v1/{project_id}/aom/api/v1/label/{label_name}/values

Table 4-145 Path Parameters

Parameter	Mandatory	Type	Description
label_name	Yes	String	Tag to be queried.
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-146 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-147 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Array of objects	Tag value.

Status code: 400

Table 4-148 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-149 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-150 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-151 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Query all values of the "job" tag.


```
https://{EndPoint}/v1/{project_id}/aom/api/v1/label/job/values
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : [ "node", "prometheus" ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "bad_param",
  "error" : "param is invalid."
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "auth",
  "error" : "auth project_id not pass."
}
```

Status code: 422

Unprocessable: The expression cannot be executed.

```
{
  "status" : "error",
  "errorType" : "excution",
  "error" : "expression can't be executed."
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "timeout",
  "error" : "query timed out in query execution."
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.

Status Code	Description
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2.6 Obtaining the Tag Name List

Function

This API is used to obtain the tag name list. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

GET /v1/{project_id}/aom/api/v1/labels

Table 4-152 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-153 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-154 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Array of objects	Tag value.

Status code: 400

Table 4-155 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-156 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-157 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-158 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Return the tag name list.

```
https://{EndPoint}/v1/{project_id}/aom/api/v1/labels
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : [ "__name__", "call", "code", "config", "dialer_name", "endpoint", "event", "goversion", "handler",
"instance", "slice", "version" ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "bad_param",
  "error" : "param is invalid."
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "auth",
  "error" : "auth project_id not pass."
}
```

Status code: 422

Unprocessable: The expression cannot be executed.

```
{
  "status" : "error",
  "errorType" : "excution",
  "error" : "expression can't be executed."
}
```


Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "timeout",
  "error" : "query timed out in query execution."
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2.7 Obtaining the Tag Name List

Function

This API is used to obtain the tag name list. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

POST /v1/{project_id}/aom/api/v1/labels

Table 4-159 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-160 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-161 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Array of objects	Tag value.

Status code: 400

Table 4-162 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-163 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-164 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-165 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Return the tag name list.

```
https://{EndPoint}/v1/{project_id}/aom/api/v1/labels
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : [ "__name__", "alarm_level", "adfname", "alertstate", "ammApplicationID",
"ammApplicationName", "appID", "appName", "clusterId", "clusterName", "cluster_id",
"comparisonOperator", "containerID", "containerName", "nameSpace", "namespace", "netDevice",
"nodeIP", "nodeName", "node_ip", "pailId", "pailName", "period_expr", "podID", "podName", "processCmd" ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "bad_param",
  "error" : "param is invalid."
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.


```
{
  "status" : "error",
  "errorType" : "auth",
  "error" : "auth project_id not pass."
}
```

Status code: 422

Unprocessable: The expression cannot be executed.

```
{
  "status" : "error",
  "errorType" : "excution",
  "error" : "expression can't be executed."
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "timeout",
  "error" : "query timed out in query execution."
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.2.8 Querying Metadata

Function

This API is used to query the metadata of time series and corresponding tags. (This API is available in CN North-Beijing 4, CN East-Shanghai 1, and CN South-Guangzhou.)

URI

GET /v1/{project_id}/aom/api/v1/metadata

Table 4-166 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Request Parameters

Table 4-167 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.

Response Parameters

Status code: 200

Table 4-168 Response body parameters

Parameter	Type	Description
status	String	Response status.
data	Object	Metadata information.

Status code: 400

Table 4-169 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 403

Table 4-170 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 422

Table 4-171 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Status code: 503

Table 4-172 Response body parameters

Parameter	Type	Description
status	String	Response status.
errorType	String	Error type.
error	String	Error message.

Example Requests

Obtain the metadata.

```
https://{EndPoint}/v1/{project_id}/aom/api/v1/metadata
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "status" : "success",
  "data" : {
    "aggregator_openapi_v2_regeneration_count" : [ {
      "type" : "counter",
      "help" : "[ALPHA] Counter of OpenAPI v2 spec regeneration count broken down by causing APIService name and reason.",
```



```
    "unit" : ""
   } ]
  }
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "bad_param",
  "error" : "param is invalid."
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "auth",
  "error" : "auth project_id not pass."
}
```

Status code: 422

Unprocessable: The expression cannot be executed.

```
{
  "status" : "error",
  "errorType" : "excution",
  "error" : "expression can't be executed."
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "status" : "error",
  "errorType" : "timeout",
  "error" : "query timed out in query execution."
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
422	Unprocessable: The expression cannot be executed.

Status Code	Description
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.3 Log

4.3.1 Querying Logs

Function

This API is used to query logs by different dimensions, such as by cluster, IP address, or application. Pagination queries are supported.

URI

POST /v1/{project_id}/als/action

Table 4-173 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-174 Query Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Log API call mode. When the value is querylogs, this API is used to query logs.

Request Parameters

Table 4-175 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-176 Request body parameters

Parameter	Mandatory	Type	Description
category	Yes	String	Log type. Values: app_log: application log. node_log: node log.custom_log: log in a custom path.
endTime	Yes	Long	End time of the query (UTC, in ms).
hideSyslog	No	Integer	Whether to hide system logs during log queries. 0: Hide system logs. 1: Show system logs.
keyWord	No	String	Keyword for search. 1. Exact search by keyword is supported. A keyword is between two adjacent delimiters. 2. Fuzzy search by keyword is supported. Example: RROR, ERRO?, *ROR*, ERR*, or ER*OR. 3. Exact search by phrase is supported. Example: Start to refresh alm Statistic. 4. Search using AND (&&) or OR (||) is supported. Example: query&&logs or query||logs. Note: Default delimiters: , '";=()[]{}@&<>/:\n\t\r

Parameter	Mandatory	Type	Description
lineNum	No	String	Sequence number of the final log in the last query result. This parameter is not required for the first query, but is required for subsequent pagination queries.
pageSize/size	No	String	Number of logs queried each time. Default value: 5000. Recommended value: 100. For the first query, pageSize is used. For subsequent pagination queries, size is used.
searchKey	Yes	SearchKey object	Log filter criteria, which vary according to log sources.
startTime	Yes	Long	Start time of the query (UTC, in ms).
type	No	String	Pagination query. This parameter is not required for the first query, but is required for subsequent pagination queries.
isDesc	No	Boolean	Whether to query logs based on lineNum in ascending or descending order. true: lineNum in descending order (from the latest time to the earliest time) false: lineNum in ascending order (from the earliest time to the latest time)

Table 4-177 SearchKey

Parameter	Mandatory	Type	Description
appName	No	String	Application name.
clusterId	Yes	String	CCE cluster ID.
hostIP	No	String	IP address of the VM where logs are located.
nameSpace	No	String	CCE cluster namespace.
pathFile	No	String	Log file name.

Parameter	Mandatory	Type	Description
podName	No	String	Container instance name.

Response Parameters

Status code: 200

Table 4-178 Response body parameters

Parameter	Type	Description
errorCode	String	Response code. SVCSTG_AMS_2000000: Success response.
errorMessage	String	Response message.
result	String	Metadata, including results and the total number of returned records.

Status code: 400

Table 4-179 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.

Status code: 401

Table 4-180 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.

Status code: 403

Table 4-181 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.

Status code: 500

Table 4-182 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.

Status code: 503

Table 4-183 Response body parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.

Example Requests

- Example 1: Query application logs under a cluster.

```
"POST https://{endpoint}/v1/{project_id}/als/action?type=querylogs"

{
  "category" : "app_log",
  "endTime" : 15389000003,
  "hideSyslog" : 0,
  "keyWord" : "",
  "searchKey" : {
    "clusterId" : "c69xxxc-5xxx-1xxx-8xxx5-02xxxxx40"
  },
  "startTime" : 15389000003
}
```

- Example 2: Perform pagination queries. Notes:
  a. For pagination queries, the lineNum (sequence number of the final log in the last query result), type (value: next), and size parameters need to be added.
  b. The values of category, searchKey, keyWord, startTime, and endTime must be the same as those in the first query.

c. To implement another pagination query, change the value of lineNum to the sequence number of the final log in the last query result. The rest may be deduced by analogy.

```
/v1/{project_id}/als/action?type=querylogs

{
  "category" : "app_log",
  "searchKey" : {
    "clusterId" : "874xxx9a2-xxxf-xxx-8xxe-02xxxxx3"
  },
  "keyWord" : "",
  "startTime" : 156946300095,
  "endTime" : 15694600008895,
  "lineNum" : "1569463900000047",
  "type" : "next",
  "size" : 100,
  "hideSyslog" : 0
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "errorCode" : "SVCSTG.ALS.200.200",
  "errorMessage" : "Query data success",
  "result" : [ {
    "data" : [ {
      "appName" : "axxs0712",
      "category" : "apx",
      "clusterId" : "c6xxxx7c-54cd-11e8-8055-025xxx1e40",
      "collectTime" : 153900000983,
      "containerName" : "contsssner-0",
      "hostIP" : "1xx.xxx.0.1xxx",
      "hostId" : "c11xxxxx11-0000b-4925-bef4-d0xxxx9b0",
      "hostName" : "1x2.168.0.xxx",
      "lineNum" : "1xxx23xxxxxx2VW5xxxxxx0ZWdlcg==",
      "logContent" : "warn:2018/10/09 06:57:01 helloworld.go:108: the main processis running now.",
      "logContentSize" : null,
      "loghash" : "4xxxxx0d40a83c17f262540xxxxxxxxfeaa30eb",
      "nameSpace" : "default",
      "pathFile" : "/xxx/xxx/xxx/xxx/xxx/xxx.trxe",
      "podName" : "axxx12-7xxf884-qxxwp",
      "serviceID" : ""
    } ],
    "total" : 5000
  } ]
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.

Status Code	Description
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.4 Alarm

4.4.1 Querying Events and Alarms

Function

This API is used to query events and alarms of a user.

URI

POST /v2/{project_id}/events

Table 4-184 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-185 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Type of information to be queried. active_alert: Active alarms are to be queried. history_alert: Historical alarms are to be queried. If this parameter is not transferred or other values are transferred, information that meets the specified search criteria will be returned. Enumeration values: • **history_alert** • **active_alert**

Request Parameters

Table 4-186 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-187 Request body parameters

Parameter	Mandatory	Type	Description
time_range	Yes	String	Time range specified to query data of the last N minutes when the client time is inconsistent with the server time. It can also be used to accurately query the data of a specified period. Example: ● -1.-1.60: indicates that the data of the latest 60 minutes is queried. This query is based on the server time regardless of the current client time. ● 1650852000000.1650852300000.5: indicates the five minutes from 10:00:00 to 10:05:00 on April 25, 2022 GMT+08:00. Format: startTimeInMillis.endTimeInMillis.durationInMinutes Parameter description: ● startTimeInMillis: Start time of the query, in milliseconds. If this parameter is set to -1, the server calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.1650852300000.5 is equivalent to 1650852000000.1650852300000.5. ● endTimeInMillis: End time of the query, in milliseconds. If this parameter is set to -1, the server calculates the end time as follows: startTimeInMillis + durationInMinutes x 60 x 1000. If the calculated end time is later than the

Parameter	Mandatory	Type	Description
			current system time, the current system time is used. For example, 1650852000000.-1.5 is equivalent to 1650852000000.1650852300000.5. • durationInMinutes: Time span, in minutes. The value must be greater than 0 and greater than or equal to the result of "(endTimeInMillis – startTimeInMillis)/(60 x 1000) – 1". If both the start time and end time are set to -1, the system sets the end time to the current UTC time (in milliseconds) and calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.-1.60 indicates the latest 60 minutes. Constraint: In a single request, the following condition must be met: durationInMinutes x 60/ period ≤ 1440
step	No	Long	Statistical step (unit: ms). For example, if the statistical step is one minute, set this parameter to 60,000.
search	No	String	Field specified for fuzzy query, which can be left blank. If this field is not left blank, fuzzy query can be performed accordingly. In that case, the metadata field is mandatory.
sort	No	**sort** object	Sorting order, which can be left blank.
metadata_relation	No	Array of **RelationModel** objects	Combination of search criteria, which can be left blank.

Table 4-188 sort

Parameter	Mandatory	Type	Description
order_by	No	Array of strings	List of sorted fields. Fields in this list are sorted based on the specified order.
order	No	String	Sorting order. asc: ascending order. desc: descending order. Enumeration values: • **asc** • **desc**

Table 4-189 RelationModel

Parameter	Mandatory	Type	Description
key	No	String	Key specified for query, which corresponds to the key in the metadata.
value	No	Array of strings	Value of the specified key in the search criterion.
relation	No	String	Relationship between search criteria. Values: AND: All criteria must be met. OR: One of the criteria needs to be met. NOT: None of the criteria can be met. Enumeration values: • **AND** • **OR** • **NOT**

Response Parameters

Status code: 200

Table 4-190 Response body parameters

Parameter	Type	Description
events	Array of **EventModel** objects	Event or alarm details.

Table 4-191 EventModel

Parameter	Type	Description
starts_at	Long	Time when an event or alarm is generated (CST timestamp precise down to the millisecond).
ends_at	Long	Time when an event or alarm is cleared (CST timestamp precise down to the millisecond). 0: The event or alarm is not deleted.
timeout	Long	Duration (in milliseconds) at which an alarm is automatically cleared. For example, if an alarm needs to be automatically cleared in one minute, set this parameter to 60000. The default value is 3 days (that is, 3 days x 24 hours x 60 minutes x 1000 ms = 4,320,000 ms).
metadata	Map<String,String>	Details of an event or alarm. The value is a key-value pair. The following fields are mandatory: • event_name: event or alarm name, which is a string. • event_severity: event severity, which is an enumerated value with string elements. Value: Critical, Major, Minor, or Info. • event_type: event type, which is an enumerated value with string elements. Value: event or alarm. • resource_provider: name of a cloud service corresponding to an event, which is a string. • resource_type: resource type corresponding to an event, which is a string. • resource_id: resource ID corresponding to an event, which is a string.
annotations	Map<String,String>	Additional field for an event or alarm, which can be left blank.
attach_rule	Map<String,String>	Reserved field for an event or alarm, which can be left blank.

Parameter	Type	Description
id	String	Event or alarm ID, which is automatically generated by the system.

Status code: 400

Table 4-192 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 401

Table 4-193 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 403

Table 4-194 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 500

Table 4-195 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 503

Table 4-196 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**

Parameter	Type	Description
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Example Requests

Query the events and alarms of a specified user.

```
https://{endpoint}/v2/{project_id}/events

{
  "time_range" : "-1.-1.30",
  "metadata_relation" : [ {
    "key" : "event_type",
    "relation" : "AND",
    "value" : [ "alarm" ]
  }, {
    "key" : "event_severity",
    "relation" : "AND",
    "value" : [ "Critical", "Major", "Minor", "Info" ]
  } ],
  "search" : "",
  "sort" : {
    "order_by" : [ "starts_at" ],
    "order" : "desc"
  }
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "events" : [ {
    "annotations" : {
      "alarm_probableCause_zh_cn" : "Possible Causes",
      "message" : "Alarm Details",
      "alarm_fix_suggestion_zh_cn" : "Suggestions"
    },
    "attach_rule" : { },
    "ends_at" : 0,
    "id" : "6775161208461480000",
    "metadata" : {
      "event_type" : "alarm",
      "event_severity" : "Major",
      "resource_type" : "vm",
      "event_name" : "test",
      "resource_id" : "ecs123",
      "resource_provider" : "ecs"
    },
    "starts_at" : 16377362908000,
    "timeout" : 60000
```



```
 } ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.0400",
  "error_message" : "param error",
  "error_type" : "SC_BAD_REQUEST"
}
```

Status code: 401

Unauthorized: The authentication information is incorrect or invalid.

```
{
  "error_code" : "AOM.0401",
  "error_message" : "you dont have permission",
  "error_type" : "SC_UNAUTHORIZED"
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.0403",
  "error_message" : "you dont have permission",
  "error_type" : "SC_FORBIDDEN"
}
```

Status code: 500

Internal Server Error: The server is able to receive the request but unable to understand the request.

```
{
  "error_code" : "AOM.0500",
  "error_message" : "SC_INTERNAL_SERVER_ERROR",
  "error_type" : "SC_INTERNAL_SERVER_ERROR"
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.0503",
  "error_message" : "SC_NOT_IMPLEMENTED",
  "error_type" : "SC_NOT_IMPLEMENTED"
}
```

Status Codes

Status Code	Description
200	OK: The request is successful.

Status Code	Description
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.4.2 Counting Events and Alarms

Function

This API is used to count events and alarms that meet specified conditions.

URI

POST /v2/{project_id}/events/statistic

Table 4-197 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-198 Query Parameters

Parameter	Mandatory	Type	Description
type	No	String	Type of information to be queried. active_alert: Active alarms are to be queried. history_alert: Historical alarms are to be queried. If this parameter is not transferred or other values are transferred, information that meets the specified search criteria will be returned. Enumeration values: • **history_alert** • **active_alert**

Request Parameters

Table 4-199 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**

Table 4-200 Request body parameters

Parameter	Mandatory	Type	Description
time_range	Yes	String	Time range specified to query data of the last N minutes when the client time is inconsistent with the server time. It can also be used to accurately query the data of a specified period. Example: ● -1.-1.60: indicates that the data of the latest 60 minutes is queried. This query is based on the server time regardless of the current client time. ● 1650852000000.1650852300000.5: indicates the five minutes from 10:00:00 to 10:05:00 on April 25, 2022 GMT+08:00. Format: startTimeInMillis.endTimeInMillis.durationInMinutes Parameter description: ● startTimeInMillis: Start time of the query, in milliseconds. If this parameter is set to -1, the server calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.1650852300000.5 is equivalent to 1650852000000.1650852300000.5. ● endTimeInMillis: End time of the query, in milliseconds. If this parameter is set to -1, the server calculates the end time as follows: startTimeInMillis + durationInMinutes x 60 x 1000. If the calculated end time is later than the

Parameter	Mandatory	Type	Description
			current system time, the current system time is used. For example, 1650852000000.-1.5 is equivalent to 1650852000000.1650852300000.5. • durationInMinutes: Time span, in minutes. The value must be greater than 0 and greater than or equal to the result of "(endTimeInMillis – startTimeInMillis)/(60 x 1000) – 1". If both the start time and end time are set to -1, the system sets the end time to the current UTC time (in milliseconds) and calculates the start time as follows: endTimeInMillis – durationInMinutes x 60 x 1000. For example, -1.-1.60 indicates the latest 60 minutes. Constraint: In a single request, the following condition must be met: durationInMinutes x 60/ period ≤ 1440
step	Yes	Long	Statistical step (unit: ms). For example, if the statistical step is one minute, set this parameter to 60,000.
search	No	String	Field specified for fuzzy query, which can be left blank. If this field is not left blank, the system will return metadata's mandatory fields that are fuzzily matched.
sort	No	**sort** object	Sorting order, which can be left blank.
metadata_relation	No	Array of **RelationModel** objects	Combination of search criteria, which can be left blank.

Table 4-201 sort

Parameter	Mandatory	Type	Description
order_by	No	Array of strings	List of sorted fields. Fields in this list are sorted based on the specified order.
order	No	String	Sorting order. asc: ascending order. desc: descending order. Enumeration values: • **asc** • **desc**

Table 4-202 RelationModel

Parameter	Mandatory	Type	Description
key	No	String	Key specified for query, which corresponds to the key in the metadata.
value	No	Array of strings	Value of the specified key in the search criterion.
relation	No	String	Relationship between search criteria. Values: AND: All criteria must be met. OR: One of the criteria needs to be met. NOT: None of the criteria can be met. Enumeration values: • **AND** • **OR** • **NOT**

Response Parameters

Status code: 200

Table 4-203 Response body parameters

Parameter	Type	Description
step	Long	Statistical step (unit: ms). For example, if the statistical step is one minute, set this parameter to 60,000.
timestamps	Array of integers	Time series object corresponding to the statistical result.
series	Array of **EventSeries** objects	Statistical results of a time series object's different severities of events or alarms.

Table 4-204 EventSeries

Parameter	Type	Description
event_severity	String	Enumerated values of event or alarm severities. Enumeration values: • **Critical** • **Major** • **Minor** • **Info**
values	Array of integers	Event or alarm statistical result.

Status code: 400

Table 4-205 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 401

Table 4-206 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 403

Table 4-207 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 500

Table 4-208 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**

Parameter	Type	Description
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Status code: 503

Table 4-209 Response body parameters

Parameter	Type	Description
error_code	String	Response code. Enumeration values: • **AOM.0403**
error_msg	String	Error description. Enumeration values: • **Invalid projectId**
error_type	String	API call failure type. Enumeration values: • **Forbidden**

Example Requests

Query the events and alarms on the step basis in a specified time range.

```
https://{endpoint}/v2/{project_id}/events/statistic

{
  "time_range" : "-1.-1.5",
  "step" : 60000
}
```

Example Responses

Status code: 200

OK: The request is successful.

```
{
  "series" : [ {
    "event_severity" : "Minor",
    "values" : [ 0, 0, 0, 0, 0, 0 ]
  }, {
    "event_severity" : "Info",
```



```
    "values" : [ 0, 0, 0, 0, 0, 0 ]
  } ],
  "step" : 60000,
  "timestamps" : [ 1642820700000, 1642820760000, 1642820820000, 1642820880000, 1642820940000,
1642821000000 ]
}
```

Status code: 400

Bad Request: The request is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.0400",
  "error_message" : "param error",
  "error_type" : "SC_BAD_REQUEST"
}
```

Status code: 401

Unauthorized: The authentication information is incorrect or invalid.

```
{
  "error_code" : "AOM.0401",
  "error_message" : "you dont have permission",
  "error_type" : "SC_UNAUTHORIZED"
}
```

Status code: 403

Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.0403",
  "error_message" : "you dont have permission",
  "error_type" : "SC_FORBIDDEN"
}
```

Status code: 500

Internal Server Error: The server is able to receive the request but unable to understand the request.

```
{
  "error_code" : "AOM.0500",
  "error_message" : "SC_INTERNAL_SERVER_ERROR",
  "error_type" : "SC_INTERNAL_SERVER_ERROR"
}
```

Status code: 503

Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

```
{
  "error_code" : "AOM.0503",
  "error_message" : "SC_NOT_IMPLEMENTED",
  "error_type" : "SC_NOT_IMPLEMENTED"
}
```


Status Codes

Status Code	Description
200	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

4.4.3 Reporting Events and Alarms

Function

This API is used to report events and alarms of a user.

URI

PUT /v2/{project_id}/push/events

Table 4-210 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Table 4-211 Query Parameters

Parameter	Mandatory	Type	Description
action	No	String	Requested action. clear: The alarm is to be cleared. If this parameter is not transferred or other values are transferred, the alarm is reported by default. Enumeration values: • **clear**

Request Parameters

Table 4-212 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token obtained from IAM.
Content-Type	Yes	String	Content type, which is application/json. Enumeration values: • **application/json**
x-enterprise-prject-id	No	String	ID of the enterprise project to which the alarm belongs.

Table 4-213 Request body parameters

Parameter	Mandatory	Type	Description
events	Yes	Array of **EventModel** objects	Event or alarm details.

Table 4-214 EventModel

Parameter	Mandatory	Type	Description
starts_at	No	Long	Time when an event or alarm is generated (CST timestamp precise down to the millisecond).

Parameter	Mandatory	Type	Description
ends_at	No	Long	Time when an event or alarm is cleared (CST timestamp precise down to the millisecond). 0: The event or alarm is not deleted.
timeout	No	Long	Duration (in milliseconds) at which an alarm is automatically cleared. For example, if an alarm needs to be automatically cleared in one minute, set this parameter to 60000. The default value is 3 days (that is, 3 days x 24 hours x 60 minutes x 1000 ms = 4,320,000 ms).
metadata	No	Map<String,String>	Details of an event or alarm. The value is a key-value pair. The following fields are mandatory: ● event_name: event or alarm name, which is a string. ● event_severity: event severity, which is an enumerated value with string elements. Value: Critical, Major, Minor, or Info. ● event_type: event type, which is an enumerated value with string elements. Value: event or alarm. ● resource_provider: name of a cloud service corresponding to an event, which is a string. ● resource_type: resource type corresponding to an event, which is a string. ● resource_id: resource ID corresponding to an event, which is a string.
annotations	No	Map<String,String>	Additional field for an event or alarm, which can be left blank.

Parameter	Mandatory	Type	Description
attach_rule	No	Map<String,String>	Reserved field for an event or alarm, which can be left blank.
id	No	String	Event or alarm ID, which is automatically generated by the system.

Response Parameters

None

Example Requests

Report an alarm named "test".

```
https://{EndPoint}/v2/{project_id}/push/events

{
  "events" : [ {
    "starts_at" : 1605232501000,
    "timeout" : 60000,
    "metadata" : {
      "event_name" : "test",
      "event_severity" : "Major",
      "event_type" : "alarm",
      "resource_provider" : "ecs",
      "resource_type" : "vm",
      "resource_id" : "ecs123"
    },
    "annotations" : {
      "alarm_probableCause_zh_cn" : "Possible Causes",
      "alarm_fix_suggestion_zh_cn" : "Suggestions",
      "message" : "Alarm Details"
    },
    "attach_rule" : { }
  } ]
}
```

Example Responses

None

Status Codes

Status Code	Description
204	OK: The request is successful.
400	Bad Request: The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized: The authentication information is incorrect or invalid.

Status Code	Description
403	Forbidden: The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error: The server is able to receive the request but unable to understand the request.
503	Service Unavailable: The requested service is invalid. The client should not repeat the request without modifications.

Error Codes

See **Error Codes**.

5 Historical APIs

5.1 Auto Scaling APIs (Offline Soon)

5.1.1 Creating a Policy

Function

This API is used to create a policy.

NOTICE

- The value must be 1 to 64 characters starting with a letter. Only digits, letters, underscores (_), and hyphens (-) are allowed.
- In an AS group, for the same metric (**metric_name**), the value of **metric_threshold** with **metric_operation** set to **>** must be greater than that with **metric_operation** set to **<**.
- In an AS group, the **metric_operation** for a metric must be unique.
- In a policy, the logic of **conditions** of metrics with the same **metric_name** cannot conflict.
- The year in the trigger time (**launch_time**) of a scheduled policy cannot be later than 2099.
- The year in the start time (**start_time**) and end time (**end_time**) of a periodic policy cannot be later than 2099.
- An AS group supports a maximum of 10 scheduled and periodic policies, and 10 alarm policies.
- In an AS group, alarm policies cannot affect each other.

URI

POST /v1/{project_id}/pe/policy

Request

Request headers

Table 5-1 describes the request headers.

Table 5-1 Request headers

Parameter	Description	Mandatory	Example
Deployment-Name	Application name.	Yes	-
Content-Type	Content type, which is **application/json;charset=utf-8**.	Yes	application/json;charset=utf-8
Cluster-Id	Cluster ID.	Yes	-
Namespace	Namespace.	Yes	-
X-Auth-Token	User token obtained from IAM.	Yes	-
Reserved-Info	Custom parameter of the product.	No	-

Request parameters

Table 5-2 describes the request parameters.

Table 5-2 Request parameters

Parameter	Mandatory	Type	Value Range	Description
name	Yes	String	The value must be 1 to 64 characters starting with a letter. Only digits, letters, underscores (_), and hyphens (-) are allowed.	Policy name.
policy_type	Yes	String	• SCHEDULED • RECURRENCE • ALARM	Policy type.
rule	Yes	See **Table 5-3**.	-	Policy trigger rule.

Table 5-3 rule parameters

Parameter	Mandatory	Type	Value Range	Description
conditions	Yes	See **Table 5-4**.	Only one condition is allowed.	Condition contents. When multiple alarm policies are used, their conditions cannot overlap. Example: You cannot set a metric greater than 10% in one condition and smaller than 20% in another condition.
actions	Yes	See **Table 5-5**.	Only one action is allowed.	Action executed after a specified policy is successfully matched.

Table 5-4 conditions parameters

Parameter	Mandatory	Type	Value Range	Description
launch_time	Yes	String	-	Trigger time, which must comply with ISO 8601 or UTC specifications. • If the value of **policy_type** is **SCHEDULED**, the time format is **YYYY-MM-DDThh:mmZ**. • If the value of **policy_type** is **RECURRENCE**, the time format is **hh:mm**.
recurrence_type	Yes	String	Value: Daily, Weekly, or Monthly. • Daily: Execution by day • Weekly: Execution by week • Monthly: Execution by month	Trigger period.

Parameter	Mandatory	Type	Value Range	Description
recurrence_value	Yes	String	• When the value of **recurrence_type** is **Daily**, the value of this parameter is **null**. • When the value of **recurrence_type** is **Weekly**, this parameter indicates the Mth day within a week. Its value ranges from 0 to 6. **0** indicates Sunday, **1** indicates Monday, and the same rule applies to other values. To select multiple values, separate them using commas (,). Example: 0,2,4, which indicates Sunday, Tuesday, and Thursday, respectively. • When the value of **recurrence_type** is **Monthly**, this parameter indicates a day in a month. To select multiple values, separate them using commas (,). Example: 1,10,13,28.	Number of tasks executed when a periodic policy is triggered.
start_time	Yes	String	-	Time when periodic policy execution starts, which must comply with ISO 8601 or UTC specifications. Format: YYYY-MM-DDThh:mmZ.

Parameter	Mandatory	Type	Value Range	Description
end_time	Yes	String	-	Time when periodic policy execution stops, which must comply with ISO 8601 or UTC specifications. Format: YYYY-MM-DDThh:mmZ.
metric_namespace	Yes	String	• PAAS.CONTAINER: application metric namespace. • PAAS.CUSTOMMETRICS: custom metric namespace.	Namespace.
metric_name	Yes	String	The value must be 1 to 255 characters long and meet the [a-zA-Z_:][a-zA-Z0-9_:]* expression. That is, the value must start with a letter, underscore (_), or colon (:). Only letters, digits, underscores, and colons are allowed.	Metric name.
metric_unit	Yes	String	-	Unit.
period	Yes	Integer	20, 60, 300, 900, 1800, or 3600	Statistical period (unit: s).
evaluation_periods	Yes	Integer	1, 2, 3, 4, or 5	Number of consecutive periods.
statistic	Yes	String	Currently, only **average** is supported.	Statistic.
metric_operation	Yes	String	**>** and **<**. For example, you can use **>** in a threshold criterion (when the value of a metric is greater than **metric_thresholdUpdate**) to trigger actions.	Metric operator.
metric_threshold	Yes	Float	[0, 2147483647]	Threshold criterion.

The following describes the meaning of each field in the **conditions** parameter.

```
"conditions": [{
  "metric_namespace" : "PAAS.CONTAINER",
  "metric_name" : "cpuUsage",
  "metric_unit" : "Percent",
  "period" : 300,
  "evaluation_periods" : 2,
  "statistic" : "average",
  "metric_operation" : ">",
  "metric_threshold" : 70
  }]
```

For **cpuUsage** (**metric_name**) in **PAAS.CONTAINER** (**metric_namespace**), when its **average** value (**statistic**) exceeds 70% (**metric_threshold**) for two (**evaluation_periods**) consecutive periods (with a duration of 300s), the policy is triggered.

Table 5-5 actions parameters

Parameter	Mandatory	Type	Value Range	Description
type	Yes	String	• scale_out_k8s • scale_out_vm • scale_in_k8s • scale_in_vm • scale_set_k8s • scale_set_vm	• **scale_out_k8s** and **scale_out_vm** indicate a scale-out. • **scale_in_k8s** and **scale_in_vm** indicate a scale-in. • **scale_set_k8s** and **scale_set_vm** indicate the number of application instances. **NOTE** The value containing **k8s** indicates a container application and that containing **vm** indicates a process application.
parameters	Yes	See **Table 5-6**.	-	Number of scale-in or -out instances.

Table 5-6 parameters

Parameter	Mandatory	Type	Value Range	Description
scale_unit	Yes	Integer	Minimum number of instances to the maximum number of instances in a policy group.	Number of scale-in or -out instances.

Example request

- Example of a scheduled policy

```
{
   "name" : "policy1",
   "policy_type" : "SCHEDULED",
   "rule" : {
      "conditions" : [{
            "launch_time" : "2017-03-04T03:37Z",
            "recurrence_type" : null,
            "recurrence_value" : null,
            "start_time" : null,
            "end_time" : null
         }
      ],
      "actions" : [{
            "type" : "scale_set_k8s",
            "parameters" : {
               "scale_unit" : 1
            }
         }
      ]
   }
}
```

- Example of a periodic policy

```
{
   "name" : "policy_2",
   "policy_type" : "RECURRENCE",
   "rule" : {
      "conditions" : [{
            "launch_time" : "13:45",
            "recurrence_type" : "Weekly",
            "recurrence_value" : "0,1,4",
            "start_time" : "2017-01-26T03:33Z",
            "end_time" : "2099-01-31T03:33Z"
         }
      ],
      "actions" : [{
            "type" : "scale_set_k8s",
            "parameters" : {
               "scale_unit" : 1
            }
         }
      ]
   }
}
```

- Example of an alarm policy

```
{
   "name" : "policy_1",
   "policy_type" : "ALARM",
   "rule" : {
```



```
    "conditions" : [{
            "metric_namespace" : "PAAS.CONTAINER",
            "metric_name" : "cpuUsage",
            "metric_unit" : "Percent",
            "period" : 60,
            "evaluation_periods" : 1,
            "statistic" : "average",
            "metric_operation" : ">",
            "metric_threshold" : 70
        }
    ],
    "actions" : [{
            "type" : "scale_out_k8s",
            "parameters" : {
                "scale_unit" : 1
            }
        }
    ]
  }
}
```

Response

Response parameters

Table 5-7 describes the response parameters.

Table 5-7 Response parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error details.
policy_id	String	Policy ID.

Example response

```
{
  "errorCode": 0,
  "errorMessage": "",
  "policy_id": "1b9994f0-847a-45e4-aeee-e8b604dddb34"
}
```

Error Code

Table 5-8 Error codes

Error Code	Message	Solution
SVCSTG.PE.4001101	Invalid parameter.	Check whether the parameter meets requirements.
SVCSTG.PE.4031012	Failed to verify the project ID.	Check whether the parameter meets requirements.

Error Code	Message	Solution
SVCSTG.PE.5001201	Failed to insert or update data in the background.	Contact technical support.

5.1.2 Deleting a Policy

Function

This API is used to delete a specified policy.

URI

DELETE /v1/{project_id}/pe/policy

Request

Request headers

Table 5-9 describes the request headers.

Table 5-9 Request headers

Parameter	Description	Mandatory	Example
Deployment-Name	Application name.	Yes	-
Policy-Id	Policy ID.	Yes	-

Request parameters

None

Example request

None

Response

Response parameters

If a policy is successfully deleted, only **204** is returned. If a policy fails to be deleted, the response body containing error information is returned.

Table 5-10 describes the response parameters.

Table 5-10 Response parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error details.

Example response

None

Error Code

Table 5-11 Error codes

Error Code	Message	Solution
SVCSTG.PE.4031012	Failed to verify the project ID.	Check whether the parameter meets requirements.
SVCSTG.PE.5001205	Failed to delete records.	Contact technical support.

5.1.3 Modifying a Policy

Function

This API is used to modify a policy.

NOTICE

Alarm policies can be modified, but scheduled and periodic policies cannot.

URI

PUT /v1/{project_id}/pe/policy/{policy_id}

Table 5-12 describes the parameters.

Table 5-12 Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID.
policy_id	Yes	Policy ID.

Request

Request headers

Table 5-13 describes the request headers.

Table 5-13 Request headers

Parameter	Description	Mandatory	Example
Content-Type	Content type, which is **application/json;charset=utf-8**.	Yes	application/json;charset=utf-8
Cluster-Id	Cluster ID.	Yes	-
Namespace	Namespace.	Yes	-
Deployment-Name	Application name.	Yes	-

Request parameters

Table 5-14 describes the request parameters.

Table 5-14 Request parameters

Parameter	Mandatory	Type	Value Range	Description
id	Yes	String	-	Policy ID.
name	Yes	String	The value must be 1 to 64 characters starting with a letter. Only digits, letters, underscores (_), and hyphens (-) are allowed.	Policy name, which cannot be modified.
policy_type	Yes	String	ALARM	Policy type. Currently, only ALARM policies are supported.
rule	Yes	See Table 5-15.	-	Policy trigger rule.

Table 5-15 rule parameters

Parameter	Mandatory	Type	Value Range	Description
conditions	Yes	See **Table 5-16**.	1–5	Condition contents. A rule can contain multiple conditions in AND relationships. One condition describes the matching method of one metric.
actions	Yes	See **Table 5-17**.	1–5	Action executed after a specified policy is successfully matched.

Table 5-16 conditions parameters

Parameter	Mandatory	Type	Value Range	Description
metric_namespace	Yes	String	• PAAS.CONTAINER: application metric namespace. • PAAS.CUSTOMMETRICS: custom metric namespace.	Metric namespace.

Parameter	Mandatory	Type	Value Range	Description
metric_name	Yes	String	The value must be 1 to 255 characters long and meet the [a-zA-Z_:][a-zA-Z0-9_:]* expression. That is, the value must start with a letter, underscore (_), or colon (:). Only letters, digits, underscores, and colons are allowed.	Metric name.
metric_unit	Yes	String	-	Unit. **NOTE** The value is retrieved from an AMS API and varies with the metric name.
period	Yes	Integer	20, 60, 300, 900, 1800, or 3600	Statistical period (unit: s).
evaluation_periods	Yes	Integer	1, 2, 3, 4, or 5	Number of consecutive periods.
statistic	Yes	String	Currently, only **average** is supported.	Statistic.

Parameter	Mandatory	Type	Value Range	Description
metric_operation	Yes	String	> and <. For example, you can use > in a threshold criterion (when the value of a metric is greater than **metric_thresholdUpdate**) to trigger actions.	Metric operator.
metric_threshold	Yes	Float	[0, 2147483647]	Threshold criterion.

Table 5-17 actions parameters

Parameter	Mandatory	Type	Value Range	Description
type	Yes	String	• scale_out_k8s • scale_out_vm • scale_in_k8s • scale_in_vm	• **scale_out_k8s** and **scale_out_vm** indicate a scale-out. • **scale_in_k8s** and **scale_in_vm** indicate a scale-in. **NOTE** The value containing **k8s** indicates a container application and that containing **vm** indicates a process application.
parameters	Yes	See **Table 5-18**.	-	Number of scale-in or -out instances.

Table 5-18 parameters

Parameter	Mandatory	Type	Value Range	Description
scale_unit	Yes	Integer	Minimum number of instances to the maximum number of instances in a policy group.	Number of scale-in or -out instances.

Example request

Example of an alarm policy

```
{
   "id" : "5c2eecea-32ac-42c0-be30-f73b15d68429",
   "name" : "policy_1",
   "policy_type" : "ALARM",
   "rule" : {
      "conditions" : [{
            "metric_namespace" : "PAAS.CONTAINER",
            "metric_name" : "cpuUsage",
            "metric_unit" : "Percent",
            "period" : 60,
            "evaluation_periods" : 1,
            "statistic" : "average",
            "metric_operation" : ">",
            "metric_threshold" : 70
         }
      ],
      "actions" : [{
            "type" : "scale_out_k8s",
            "parameters" : {
               "scale_unit" : 1
            }
         }
      ]
   }
}
```

Response

Response parameters

Table 5-19 describes the response parameters.

Table 5-19 Response parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error details.
context	String	Details about a modified policy.

Example response

```
{
  "errorCode": 0,
  "errorMessage": "",
  "context": {
      "id" : "5c2eecea-32ac-42c0-be30-f73b15d68429",
      "name" : "policy_1",
      "policy_type" : "ALARM",
      "rule" : {
         "conditions" : [{
                "metric_namespace" : "PAAS.CONTAINER",
                "metric_name" : "cpuUsage",
                "metric_unit" : "Percent",
                "period" : 60,
                "evaluation_periods" : 1,
                "statistic" : "average",
                "metric_operation" : ">",
                "metric_threshold" : 70
            }
         ],
         "actions" : [{
                "type" : "scale_out_k8s",
                "parameters" : {
                   "scale_unit" : 1
                }
            }
         ]
      }
   }
}
```

Error Code

Table 5-20 Error codes

Error Code	Message	Solution
SVCSTG.PE.4001101	Invalid parameter.	Check whether the parameter meets requirements.
SVCSTG.PE.4031012	Failed to verify the project ID.	Check whether the parameter meets requirements.
SVCSTG.PE.4033008	Failed to update the scheduled or periodic policy.	Check whether the parameter meets requirements.
SVCSTG.PE.5001201	Failed to insert or update data in the background.	Contact technical support.
SVCSTG.PE.5001203	Query error.	Contact technical support.
SVCSTG.PE.5003007	Failed to update the threshold rule.	Contact technical support.

5.1.4 Querying a Policy List

Function

This API is used to query details about all policies of a specified project.

URI

GET /v1/{project_id}/pe/policy

Table 5-21 describes the parameters.

Table 5-21 Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID.

Request

Request headers

None

Request parameters

None

Example request

None

Response

Response parameters

Table 5-22 describes the response parameters.

Table 5-22 Response parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error details.
policy	See Table 5-23.	Details about a modified policy.

Table 5-23 policy parameters

Parameter	Type	Description
id	String	Policy ID.
name	String	Policy name.
policy_type	String	Policy type.
rule	See **Table 5-24**.	Policy trigger rule.
create_time	String	Creation time.
update_time	String	Update time.
status	String	Status

Table 5-24 rule parameters

Parameter	Type	Description
name	String	Policy name.
conditions	See **Table 5-25**.	Condition contents.
actions	See **Table 5-26**.	Action executed after a specified policy is successfully matched.

Table 5-25 conditions parameters

Parameter	Type	Description
metric_namespace	String	Namespace.
metric_name	String	Metric name.
metric_unit	String	Unit.
period	Integer	Statistical period (unit: s).
evaluation_periods	Integer	Number of consecutive periods.
statistic	String	Statistic.
metric_operation	String	Metric operator.
metric_threshold	Float	Threshold criterion.

Table 5-26 actions parameters

Parameter	Type	Description
type	String	Scale-in or -out. The value containing **k8s** indicates a container application and that containing **vm** indicates a process application.
parameters	See **Table 5-27**.	Number of scale-in or -out instances.

Table 5-27 parameters

Parameter	Type	Description
scale_unit	Integer	Number of scale-in or -out instances.

Example response


```
{
   "errorCode" : "SVCSTG.PE.0",
   "errorMessage" : "",
   "policies" : [{
      "id" : "8accffb6-e0ed-4433-b216-ccf6960eb1ad",
         "name" : "alarm",
         "group_id" : "77c37e1f-aa0c-438d-8445-39b3997786a2",
         "policy_type" : "ALARM",
         "rule" : {
            "name" : "",
            "conditions" : [{
                  "metric_namespace" : "PAAS.CONTAINER",
                  "metric_name" : "cpuCoreLimit",
                  "metric_unit" : "Percent",
                  "period" : 60,
                  "evaluation_periods" : 1,
                  "statistic" : "average",
                  "metric_operation" : "\u003e",
                  "metric_threshold" : 100,
                  "metric_dimensions" : null
               }
            ],
            "actions" : [{
                  "type" : "scale_out_k8s",
                  "parameters" : {
                     "scale_unit" : 1
                  }
               }
            ]
         },
         "create_time" : "2017-12-21T09:13:42Z",
         "update_time" : "2017-12-21T09:13:42Z",
         "status" : "enabled"
      }, {
         "id" : "9aafbd3d-eac4-4a92-a342-5b6f8d60fff2",
         "name" : "dingshi2",
         "group_id" : "77c37e1f-aa0c-438d-8445-39b3997786a2",
         "policy_type" : "SCHEDULED",
```



```
        "rule" : {
            "name" : "",
            "conditions" : [{
                    "launch_time" : "2017-12-22T06:30Z",
                    "recurrence_type" : "",
                    "recurrence_value" : "",
                    "start_time" : "",
                    "end_time" : ""
                }
            ],
            "actions" : [{
                    "type" : "scale_set_k8s",
                    "parameters" : {
                        "scale_unit" : 1
                    }
                }
            ]
        },
        "create_time" : "2017-12-21T09:14:00Z",
        "update_time" : "2017-12-21T09:14:00Z",
        "status" : "enabled"
    }
  ]
}
```


Error Code

Table 5-28 Error codes

Error Code	Message	Solution
SVCSTG.PE.4031012	Failed to verify the project ID.	Check whether the parameter meets requirements.
SVCSTG.PE.5001203	Query error.	Contact technical support.

5.1.5 Querying a Policy

Function

This API is used to query details about a policy of a specified project.

URI

GET /v1/{project_id}/pe/policy/{policy_id}

Table 5-29 describes the parameters.

Table 5-29 Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID.
policy_id	Yes	Policy ID.

Request

Request headers

None

Request parameters

None

Example request

None

Response

Response parameters

Table 5-30 describes the response parameters.

Table 5-30 Response parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error details.
policy	See Table 5-31.	Details about a modified policy.

Table 5-31 policy parameters

Parameter	Type	Description
id	String	Policy ID.
name	String	Policy name.
policy_type	String	Policy type.
rule	See Table 5-32.	Policy trigger rule.
create_time	String	Creation time.
update_time	String	Update time.
status	String	Status.

Table 5-32 rule parameters

Parameter	Type	Description
name	String	Policy name.
conditions	See **Table 5-33**.	Condition contents.
actions	See **Table 5-34**.	Action executed after a specified policy is successfully matched.

Table 5-33 conditions parameters

Parameter	Type	Description
metric_namespace	String	Namespace.
metric_name	String	Metric name.
metric_unit	String	Unit.
period	Integer	Statistical period (unit: s).
evaluation_periods	Integer	Number of consecutive periods.
statistic	String	Statistic.
metric_operation	String	Metric operator.
metric_threshold	Float	Threshold criterion.

Table 5-34 actions parameters

Parameter	Type	Description
type	String	Scale-in or -out. The value containing **k8s** indicates a container application and that containing **vm** indicates a process application.
parameters	See **Table 5-35**.	Number of scale-in or -out instances.

Table 5-35 parameters

Parameter	Type	Description
scale_unit	Integer	Number of scale-in or -out instances.

Example response


```
{
   "errorCode" : "SVCSTG.PE.0",
   "errorMessage" : "",
   "policy" : {
      "id" : "8accffb6-e0ed-4433-b216-ccf6960eb1ad",
      "name" : "alarm",
      "group_id" : "77c37e1f-aa0c-438d-8445-39b3997786a2",
      "policy_type" : "ALARM",
      "rule" : {
         "name" : "",
         "conditions" : [{
               "metric_namespace" : "PAAS.CONTAINER",
               "metric_name" : "cpuCoreLimit",
               "metric_unit" : "Percent",
               "period" : 60,
               "evaluation_periods" : 1,
               "statistic" : "average",
               "metric_operation" : "\u003e",
               "metric_threshold" : 100,
               "metric_dimensions" : null
            }
         ],
         "actions" : [{
               "type" : "scale_out_k8s",
               "parameters" : {
                  "scale_unit" : 1
               }
            }
         ]
      },
      "create_time" : "2017-12-21T09:13:42Z",
      "update_time" : "2017-12-21T09:13:42Z",
      "status" : "enabled"
   }
}
```


Error Code

Table 5-36 Error codes

Error Code	Message	Solution
SVCSTG.PE.4031012	Failed to verify the project ID.	Check whether the parameter meets requirements.
SVCSTG.PE.5001203	Query error.	Contact technical support.

5.1.6 Modifying Policy Group Attributes

Function

This API is used to modify policy group attributes.

URI

PUT /v1/{project_id}/pe/policy/config

Table 5-37 describes the parameters.

Table 5-37 Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID.

Request

Request headers

Table 5-38 describes the request headers.

Table 5-38 Request headers

Parameter	Description	Mandatory	Example
ResourceType	Resource type.	Yes	Default value: app, indicates modifying the policy group attributes of an application.
Cluster-Id	Cluster ID.	Yes	-
Namespace	Namespace.	Yes	-
Deployment-Name	Application name.	Yes	-

Request parameters

Table 5-39 describes the request parameters.

Table 5-39 Request parameters

Parameter	Type	Description
max_instances	Integer	Maximum number of instances.
min_instances	Integer	Minimum number of instances.
cooldown_time	Integer	Cooldown period (unit: s).
deployment_name	String	Microservice name.
cluster_id	String	Cluster ID.

Parameter	Type	Description
namespace	String	Namespace.

Example request

```
{
      "max_instances": 100,//Maximum number of instances
      "min_instances": 1,//Minimum number of instances
        "cooldown_time": 60//Cooldown period, which is the execution interval between two policies.
}
```

Response

Response parameters

Table 5-40 describes the response parameters.

Table 5-40 Response parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error details.

Example response

```
{
    "errorCode": "SVCSTG.PE.0",
    "errorMessage": ""
}
```

Error Code

Table 5-41 Error codes

Error Code	Message	Solution
SVCSTG.PE.4001101	Invalid parameter.	Check whether the parameter meets requirements.
SVCSTG.PE.4031012	Failed to verify the project ID.	Check whether the parameter meets requirements.
SVCSTG.PE.5001201	Failed to insert or update data in the background.	Contact technical support.
SVCSTG.PE.5001203	Query error.	Contact technical support.

5.1.7 Querying Policy Group Attributes

Function

This API is used to query policy group attributes.

URI

GET /v1/{project_id}/pe/policy/config

Table 5-42 describes the parameters.

Table 5-42 Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID.

Request

Request headers

Table 5-43 describes the request headers.

Table 5-43 Request headers

Parameter	Description	Mandatory	Example
ResourceType	Resource type.	Yes	Default value: app, indicates querying the policy group attributes of an application.
Content-Type	Content type, which is **application/json;charset=utf-8**.	Yes	application/json;charset=utf-8
Cluster-Id	Cluster ID.	Yes	-
Namespace	Namespace.	Yes	-
Deployment-Name	Application name.	Yes	-

Response

Response parameters

Table 5-44 describes the response parameters.

Table 5-44 Response parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error details.
config	See Table 5-45.	Set of policy group attributes.

Table 5-45 config parameters

Parameter	Type	Description
id	String	ID of a policy group attribute.
max_instances	Integer	Maximum number of instances.
min_instances	Integer	Minimum number of instances.
cooldown_time	Integer	Cooldown period (unit: s).

Example response

```
{
    "errorCode": "SVCSTG.PE.0",
     "errorMessage": "",
     "config": {
         "id":"f9c7f57e-b1dc-4ef0-a009-ff2848776803",
         "max_instances": 100,//Maximum number of instances
         "min_instances": 1,//Minimum number of instances
         "cooldown_time": 60//Cooldown period, which is the execution interval between two policies.
     }
}
```

Error Code

Table 5-46 Error codes

Error Code	Message	Solution
SVCSTG.PE.4031012	Failed to verify the project ID.	Check whether the parameter meets requirements.
SVCSTG.PE.5001203	Query error.	Contact technical support.

5.2 Common Monitoring APIs (Offline Soon)

5.2.1 Adding or Modifying One or More Application Discovery Rules (Offline Soon)

Function

This API is used to add or modify one or more application discovery rules. A maximum of 100 rules can be added to a project.

URI

PUT /v1/{project_id}/inv/servicediscoveryrules

Request

Request parameters

Table 5-47 describes the request parameter.

Table 5-47 Request parameter

Parameter	Mandatory	Type	Value Range	Description
appRules	No	Array	-	See Table 5-48.

Table 5-48 appRules parameters

Parameter	Mandatory	Type	Value Range	Description
projectid	Yes	String	-	Project ID obtained from IAM. Generally, a project ID contains 32 characters.

Parameter	Mandatory	Type	Value Range	Description
id	Yes	String	-	Rule ID. When creating a discovery rule, leave this parameter blank. When modifying a discovery rule, enter a rule ID.
name	Yes	String	The value can contain a maximum of 64 characters. It must start with a lowercase letter but cannot end with a hyphen (-). Only digits, lowercase letters, and hyphens are allowed.	Rule name.
createTime	No	String	-	Creation time. When creating a discovery rule, leave this parameter blank. When modifying a discovery rule, enter the returned **createTime**.
enable	Yes	Boolean	true or false	Whether to enable a rule.
hostid	No	Array	-	Host ID. Currently, this parameter is not used and can be left blank.

Parameter	Mandatory	Type	Value Range	Description
eventName	Yes	String	aom_inventory_rules_event	Rule event name. For application discovery, the value is fixed to **aom_inventory_rules_event**.
spec	Yes	Object	-	Rule details. See **Table 5-49**.

Table 5-49 spec parameters

Parameter	Mandatory	Type	Value Range	Description
detectLog	Yes	String	true or false	Whether to enable log collection.
logFileFix	Yes	Array	**log**, **trace**, or **out**	Log file suffix.

Parameter	Mandatory	Type	Value Range	Description
discoveryRule	Yes	Array	• If the value of **checkType** is **cmdLine**, set the value of **checkMode** to **contain**. **checkContent** is in the format of **["xxx"]**, indicating that the process must contain the **xxx** parameter. • If the value of **checkType** is **env**, set the value of **checkMode** to **contain**. **checkContent** is in the format of **["k1","v1"]**, indicating that the process must contain the environment variable whose name is **k1** and value is **v1**. • If the value of	Discovery rule. When it is an array consisting of multiple conditions, only the processes that meet all the conditions are filtered. See **Table 5-50**.

Parameter	Mandatory	Type	Value Range	Description
			checkType is **scope**, set the value of **checkMode** to **equals**. **checkContent** is in the format of **["hostId1","hostId2"]**, indicating that the rule takes effect only on specified nodes. If no nodes are specified, the rule applies to all nodes of the project.	
attrList	No	Array	**cmdLine** or **env**	Attribute list. Currently, this parameter is not used and can be left blank.
isDetect	Yes	String	true or false	Whether the scenario is a pre-check scenario. No rules will be saved in the pre-check scenario. This scenario is designed only to check rules before they are delivered.

Parameter	Mandatory	Type	Value Range	Description
isDefaultRule	Yes	String	true or false	Whether this rule will become the default rule.
priority	Yes	Integer	An integer from 1 to 9999. Default value: 9999.	Rule priority.
nameRule	Yes	Object	-	Naming requirements of the application discovery rule. See **Table 5-51**.
appType	Yes	String	-	Application type, which is used to categorize applications and is used only for rule classification and UI display. Enter any field. For example, enter **Java** or **Python** by technology stack, or enter **collector** or **database** by function.

Parameter	Mandatory	Type	Value Range	Description
logPathRule	No	Array	• If **cmdLineHash** is a fixed string, a log path or log file is specified. Otherwise, only the files whose names end with **.log** and **.trace** are collected. • If the value of **nameType** is **cmdLineHash**, **args** is in the format of **["00001"]** and **value** is in the format of **["/xxx/xx.log"]**, indicating that the log path is **/xxx/xx.log** when the startup command is **00001**.	Log path configuration rule. See **Table 5-54**.

Table 5-50 discoveryRule parameters

Parameter	Mandatory	Type	Value Range	Description
checkType	Yes	String	**cmdLine**, **env**, or **scope**	Match type.
checkMode	Yes	String	**contain** or **equals**	Match condition.

Parameter	Mandatory	Type	Value Range	Description
checkContent	Yes	Array	-	Matched value.

Table 5-51 nameRule parameters

Parameter	Mandatory	Type	Value Range	Description
appNameRule	Yes	Array	• If the value of **nameType** is **cmdLine**, **args** is in the format of **["start", "end"]**, indicating that the characters between **start** and **end** in the command are extracted. • If the value of **nameType** is **cmdLine**, **args** is in the format of **["aa"]**, indicating that the environment variable named **aa** is extracted. • If the value of **nameType** is **str**, **args** is in the format of **["fix"]**, indicating that the application name is suffixed with **fix**.	Application name rule. If there are multiple objects in an array, the character strings extracted from these objects constitute the application name. See **Table 5-52**.

Parameter	Mandatory	Type	Value Range	Description
			• If the value of **nameType** is **cmdLineHash**, **args** is in the format of **["0001"]** and **value** is in the format of **["ser"]**, indicating that the application name is **ser** when the startup command is **0001**.	

Parameter	Mandatory	Type	Value Range	Description
applicationNameRule	Yes	Array	• If the value of **nameType** is **cmdLine**, **args** is in the format of **["start", "end"]**, indicating that the characters between **start** and **end** in the command are extracted. • If the value of **nameType** is **cmdLine**, **args** is in the format of **["aa"]**, indicating that the environment variable named **aa** is extracted. • If the value of **nameType** is **str**, **args** is in the format of **["fix"]**, indicating that the application name is suffixed with **fix**. • If the value of	Application name rule. See **Table 5-53**.

Parameter	Mandatory	Type	Value Range	Description
			nameType is **cmdLineHash**, **args** is in the format of **["0001"]** and **value** is in the format of **["ser"]**, indicating that the application name is **ser** when the startup command is **0001**.	

Table 5-52 appNameRule parameters

Parameter	Mandatory	Type	Value Range	Description
nameType	Yes	String	**cmdLineHash**, **cmdLine**, **env**, or **str**	Value type.
args	Yes	Array	-	Input value.
value	No	Array	-	Application name, which is mandatory only when the value of **nameType** is **cmdLineHash**.

Table 5-53 applicationNameRule parameters

Parameter	Mandatory	Type	Value Range	Description
nameType	Yes	String	**cmdLineHash**, **cmdLine**, **env**, or **str**	Value type.
args	Yes	Array	-	Input value.

Parameter	Mandatory	Type	Value Range	Description
value	No	Array	-	Application name, which is mandatory only when the value of **nameType** is **cmdLineHash**.

Table 5-54 logPathRule parameters

Parameter	Mandatory	Type	Value Range	Description
nameType	Yes	String	cmdLineHash	Value type.
args	Yes	Array	-	Command.
value	Yes	Array	-	Log path.

Request headers

Table 5-55 describes the request headers.

Table 5-55 Request headers

Parameter	Mandatory	Description
X-Auth-Token	Yes	User token obtained from IAM.
Content-Type	Yes	Content type, which is **application/json**.

Example request

```
{
   "appRules": [
      {
         "id": "",
         "name": "bytest",
         "createTime": "",
         "projectid": "5a6036f48e954fcd84d198cb28db311a",
         "enable": true,
         "hostid": [],
         "eventName": "aom_inventory_rules_event",
         "spec": {
            "detectLog": "true",
            "logFileFix": ["log","trace"],
            "discoveryRule": [
               {
                  "checkType": "cmdLine",
```



```
                "checkMode": "contain",
                "checkContent": ["default"]
            },{
                "checkType": "scope",
                "checkMode": "equals",
                "checkContent": [
                    "44d6c4bb-f673-4bf4-8d33-313832f37b28"
                ]
            }
        ],
        "attrList": ["cmdLine"],
        "isDetect": "false",
        "priority": "1",
        "nameRule": {
            "appNameRule": [
                {
                    "nameType":"cmdLineHash",
                    "args":["00000000001"],
                    "value":["serviceName1"]
                },
                {
                    "nameType": "cmdLine",
                    "args": [
                        "/var/paas/kubernetes/","/kubeconfig"
                    ]
                },
                {
                    "nameType": "env",
                    "args": ["APP_NAME"]
                },
                {
                    "nameType": "str",
                    "args": ["kube"]
                }
            ],
            "applicationNameRule": [
                {
                    "nameType":"cmdLineHash",
                    "agrs":["00000000001"],
                    "value":["applicationName1"]
                },

                {
                    "nameType": "str",
                    "args": ["kubeproxy"]
                }
            ]
        },
        "appType": "",
        "isDefaultRule":"false",
        "logPathRule": [
            {
                "nameType":"cmdLineHash",
                "agrs":["00000000001"],
                "value":["/xx/xxx/xx.log","/xx/xxx/xx"]
            }
        ]
    }
  }
 ]
}
```

Response

Response parameters

Table 5-56 describes the response parameters.

Table 5-56 Response

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.

Example response

```
{
    "errorCode":"SVCSTG.INV.2000000",
    "errorMessage":""
}
```

Status Code

- Success response

  Table 5-57 describes the status code.

  Table 5-57 Status code

Status Code	Message	Description
200	OK	The request is successful.

- Error response

  Table 5-58 describes the status codes. For more information, see **Status Codes**.

  Table 5-58 Status codes

Status Code	Message	Description
400	Bad Request	Invalid request. The client should not repeat the request without modifications.
401	Unauthorized	The authentication information is incorrect or invalid.
403	Forbidden	The request is rejected. The server has received the request and understood it, but the server refuses to respond to it. The client should not repeat the request without modifications.
500	Internal Server Error	The server is able to receive the request but unable to understand the request.

Status Code	Message	Description
503	Service Unavailable	The requested service is invalid. The client should not repeat the request without modifications.

Error Code

Table 5-59 Error codes

Error Code	Error Message	Solution
SVCSTG.INV.4030000	Forbidden	Use an authorized account.
SVCSTG.INV.4000115	Invalid request parameter.	Check the parameter.
SVCSTG.INV.5000002	The Elasticsearch execution is abnormal.	Contact technical support.
SVCSTG.INV.5000003	The call ICMGR is abnormal.	Contact technical support.
SVCSTG.INV.5000001	The Elasticsearch session is null.	Contact technical support.
SVCSTG.INV.5000006	The apprule name already exists.	Use another name.
SVCSTG.INV.5000007	The maximum number of rules has been reached.	Delete unnecessary rules and add new rules.

5.2.2 Querying Threshold Rules (Offline Soon)

Function

This API is used to query a threshold rule list.

URI

GET /v1/{project_id}/ams/alarms

For details about the substitute of this API, see **Querying the Threshold Rule List**.

Request

Request parameters

Table 5-60 describes the request parameters.

Table 5-60 Request parameters

Parameter	Mandatory	Type	Value Range	Description
project_id	Yes	String	-	Project ID applied from Identity and Access Management (IAM). Generally, it is a string containing 32 characters.
limit	No	Integer	(0,1000]	Maximum number of returned records. Value range: 1–1000. Default value: 1000.
start	No	String	-	Pagination information.

Request headers

Table 5-61 describes the request headers.

Table 5-61 Request headers

Name	Mandatory	Description
X-Auth-Token	Yes	User token obtained from IAM.
Content-Type	Yes	Content type, which is **application/json**.

Response

Response parameters

Table 5-62 describes the response parameters.

Table 5-62 Response parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.
metaData	Object	Metadata, including pagination information.
metaData.count	Integer	Number of returned records.
metaData.total	Integer	Total number of records.
metaData.start	String	Start of the next page, which is used for pagination.
thresholds	Array	Threshold rule list.

Example response

```
{
   "errorCode": "SVCSTG.AMS.2000",
   "errorMessage": "success",
   "metaData": {
     "count": 10,
     "start": null,
     "total": 100
   },
   "thresholds":
   [
   {
      "id": "2137",
      "alarmName": "aaaaaaaa",
      "alarmDescription": "",
      "actionEnabled": false,
      "okActions": [],
      "alarmActions": [],
      "insufficientDataActions": [],
      "stateValue": "alarm",
      "stateReason": "",
      "stateUpdatedTimestamp": null,
      "metricName": "cpuCoreLimit",
      "namespace": "PAAS.CONTAINER",
      "statistic": "average",
      "dimensions": [
         {
            "name": "appName",
            "value": "rhm-broker"
         }
      ],
      "period": 60000,
      "evaluationPeriods": 1,
      "unit": "Core",
      "threshold": "0",
      "comparisonOperator": ">=",
      "alarmAdvice": "",
      "alarmLevel": 3
   }
   ]
}
```


Status Code

- Success response

  Table 5-63 describes the status code.

  Table 5-63 Status code

Status Code	Message	Description
200	OK	The request has succeeded.

- Error response

  Table 5-64 describes the status codes. For more information, see **Status Codes**.

  Table 5-64 Status codes

Status Code	Message	Description
400	Bad Request	The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized	The authorization information provided by the client is incorrect or invalid.
403	Forbidden	The request is rejected. The server has received the request and understood it, but the server is refusing to respond to it. The client should not repeat the request without modifications.
500	InternalServerError	The server is able to receive the request but unable to understand the request.
503	Service Unavailable	The requested service is invalid. The client should not repeat the request without modifications.

Error Code

Table 5-65 Error codes

Error Code	Message	Solution
SVCSTG_AMS_4000109	Invalid project ID.	Check whether the parameter meets requirements.

Error Code	Message	Solution
SVCSTG_AMS_4000110	Invalid limit.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000111	Invalid start.	Check whether the parameter meets requirements.
SVCSTG_AMS_5030001	The Cassandra session is null.	Contact technical support.
SVCSTG_AMS_5030002	The Cassandra execution is abnormal.	Contact technical support.

5.2.3 Modifying a Threshold Rule (Offline Soon)

Function

This API is used to modify a threshold rule.

URI

PUT /v1/{project_id}/ams/alarms

For details about the substitute of this API, see **Modifying a Threshold Rule**.

Request

Request parameters

Table 5-66 describes the request parameters.

Table 5-66 Request parameters

Parameter	Mandatory	Type	Value Range	Description
project_id	Yes	String	-	Project ID applied from Identity and Access Management (IAM). Generally, it is a string containing 32 characters.
statistic	Yes	String	maximum, minimum, average, sum, or sampleCount.	Statistic.

Parameter	Mandatory	Type	Value Range	Description
namespace	Yes	String	-	Namespace. The value of this parameter is saved in the backend when a threshold rule is added. It cannot be changed.
metricName	Yes	String	The value must be 1 to 255 characters long and meet the [a-zA-Z_:][a-zA-Z0-9_:]* expression. That is, the value must start with a letter, underscore (_), or colon (:). Only letters, digits, underscores, and colons are allowed.	Metric name. The value of this parameter is saved in the backend when a threshold rule is added. It cannot be changed.
period	Yes	Integer	-	Statistical period.
alarmLevel	Yes	Integer	-	Alarm severity.
evaluationPeriods	Yes	Integer	-	Number of consecutive periods.
comparisonOperator	Yes	String	-	Threshold criterion expression.
threshold	Yes	String	-	Threshold.
alarmName	Yes	String	-	Threshold name.
dimensions	Yes	String	-	Metric dimension. The value of this parameter is saved in the backend when a threshold rule is added. It cannot be changed.

Parameter	Mandatory	Type	Value Range	Description
unit	Yes	String	-	Metric unit. The value of this parameter is saved in the backend when a threshold rule is added. It cannot be changed.
actionEnabled	No	Boolean	-	Whether to enable the alarm function.
alarmActions	No	Array	-	Alarm action.
alarmAdvice	No	String	-	Alarm suggestion, which is an empty string.
alarmDescription	No	String	-	Threshold rule description.
insufficientDataActions	No	Array	-	Action to be taken when data is insufficient.
okActions	No	Array	-	Recovery action.

Request headers

Table 5-67 describes the request headers.

Table 5-67 Request headers

Name	Mandatory	Description
X-Auth-Token	Yes	User token obtained from IAM.
Content-Type	Yes	Content type, which is **application/json**.

Example request

```
{
  "actionEnabled": false,
  "alarmActions": [],
  "alarmAdvice": "",
  "alarmDescription": "",
  "alarmLevel": 3,
  "alarmName": "aaaaaaaa",
  "comparisonOperator": ">=",
```



```
  "dimensions": [
    {
      "name": "appName",
      "value": "rhm-broker"
    }
  ],
  "evaluationPeriods": 1,
  "insufficientDataActions": [],
  "metricName": "cpuCoreLimit",
  "namespace": "PAAS.CONTAINER",
  "okActions": [],
  "period": 60000,
  "statistic": "average",
  "threshold": 0,
  "unit": "Core"
}
```

Response

Response parameters

Table 5-68 describes the response parameters.

Table 5-68 Response parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.
alarmId	Integer	Threshold rule code.

Example response

```
{
  "errorCode": "SVCSTG.AMS.2000",
  "errorMessage": "success",
  "alarmId": 12345678
}
```

Status Code

- Success response

  Table 5-69 describes the status code.

  Table 5-69 Status code

Status Code	Message	Description
200	OK	The request has succeeded.

- Error response

  Table 5-70 describes the status codes. For more information, see **Status Codes**.

Table 5-70 Status codes

Status Code	Message	Description
400	Bad Request	The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized	The authorization information provided by the client is incorrect or invalid.
403	Forbidden	The request is rejected. The server has received the request and understood it, but the server is refusing to respond to it. The client should not repeat the request without modifications.
500	InternalServerError	The server is able to receive the request but unable to understand the request.
503	Service Unavailable	The requested service is invalid. The client should not repeat the request without modifications.

Error Code

Table 5-71 Error codes

Error Code	Message	Solution
SVCSTG_AMS_4000101	Invalid alarm name.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000102	The threshold rule name already exists.	Use another name.
SVCSTG_AMS_4000103	Invalid alarm description.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000104	Invalid alarm threshold.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000105	Invalid alarm period.	Check whether the parameter meets requirements.

Error Code	Message	Solution
SVCSTG_AMS_4000106	Invalid email list.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000107	The maximum number of threshold rules has been reached.	Contact technical support to expand the capacity.
SVCSTG_AMS_4000108	Invalid time range for alarm queries.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000109	Invalid project ID.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000115	Invalid request parameter.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000118	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000119	Invalid alarm statistic.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000120	Invalid alarm comparison operator.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000121	The alarm does not exist.	Check whether the threshold rule exists.
SVCSTG_AMS_5000000	Internal server error.	Contact technical support.

5.2.4 Adding a Threshold Rule (Offline Soon)

Function

This API is used to add a threshold rule.

URI

POST /v1/{project_id}/ams/alarms

For details about the substitute of this API, see **Adding a Threshold Rule**.

Request

Request parameters

Table 5-72 describes the request parameters.

Table 5-72 Request parameters

Parameter	Mandatory	Type	Value Range	Description
project_id	Yes	String	-	Project ID applied from Identity and Access Management (IAM). Generally, it is a string containing 32 characters.
statistic	Yes	String	maximum, minimum, average, sum, or sampleCount.	Statistic.
namespace	Yes	String	-	Namespace.
metricName	Yes	String	The value must be 1 to 255 characters long and meet the [a-zA-Z_:][a-zA-Z0-9_:]* expression. That is, the value must start with a letter, underscore (_), or colon (:). Only letters, digits, underscores, and colons are allowed.	Metric name.
period	Yes	Integer	-	Statistical period.
alarmLevel	Yes	Integer	-	Alarm severity.
evaluationPeriods	Yes	Integer	-	Number of consecutive periods.
comparisonOperator	Yes	String	-	Threshold criterion expression.

Parameter	Mandatory	Type	Value Range	Description
threshold	Yes	String	-	Threshold.
alarmName	Yes	String	-	Threshold name.
dimensions	Yes	String	-	Metric dimension.
unit	Yes	String	-	Metric unit.
actionEnabled	No	Boolean	-	Whether to enable the alarm function.
alarmActions	No	Array	-	Alarm action.
alarmAdvice	No	String	-	Suggestion.
alarmDescription	No	String	-	Threshold rule description.
insufficientDataActions	No	Array	-	Action to be taken when data is insufficient.
okActions	No	Array	-	Recovery action.

Request headers

Table 5-73 describes the request headers.

Table 5-73 Request headers

Name	Mandatory	Description
X-Auth-Token	Yes	User token obtained from IAM.
Content-Type	Yes	Content type, which is **application/json**.

Example request

```
{
   "actionEnabled": false,
   "alarmActions": [],
   "alarmAdvice": "",
   "alarmDescription": "",
   "alarmLevel": 3,
   "alarmName": "aaaaaaaa",
   "comparisonOperator": ">=",
   "dimensions": [
      {
         "name": "appName",
         "value": "rhm-broker"
```



```
      }
   ],
   "evaluationPeriods": 1,
   "insufficientDataActions": [],
   "metricName": "cpuCoreLimit",
   "namespace": "PAAS.CONTAINER",
   "okActions": [],
   "period": 60000,
   "statistic": "average",
   "threshold": 0,
   "unit": "Core"
}
```

Response

Response parameters

Table 5-74 describes the response parameters.

Table 5-74 Response parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.
alarmId	Integer	Threshold rule code.

Example response

```
{
   "errorCode": "SVCSTG.AMS.2000",
   "errorMessage": "success",
   "alarmId": 12345678
}
```

Status Code

- Success response

  Table 5-75 describes the status code.

  Table 5-75 Status code

Status Code	Message	Description
200	OK	The request has succeeded.

- Error response

  Table 5-76 describes the status codes. For more information, see **Status Codes**.

Table 5-76 Status codes

Status Code	Message	Description
400	Bad Request	The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized	The authorization information provided by the client is incorrect or invalid.
403	Forbidden	The request is rejected. The server has received the request and understood it, but the server is refusing to respond to it. The client should not repeat the request without modifications.
500	InternalServerError	The server is able to receive the request but unable to understand the request.
503	Service Unavailable	The requested service is invalid. The client should not repeat the request without modifications.

Error Code

Table 5-77 Error codes

Error Code	Message	Solution
SVCSTG_AMS_4000101	Invalid alarm name.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000102	The threshold rule name already exists.	Use another name.
SVCSTG_AMS_4000103	Invalid alarm description.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000104	Invalid alarm threshold.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000105	Invalid alarm period.	Check whether the parameter meets requirements.

Error Code	Message	Solution
SVCSTG_AMS_4000106	Invalid email list.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000107	The maximum number of threshold rules has been reached.	Contact technical support to expand the capacity.
SVCSTG_AMS_4000108	Invalid time range for alarm queries.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000109	Invalid project ID.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000115	Invalid request parameter.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000118	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000119	Invalid alarm statistic.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000120	Invalid alarm comparison operator.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000121	The alarm does not exist.	Check whether the threshold rule exists.
SVCSTG_AMS_5000000	Internal server error.	Contact technical support.

5.2.5 Querying Monitoring Data (Offline Soon)

Function

This API is used to query monitoring data of metrics within a specified time period. You can specify a dimension or period to query data.

URI

POST /v1/{project_id}/ams/metricdata?fillValue=xx

For details about the substitute API, see **Querying Monitoring Data**.

Table 5-78 describes the parameters.

Table 5-78 Parameters

Parameter	Mandatory	Type	Value Range	Description
project_id	Yes	String	-	Project ID applied from Identity and Access Management (IAM). Generally, it is a string containing 32 characters.
fillValue	No	String	–1, 0, null, and average	Filled value for breakpoints in monitoring data. Default value: –1. • -1: Breakpoints are filled with –1. • 0: Breakpoints are filled with 0. • null: Breakpoints are filled with null. • average: Breakpoints are filled with the average value of adjacent valid data. If there is no valid data, breakpoints are filled with null.

Request

Request parameters

Table 5-79 describes the request parameters.

Table 5-79 Request parameters

Parameter	Mandatory	Type	Value Range	Description
metrics	Yes	Array	The JSON array can contain a maximum of 20 metrics.	List of metrics.
namespace	Yes	String	PAAS.CONTAINER, PAAS.NODE, PAAS.SLA, PAAS.AGGR, and CUSTOMMETRICS.	Metric namespace.

Parameter	Mandatory	Type	Value Range	Description
metricName	Yes	String	1–255 characters.	Metric name.
dimensions	Yes	Array	Neither the array, nor the name/value of any dimension in the array can be left blank.	Metric dimension. dimensions.name: dimension name. Example: appName. dimensions.value: dimension value, such as a specific application name.
period	Yes	Integer	Enumerated value. Options: • 60: The data monitoring granularity is 1 minute. • 300: The data monitoring granularity is 5 minutes. • 900: The data monitoring granularity is 15 minutes. • 3600: The data monitoring granularity is 1 hour.	Data monitoring granularity.

Parameter	Mandatory	Type	Value Range	Description
timerange	Yes	String	Format: start time (UTC, in ms).end time (UTC, in ms).number of minutes in the time period When the start time and end time are –1, it indicates the latest *N* minutes. *N* indicates the time period by the granularity of minute.	Query time period. For example, **–1.–1.5** indicates the latest 5 minutes. **1501545600000.1501632000000.1440** indicates the fixed time period from 08:00:00 on August 1, 2017 to 08:00:00 August 2, 2017. **NOTE** Time range/period ≤ 1440 During calculation, **timerange** and **period** must be in the same unit.
statistics	Yes	Array	maximum, minimum, sum, average, or sampleCount.	Statistic.

Request headers

Table 5-80 describes the request headers.

Table 5-80 Request headers

Name	Mandatory	Description
X-Auth-Token	Yes	User token obtained from IAM.
Content-Type	Yes	Content type, which is **application/json**.

Example request

```
{
   "metrics": [
      {
         "namespace": "abc",
         "metricName": "def",
         "dimensions": [
            {
               "name": "instance_id",
```



```
                "value": "demo1"
            }
        ]
    }
  ],
  "period": 60,
  "timerange": "-1.-1.5",//Last 5 minutes
    "statistics": [
      "maximum",
      "minimum",
      "sum"
  ]
}
```

Response

Response parameters

Table 5-81 describes the response parameters.

Table 5-81 Response parameters

Parameter	Type	Description
errorCode	String	Response code.
errorMessage	String	Response message.
metrics	Object	-

Example response

```
{
  "errorCode": "SVCSTG.AMS.2000",
  "errorMessage": "success",
  "metrics": [{
    "metric": {
      "namespace": "abc",
      "metricName": "def",
      "dimensions": [{
        "name": "ghi",
        "value": "lmn"
      }]
    },
    "dataPoints": [{
      "timestamp": 1467892800000,
      "unit": "Percent",
      "statistics": [{
        "statistic": "maximum",
        "value": 23
      }]
    }]
  }]
}
```

Status Code

- Success response

  Table 5-82 describes the status code.

Table 5-82 Status code

Status Code	Message	Description
200	OK	The request has succeeded.

- Error response

  Table 5-83 describes the status codes. For more information, see **Status Codes**.

  Table 5-83 Status codes

Status Code	Message	Description
400	Bad Request	The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized	The authorization information provided by the client is incorrect or invalid.
403	Forbidden	The request is rejected. The server has received the request and understood it, but the server is refusing to respond to it. The client should not repeat the request without modifications.
500	InternalServerError	The server is able to receive the request but unable to understand the request.
503	Service Unavailable	The requested service is invalid. The client should not repeat the request without modifications.

Error Code

Table 5-84 Error codes

Error Code	Message	Solution
SVCSTG_AMS_4000101	Projectid is left blank.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000102	The metric data parameter is null.	Check whether the parameter meets requirements.

Error Code	Message	Solution
SVCSTG_AMS_4000103	Invalid period.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000104	Invalid statistics.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000105	Invalid metrics.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000106	Invalid time range.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000107	The number of data points in a time range exceeds 1440.	Check whether the parameter meets requirements.
SVCSTG_AMS_4000110	Invalid fillValue.	Check whether the parameter meets requirements.
SVCSTG_AMS_5000000	Internal server error.	Contact technical support.

6 Examples

6.1 Example 1: Querying Time Series Objects

Scenario

This section describes how to query time series objects about a node's CPU usage.

Obtaining Basic Information

Before querying time series, obtain the node ID from **dimensions** on the ECS console, and the cluster ID from **dimensions** on the cluster management page of the CCE console.

For details about the CPU usage metric, see table 1 in **Host Metrics and Dimensions**. For details about the name corresponding to the cluster or node ID, see table 2 in **Host Metrics and Dimensions**. For details about the namespace, see **Table 4 QuerySeriesOptionParam**.

Querying Time Series Objects

- URI format

  POST /v2/*{project_id}***/series**

- Example request

  POST https://*{aom_endpoint}***/v2/***{project_id}***/series**

  To obtain the value of *{aom_endpoint}*, see Regions and Endpoints.

  Body:

```
{
   "series": [
      {
         "namespace": "PAAS.NODE",
         "metric_name": "cpuUsage",
         "dimensions":[
            {
               "name":"clusterId",
               "value":"4fae3587-0202-11eb-9ba9-0255ac100b02"
            },
            {
               "name":"hostID",
```



```
                "value":"4100f512-c4e9-4b65-b0dd-2b94ea5e1a84"
            }
        ]
    }
  ]
}
```

- Example response

```
{
  "meta_data": {
    "count": 0,
    "offset": 0,
    "total": 1,
    "nextToken": 9007148492074133276
  },
  "series": [{
    "namespace": "PAAS.NODE",
    "metric_name": "cpuUsage",
    "unit": "Percent",
    "dimensions": [{
      "name": "clusterId",
      "value": "4fae3587-0202-11eb-9ba9-0255ac100b02"
    },
    {
      "name": "clusterName",
      "value": "testdiskrate"
    },
    {
      "name": "hostID",
      "value": "4100f512-c4e9-4b65-b0dd-2b94ea5e1a84"
    },
    {
      "name": "nameSpace",
      "value": "default"
    },
    {
      "name": "nodeIP",
      "value": "192.168.0.123"
    },
    {
      "name": "nodeName",
      "value": "192.168.0.123"
    }]
  }]
}
```

6.2 Example 2: Querying Time Series Data

Scenario

This section describes how to query the time series data about a node's CPU usage.

Obtaining Basic Information

Before querying time series data, obtain the node ID from **dimensions** on the ECS console, and the cluster ID from **dimensions** on the cluster management page of the CCE console.

For details about the CPU usage metric, see table 1 in **Host Metrics and Dimensions**. For details about the name corresponding to the cluster or node ID, see table 2 in **Host Metrics and Dimensions**. For details about the namespace, see **Table 4 QuerySample**

Querying Time Series Data

- URI format

  POST /v2/*{project_id}*/samples

- Example request

  POST https://*{aom_endpoint}*/v2/*{project_id}*/samples

  To obtain the value of *{aom_endpoint}*, see Regions and Endpoints.

  Body:

```
{
   "samples": [
      {
         "namespace": "PAAS.NODE",
         "metric_name": "cpuUsage",
           "dimensions": [ {
               "name": "clusterId",
               "value": "4fae3587-0202-11eb-9ba9-0255ac100b02"
            },
            {
               "name": "hostID",
               "value": "4100f512-c4e9-4b65-b0dd-2b94ea5e1a84"
            }
         ]
      }
   ],
   "period": 60,
   "time_range": "-1.-1.2",
   "statistics": [
      "maximum",
      "minimum",
      "sum"
   ]
}
```

- Example response

```
{
   "samples": [{
      "sample": {
         "namespace": "PAAS.NODE",
         "metric_name": "cpuUsage",
         "dimensions": [{
            "name": "clusterId",
            "value": "4fae3587-0202-11eb-9ba9-0255ac100b02"
         },
         {
            "name": "hostID",
            "value": "4100f512-c4e9-4b65-b0dd-2b94ea5e1a84"
         }]
      },
      "data_points": [{
         "timestamp": 1608191880000,
         "unit": "Percent",
         "statistics": [{
            "statistic": "maximum",
            "value": 14.5
         },
         {
            "statistic": "minimum",
            "value": 14.5
         },
         {
            "statistic": "sum",
            "value": 14.5
         }]
      },
      {
         "timestamp": 1608191940000,
```



```
            "unit": "Percent",
            "statistics": [{
                "statistic": "maximum",
                "value": 12.0
            },
            {
                "statistic": "minimum",
                "value": 12.0
            },
            {
                "statistic": "sum",
                "value": 12.0
            }]
        }]
    }]
}
```


7 Permissions Policies and Supported Actions

7.1 Introduction

This section describes fine-grained permissions management for AOM. If your cloud account does not need individual IAM users, then you may skip over this section.

By default, new IAM users do not have any permissions assigned. You need to add a user to one or more groups, and assign permissions policies or roles to these groups. The user then inherits permissions from the groups it is a member of. This process is called authorization. After authorization, the user can perform specified operations on AOM.

You can grant users permissions by using roles**roles** and policies**policies**. Roles are a type of coarse-grained authorization mechanism that defines permissions related to user responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

Policy-based authorization is recommended if you want to allow or deny the access to an API.

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions can call the API successfully. For example, if an IAM user queries metrics using an API, the user must have been granted permissions that allow the **aom:metric:get** action.

Supported Actions

There are two kinds of policies: system-defined policies and custom policies. If the permissions preset in the system do not meet your requirements, you can create custom policies and apply these policies to user groups for refined access control.

Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: Defined by actions in a custom policy.
- APIs: REST APIs that can be called in a custom policy.
- Actions: Added to a custom policy to control permissions for specific operations.
- IAM projects and enterprise projects: Type of projects for which an action will take effect. Policies that contain actions supporting both IAM and enterprise projects can be assigned to user groups and take effect in both IAM and Enterprise Management. Policies that only contain actions supporting IAM projects can be assigned to user groups and only take effect for IAM. Such policies will not take effect if they are assigned to user groups in Enterprise Management. For details about the differences between IAM and enterprise projects, see **What Are the Differences Between IAM and Enterprise Management**.

AOM supports the following actions that can be defined in custom policies:

- **Monitoring Actions**: includes the actions supported by monitoring APIs, such as the APIs for querying metrics and monitoring data.
- **Log Actions**: includes the actions supported by log APIs, such as the API for querying logs.
- **Alarm Actions**: includes the actions supported by alarm APIs, such as the API for querying events and alarms.

7.2 Monitoring Actions

NOTE

√: supported; x: not supported

Table 7-1 Monitoring actions

Permissions	API	Action	IAM Project	Enterprise Project
Querying time series objects	POST /v2/{project_id}/series	aom:metric:list	√	×
Querying time series data	POST /v2/{project_id}/samples	aom:metric:list	√	×
Querying metrics	POST /v1/{project_id}/ams/metrics	aom:metric:get	√	×

Permissions	API	Action	IAM Project	Enterprise Project
Querying monitoring data	POST /v1/{project_id}/ams/metricdata	aom:metric:get	√	×
Adding or modifying a service discovery rule	PUT /v1/{project_id}/inv/servicediscoveryrules	aom:discoveryRule:set	√	×
Deleting a service discovery rule	DELETE /v1/{project_id}/inv/servicediscoveryrules	aom:discoveryRule:delete	√	×
Querying existing service discovery rules	GET /v1/{project_id}/inv/servicediscoveryrules	aom:discoveryRule:get	√	×
Adding a threshold rule	POST /v2/{project_id}/alarm-rules	aom:alarmRule:create	√	×
Querying the threshold rule list	GET /v2/{project_id}/alarm-rules	aom:alarmRule:get	√	×
Modifying a threshold rule	PUT /v2/{project_id}/alarm-rules	aom:alarmRule:set	√	×
Deleting a threshold rule	DELETE /v2/{project_id}/alarm-rules/{alarm_rule_id}	aom:alarmRule:delete	√	×
Querying a threshold rule	GET /v2/{project_id}/alarm-rules/{alarm_rule_id}	aom:alarmRule:get	√	×
Deleting threshold rules in batches	POST /v2/{project_id}/alarm-rules/delete	aom:alarmRule:delete	√	×

7.3 Log Actions

NOTE

√: supported; x: not supported

Table 7-2 Log actions

Permissions	API	Action	IAM Project	Enterprise Project
Querying logs	POST /v1/{project_id}/als/action	aom:log:list	√	×

7.4 Alarm Actions

NOTE

√: supported; x: not supported

Table 7-3 Alarm actions

Permissions	API	Action	IAM Project	Enterprise Project
Querying events and alarms	POST /v2/{project_id}/events	aom:alarm:list	√	×
Counting events and alarms	POST /v2/{project_id}/events/statistic	aom:alarm:list	√	×
Reporting events and alarms	PUT /v2/{project_id}/push/events	aom:alarm:put	√	×

8 Appendix

8.1 Status Codes

Table 8-1 describes status codes.

Table 8-1 Status codes

Status Code	Message	Description
100	Continue	The client should continue with its request. This interim response is used to inform the client that the initial part of the requests has been received and not rejected by the server.
101	Switching Protocols	The protocol should be switched. The protocol can only be switched to a more advanced protocol. For example, a new HTTP protocol.
200	OK	The request has succeeded.
201	Created	The request has been fulfilled, resulting in the creation of a new resource.

Status Code	Message	Description
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	The server successfully processed the request, but is returning information that may be from another source.
204	No Content	The server has successfully processed the request, but does not return any content. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has successfully processed a part of the GET request.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which a user terminal (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned with a new permanent URI. This new URI is contained in the response.
302	Found	The requested resource resides temporarily under a different URI.

Status Code	Message	Description
303	See Other	The response to the request can be found under a different URI, and should be retrieved using a GET or POST method.
304	Not Modified	The requested resource has not been modified. When the server returns this status code, it does not return any resources.
305	Use Proxy	The requested resource must be accessed through a proxy.
306	Unused	This HTTP status code is no longer used.
400	Bad Request	The request is invalid. The client should not repeat the request without modifications.
401	Unauthorized	The authorization information provided by the client is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.
403	Forbidden	The request is rejected. The server has received the request and understood it, but the server is refusing to respond to it. The client should not repeat the request without modifications.
404	Not Found	The requested resource cannot be found. The client should not repeat the request without modifications.

Status Code	Message	Description
405	Method Not Allowed	The method specified in the request is not supported by the requested resource. The client should not repeat the request without modifications.
406	Not Acceptable	The server cannot fulfill the request based on the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must authenticate itself with the proxy first.
408	Request Timeout	The client does not produce a request within the time that the server was prepared to wait. The client may repeat the request without modifications later.
409	Conflict	The request cannot be processed due to a conflict. The resource that the client attempts to create already exits, or the request fails to be processed because of the update of the conflict request.
410	Gone	The requested resource cannot be found. The requested resource has been deleted permanently.
411	Length Required	The server refuses to process the request without a defined Content-Length.

Status Code	Message	Description
412	Precondition Failed	The server does not meet one of the preconditions that the requester puts on the request.
413	Request Entity Too Large	The server refuses to process a request because the request entity is too large. The server may disable the connection to prevent the client from sending requests consecutively. If the server cannot process the request temporarily, the response will contain a Retry-After field.
414	Request-URI Too Long	The request URI is too long for the server to process.
415	Unsupported Media Type	The server cannot process the media format in the request.
416	Requested Range Not Satisfiable	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	Unprocessable Entity	The request is well-formed but is unable to be processed due to semantic errors.

Status Code	Message	Description
429	Too Many Requests	The client sends excessive requests to the server within a given time (exceeding the limit on the access frequency of the client), or the server receives excessive requests within a given time (beyond its processing capability). In this case, the client should repeat requests after the time specified in the Retry-After header of the response expires.
500	Internal Server Error	The server is able to receive the request but unable to understand the request.
501	Not Implemented	The server does not support the function required to fulfill the request.
502	Bad Gateway	The server acting as a gateway or proxy receives an invalid response from a remote server.
503	Service Unavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	Server Timeout	The request cannot be fulfilled within a given time. This status code is returned to the client only when the timeout parameter is specified in the request.
505	HTTP Version Not Supported	The server does not support the HTTP protocol version used in the request.

8.2 Error Codes

Status Code	Error Code	Message	Description	Solution
200	SVCSTG.INV.2000000	null	The request is properly executed.	No action is required after the request is executed.
300	AOM.08001300	The maximum number of rules has been reached.	The maximum number of rules has been reached.	Delete unneeded rules and try again.
400	AOM.02001101	Invalid rule name.	Invalid rule name.	Check whether the parameter meets requirements.
400	AOM.02001102	The rule name already exists.	The rule name already exists.	Check whether the parameter meets requirements.
400	AOM.02001103	Invalid description.	Invalid description.	Check whether the parameter meets requirements.
400	AOM.02001104	Invalid threshold.	Invalid threshold.	Check whether the parameter meets requirements.
400	AOM.02001105	Invalid period.	Invalid period.	Check whether the parameter meets requirements.
400	AOM.02001106	Invalid email.	Invalid email.	Check whether the parameter meets requirements.
400	AOM.02001107	The maximum number of rules has been reached.	The maximum number of rules has been reached.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02001108	Invalid time range.	Invalid time range.	Check whether the parameter meets requirements.
400	AOM.02001109	Threshold rule xxx does not exist.	Threshold rule xxx does not exist.	Check whether the parameter meets requirements.
400	AOM.02001110	Invalid limit.	Invalid limit.	Check whether the parameter meets requirements.
400	AOM.02001111	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.
400	AOM.02001112	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02001115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02001118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	AOM.02001119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.
400	AOM.02001120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	AOM.02001121	The rule does not exist.	The rule does not exist.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02001400	Bad request.	Bad request.	Check whether the parameter meets requirements.
400	AOM.02002101	Invalid rule.	Invalid rule.	Check whether the parameter meets requirements.
400	AOM.02002102	The rule name already exists.	The rule name already exists.	Check whether the parameter meets requirements.
400	AOM.02002103	Invalid description.	Invalid description.	Check whether the parameter meets requirements.
400	AOM.02002104	Invalid threshold.	Invalid threshold.	Check whether the parameter meets requirements.
400	AOM.02002105	Invalid period.	Invalid period.	Check whether the parameter meets requirements.
400	AOM.02002106	Invalid email.	Invalid email.	Check whether the parameter meets requirements.
400	AOM.02002107	The maximum number of rules has been reached.	The maximum number of rules has been reached.	Check whether the parameter meets requirements.
400	AOM.02002108	Invalid time range.	Invalid time range.	Check whether the parameter meets requirements.
400	AOM.02002109	Invalid project ID.	Invalid project ID.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02002110	Invalid limit.	Invalid limit.	Check whether the parameter meets requirements.
400	AOM.02002111	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.
400	AOM.02002112	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02002115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02002118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	AOM.02002119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.
400	AOM.02002120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	AOM.02002121	The rule does not exist.	The rule does not exist.	Check whether the parameter meets requirements.
400	AOM.02002400	Bad request.	Bad request.	Check whether the parameter meets requirements.
400	AOM.02003101	Invalid rule.	Invalid rule.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02003102	The rule name already exists.	The rule name already exists.	Check whether the parameter meets requirements.
400	AOM.02003103	Invalid description.	Invalid description.	Check whether the parameter meets requirements.
400	AOM.02003104	Invalid threshold.	Invalid threshold.	Check whether the parameter meets requirements.
400	AOM.02003105	Invalid period.	Invalid period.	Check whether the parameter meets requirements.
400	AOM.02003106	Invalid email.	Invalid email.	Check whether the parameter meets requirements.
400	AOM.02003107	The maximum number of rules has been reached.	The maximum number of rules has been reached.	Check whether the parameter meets requirements.
400	AOM.02003108	Invalid time range.	Invalid time range.	Check whether the parameter meets requirements.
400	AOM.02003109	Invalid project ID.	Invalid project ID.	Check whether the parameter meets requirements.
400	AOM.02003110	Invalid limit.	Invalid limit.	Check whether the parameter meets requirements.
400	AOM.02003111	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02003112	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02003115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02003118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	AOM.02003119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.
400	AOM.02003120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	AOM.02003121	The rule does not exist.	The rule does not exist.	Check whether the parameter meets requirements.
400	AOM.02003400	Bad request.	Bad request.	Check whether the parameter meets requirements.
400	AOM.02004101	Invalid rule.	Invalid rule.	Check whether the parameter meets requirements.
400	AOM.02004102	The rule name already exists.	The rule name already exists.	Check whether the parameter meets requirements.
400	AOM.02004103	Invalid description.	Invalid description.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02004104	Invalid threshold.	Invalid threshold.	Check whether the parameter meets requirements.
400	AOM.02004105	Invalid period.	Invalid period.	Check whether the parameter meets requirements.
400	AOM.02004106	Invalid email.	Invalid email.	Check whether the parameter meets requirements.
400	AOM.02004107	The maximum number of rules has been reached.	The maximum number of rules has been reached.	Check whether the parameter meets requirements.
400	AOM.02004108	Invalid time range.	Invalid time range.	Check whether the parameter meets requirements.
400	AOM.02004109	Invalid project ID.	Invalid project ID.	Check whether the parameter meets requirements.
400	AOM.02004110	Invalid limit.	Invalid limit.	Check whether the parameter meets requirements.
400	AOM.02004111	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.
400	AOM.02004112	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02004115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02004118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	AOM.02004119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.
400	AOM.02004120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	AOM.02004121	The rule does not exist.	The rule does not exist.	Check whether the parameter meets requirements.
400	AOM.02004400	Bad request.	Bad request.	Check whether the parameter meets requirements.
400	AOM.02005101	Invalid rule.	Invalid rule.	Check whether the parameter meets requirements.
400	AOM.02005102	The rule name already exists.	The rule name already exists.	Check whether the parameter meets requirements.
400	AOM.02005103	Invalid description.	Invalid description.	Check whether the parameter meets requirements.
400	AOM.02005104	Invalid threshold.	Invalid threshold.	Check whether the parameter meets requirements.
400	AOM.02005105	Invalid period.	Invalid period.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02005106	Invalid email.	Invalid email.	Check whether the parameter meets requirements.
400	AOM.02005107	The maximum number of rules has been reached.	The maximum number of rules has been reached.	Check whether the parameter meets requirements.
400	AOM.02005108	Invalid time range.	Invalid time range.	Check whether the parameter meets requirements.
400	AOM.02005109	Invalid project ID.	Invalid project ID.	Check whether the parameter meets requirements.
400	AOM.02005110	Invalid limit.	Invalid limit.	Check whether the parameter meets requirements.
400	AOM.02005111	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.
400	AOM.02005112	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02005115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.02005118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	AOM.02005119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.02005120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	AOM.02005121	The rule does not exist.	The rule does not exist.	Check whether the parameter meets requirements.
400	AOM.02005400	Bad request.	Bad request.	Check whether the parameter meets requirements.
400	AOM.04007101	Invalid namespace.	Invalid namespace.	Check whether the parameter meets requirements.
400	AOM.04007102	Invalid inventory ID.	Invalid inventory ID.	Check whether the parameter meets requirements.
400	AOM.04007103	The project ID cannot be left blank.	The project ID cannot be left blank.	Check whether the parameter meets requirements.
400	AOM.04007104	Invalid type.	Invalid type.	Check whether the parameter meets requirements.
400	AOM.04007105	Invalid limit.	Invalid limit.	Check whether the parameter meets requirements.
400	AOM.04007106	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.
400	AOM.04007107	Invalid parent inventory ID.	Invalid parent inventory ID.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.04007108	Invalid type and relation.	Invalid type and relation.	Check whether the parameter meets requirements.
400	AOM.04007109	Invalid metric name.	Invalid metric name.	Check whether the parameter meets requirements.
400	AOM.04007110	Invalid relation.	Invalid relation.	Check whether the parameter meets requirements.
400	AOM.04007111	The type and relation cannot be left blank.	The type and relation cannot be left blank.	Check whether the parameter meets requirements.
400	AOM.04007112	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.04007115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.04007118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	AOM.04007119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.
400	AOM.04007120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	AOM.04007400	Bad request.	Bad request.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.04008101	Invalid namespace.	Invalid namespace.	Check whether the parameter meets requirements.
400	AOM.04008102	Invalid inventory ID.	Invalid inventory ID.	Check whether the parameter meets requirements.
400	AOM.04008103	The project ID cannot be left blank.	The project ID cannot be left blank.	Check whether the parameter meets requirements.
400	AOM.04008104	Invalid type.	Invalid type.	Check whether the parameter meets requirements.
400	AOM.04008105	Invalid limit.	Invalid limit.	Check whether the parameter meets requirements.
400	AOM.04008106	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.
400	AOM.04008107	Invalid parent inventory ID.	Invalid parent inventory ID.	Check whether the parameter meets requirements.
400	AOM.04008108	Invalid type and relation.	Invalid type and relation.	Check whether the parameter meets requirements.
400	AOM.04008109	Invalid metric name.	Invalid metric name.	Check whether the parameter meets requirements.
400	AOM.04008110	Invalid relation.	Invalid relation.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	AOM.04008111	The type and relation cannot be left blank.	The type and relation cannot be left blank.	Check whether the parameter meets requirements.
400	AOM.04008112	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.04008115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	AOM.04008118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	AOM.04008119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.
400	AOM.04008120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	AOM.04008400	Bad request.	Bad request.	Check whether the parameter meets requirements.
400	AOM.07001400	Invalid parameter.	Invalid parameter.	Check whether the parameter meets requirements.
400	SVCSTG.INV.4000115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000001	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	SVCSTG_AMS_4000002	Invalid namespace.	Invalid namespace.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000003	Dimensions cannot be left blank.	Dimensions cannot be left blank.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000005	Invalid metric data type.	Invalid metric data type.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000006	The metric data value cannot be left blank.	The metric data cannot be left blank.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000007	Invalid dimension.	Invalid dimension.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000008	The request exceeds 40 KB.	The request cannot exceed 40 KB.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000009	The number of elements in the dimension array exceeds the allowed limit.	Too many elements in the dimension array.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000010	Invalid collection time.	Invalid collection time.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000101	The namespace or alarm name is invalid, or the project ID is left blank.	The namespace or alarm name is invalid, or the project ID is left blank.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	SVCSTG_AMS_4000102	The inventory ID is invalid, the metric data value is left blank, or the threshold rule name already exists.	The inventory ID is invalid, the metric data value is left blank, or the threshold rule name already exists.	Check whether the parameter meets requirements, or change the rule name and try again.
400	SVCSTG_AMS_4000103	Invalid range or alarm description.	Invalid range or alarm description.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000104	Invalid statistics or alarm threshold.	Invalid statistics or alarm threshold.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000105	Invalid limit, metric, or alarm period.	Invalid limit, metric, or alarm period.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000106	Invalid offset, time range, or email.	Invalid offset, time range, or email.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000107	The number of data points in a time range exceeds 1440 or the maximum number of threshold rules has been reached.	The number of data points in a time range exceeds 1440 or the maximum number of threshold rules has been reached.	Check whether the parameter meets the requirements or contact technical support.
400	SVCSTG_AMS_4000108	Invalid time range.	Invalid time range.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000109	Invalid metric name or project ID.	Invalid metric name or project ID.	Check whether the parameter meets requirements.

Status Code	Error Code	Message	Description	Solution
400	SVCSTG_AMS_4000110	Invalid filled value or limit.	Invalid filled value or limit.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000111	Invalid offset.	Invalid offset.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000115	Invalid request parameter.	Invalid request parameter.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000118	Invalid number of consecutive periods.	Invalid number of consecutive periods.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000119	Invalid statistic.	Invalid statistic.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000120	Invalid comparison operator.	Invalid comparison operator.	Check whether the parameter meets requirements.
400	SVCSTG_AMS_4000121	The rule does not exist.	The rule does not exist.	Check whether the threshold rule exists.
401	AOM.02001401	Unauthorized.	Unauthorized.	Contact technical support.
401	AOM.02002401	Unauthorized.	Unauthorized.	Contact technical support.
401	AOM.02003401	Unauthorized.	Unauthorized.	Contact technical support.
401	AOM.02004401	Unauthorized.	Unauthorized.	Contact technical support.
401	AOM.02005401	Unauthorized.	Unauthorized.	Contact technical support.
401	AOM.04007401	Request unauthorized.	Request unauthorized.	Contact technical support.

Status Code	Error Code	Message	Description	Solution
401	AOM.04008401	Request unauthorized.	Request unauthorized.	Contact technical support.
403	AOM.02001403	Forbidden.	Forbidden.	Contact technical support.
403	AOM.02002403	Forbidden.	Forbidden.	Contact technical support.
403	AOM.02003403	Forbidden.	Forbidden.	Contact technical support.
403	AOM.02004403	Forbidden.	Forbidden.	Contact technical support.
403	AOM.02005403	Forbidden.	Forbidden.	Contact technical support.
403	AOM.04007403	Request forbidden.	Request forbidden.	Contact technical support.
403	AOM.04008403	Request forbidden.	Request forbidden.	Contact technical support.
403	AOM.07001403	Insufficient permissions.	Insufficient permissions.	Obtain required permissions.
403	SVCSTG.INV.4030000	Insufficient permissions.	Insufficient permissions.	Use an authorized account.
429	AOM.07001429	The traffic has been restricted.	The traffic has been restricted.	Send fewer API call requests.
429	AOM.08001429	Too many requests.	Too many requests.	Check whether the parameter meets requirements.
500	AOM.02001500	Internal server error.	Internal server error.	Contact technical support.
500	AOM.02001501	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.
500	AOM.02001502	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.
500	AOM.02002500	Internal server error.	Internal server error.	Contact technical support.

Status Code	Error Code	Message	Description	Solution
500	AOM.02002501	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.
500	AOM.02002502	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.
500	AOM.02003500	Internal server error.	Internal server error.	Contact technical support.
500	AOM.02003501	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.
500	AOM.02003502	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.
500	AOM.02004500	Internal server error.	Internal server error.	Contact technical support.
500	AOM.02004501	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.
500	AOM.02004502	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.
500	AOM.02005500	Internal server error.	Internal server error.	Contact technical support.
500	AOM.02005501	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.
500	AOM.02005502	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.
500	AOM.04007500	Internal server error.	Internal server error.	Contact technical support.
500	AOM.04007501	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.

Status Code	Error Code	Message	Description	Solution
500	AOM.04007502	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.
500	AOM.04008500	Internal server error.	Internal server error.	Contact technical support.
500	AOM.04008501	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.
500	AOM.04008502	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.
500	SVCSTG.INV.5000001	The Elasticsearch session is null.	The Elasticsearch session is null.	Contact technical support.
500	SVCSTG.INV.5000002	The Elasticsearch execution is abnormal.	The Elasticsearch execution is abnormal.	Contact technical support.
500	SVCSTG.INV.5000003	The ICMGR invocation is abnormal.	The ICMGR invocation is abnormal.	Contact technical support.
500	SVCSTG.INV.5000006	The rule name already exists.	The rule name already exists.	Use another name.
500	SVCSTG.INV.5000007	The maximum number of rules has been reached.	The maximum number of rules has been reached.	Delete unnecessary rules and add new ones.
500	SVCSTG_AMS_5000000	Internal server error.	Internal server error.	Contact technical support.
503	AOM.02001503	Server unavailable.	Server unavailable.	Contact technical support.
503	AOM.02002503	Server unavailable.	Server unavailable.	Contact technical support.
503	AOM.02003503	Server unavailable.	Server unavailable.	Contact technical support.

Status Code	Error Code	Message	Description	Solution
503	AOM.02004503	Server unavailable.	Server unavailable.	Contact technical support.
503	AOM.02005503	Server unavailable.	Server unavailable.	Contact technical support.
503	AOM.04007503	Server unavailable.	Server unavailable.	Contact technical support.
503	AOM.04008503	Server unavailable.	Server unavailable.	Contact technical support.
503	AOM.07001503	Service error.	Service error.	Check whether the backend service is normal.
503	SVCSTG_AMS_5030001	The Cassandra session is null.	The Cassandra session is null.	Contact technical support.
503	SVCSTG_AMS_5030002	The Cassandra execution is abnormal.	The Cassandra execution is abnormal.	Contact technical support.

8.3 Obtaining a Project ID

Obtaining a Project ID from the Console

A project ID is required for some URLs when an API is called. To obtain a project ID, perform the following operations:

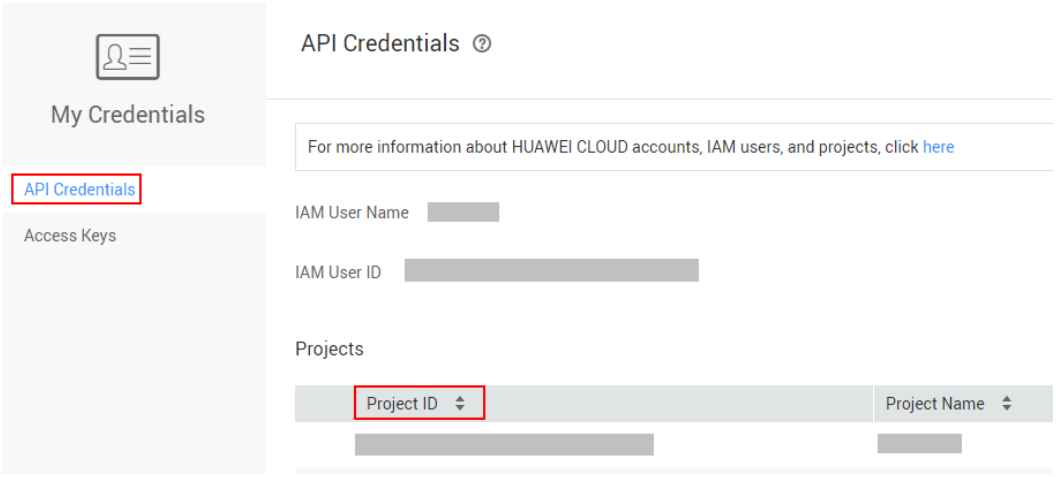
Step 1 Log in to the management console.

Step 2 Click the username and select **Basic Information** from the drop-down list.

Step 3 On the **Account Info** page, click **Manage**.

On the **API Credentials** page, view project IDs in the project list.

Figure 8-1 Viewing project IDs



If there are multiple projects in one region, expand **Region** and view subproject IDs in the **Project ID** column.

----End

Obtaining a Project ID by Calling an API

You can also call the API for **querying project information** to obtain a project ID.

The API is **GET https://*{Endpoint}*/v3/projects/**, where *{Endpoint}* indicates the Identity and Access Management (IAM) endpoint. For details, see Regions and Endpoints. For details about API authentication, see **Authentication**.

In the following example, **id** indicates the project ID.


```
{
    "projects": [
        {
            "domain_id": "65382450e8f64ac0870cd180d14e684b",
            "is_domain": false,
            "parent_id": "65382450e8f64ac0870cd180d14e684b",
            "name": "xxxxxxxx",
            "description": "",
            "links": {
                "next": null,
                "previous": null,
                "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
            },
            "id": "a4a5d4098fb4474fa22cd05f897d6b99",
            "enabled": true
        }
    ],
    "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects"
    }
}
```


8.4 Obtaining an Account ID

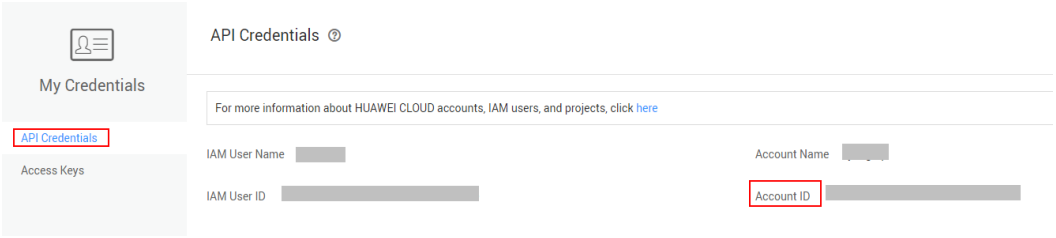
An account ID is required for some URLs when an API is called. To obtain an account ID, perform the following operations:

Step 1 Log in to the management console.

Step 2 Click the username and select **My Credentials** from the drop-down list.

On the **API Credentials** page, view **Account ID**.

Figure 8-2 Obtaining an account ID



----End

8.5 Common Request Headers

Table 8-2 Common request headers

Name	Description	Mandatory	Example
X-Auth-Token	User token.	Yes for token-based authentication	-
Content-Type	Content type, which is **application/json;charset=utf-8**.	Yes	application/json;charset=utf8
x-sdk-date	Time to send a request, which is in the format of YYYYMMDD'T'HHMMSS'Z'. GMT time is used.	Yes for Access Key ID/Secret Access Key (AK/SK)-based authentication	20160629T101459Z
Authorization	Signature authentication information, which is obtained from the result of request signing.	Yes for AK/SK-based authentication	-

Name	Description	Mandatory	Example
Host	Request server information, which is obtained from the URL of a service API. The value is **hostname[:port]**. If no port is specified, the default port will be used. For HTTPS, port 443 is used by default.	Yes for AK/SK-based authentication	-

8.6 Common Response Headers

A response usually contains the following headers:

Table 8-3 Response headers

Name	Description	Example
Date	(Standard HTTP header) Time when a message is sent. This field complies with RFC822 definitions.	Mon, 12 Nov 2007 15:55:01 GMT
Server	(Standard HTTP header) Software that a server uses to process the request.	Apache
Content-Length	(Standard HTTP header) Length of the response body, which is represented by a decimal number and stored in bytes.	xxx
Content-Type	(Standard HTTP header) Media type of the response body sent to the recipient.	application/json

