

# Enterprise Self-Service Management

## API Reference

|       |            |
|-------|------------|
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# 1 Before You Start

Welcome to Enterprise Self-Service Management API Reference (ESM). ESM allows you to manage operations of your Huawei dedicated cloud sites on your own, and offers a broad set of dashboards you can use to gain comprehensive, multi-dimensional data insights into the status and health of those sites.

This document describes how to use REST APIs to perform operations on ESM, such as creating, deleting, and modifying tenants. For all supported operations, see [API Overview](#).

If you plan to access ESM through an API, ensure that you are familiar with ESM concepts. For details, see [Service Overview](#).

## Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For the endpoints of services, [Regions and Endpoints](#).

The following table lists example ESM endpoints. Select a desired one based on service requirements.

| Region Name   | Region    | Endpoint                       | Protocol |
|---------------|-----------|--------------------------------|----------|
| Region - City | region-az | esm-region-az.my*****cloud.com | HTTPS    |

## Basic Concepts

- Account

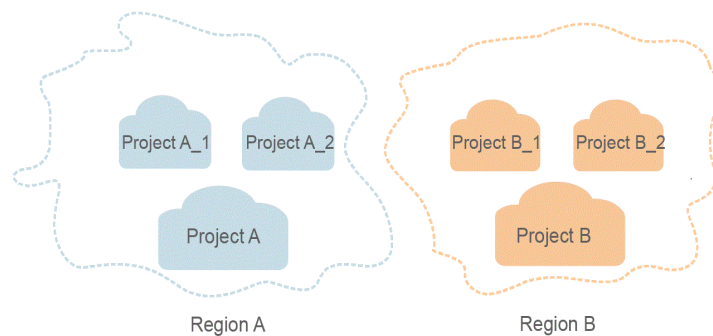
A domain is created upon successful registration. The domain has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant users permissions. The account is a payment entity and should not be used directly to perform routine management. For security purposes, create users and grant them permissions for routine management.

- IAM User

A user is created using a domain to use cloud services. Each user has its own identity credentials (password and access keys).

- **Region**  
Regions are divided from the dimensions of geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified as either universal regions or dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.
- **AZ**  
An AZ comprises one or more physical data centers equipped with independent ventilation, fire-suppression, moisture-control, and electricity facilities. Compute, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.
- **Project**  
Projects group and isolate compute, storage, and network resources across physical regions. A default project is provided for each region, and subprojects can be created under each default project. Users can be granted permissions to access all resources in a specific project. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

**Figure 1-1** Project isolating model



- **Enterprise Project**  
Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated. An enterprise project can include resources in multiple regions, and resources can be added to or removed from enterprise projects.

# 2 API Overview

Table 2-1 lists the ESM APIs that meet RESTful API design standards.

Table 2-1 ESM API description

| Type                             | Description                                                       |
|----------------------------------|-------------------------------------------------------------------|
| Data visualization               | Allows you to query applications, services, and tenant resources. |
| Data platforms and visualization | Allows you to query, create, and delete APIs.                     |
| SDRs                             | Allows you to query and create SDR APIs.                          |

# 3 Calling APIs

## 3.1 Making an API Request

This section describes the structure of a REST API request, and uses the ESM API for creating a query task as an example to describe how to call an API.

### 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 passing the request URI separately.

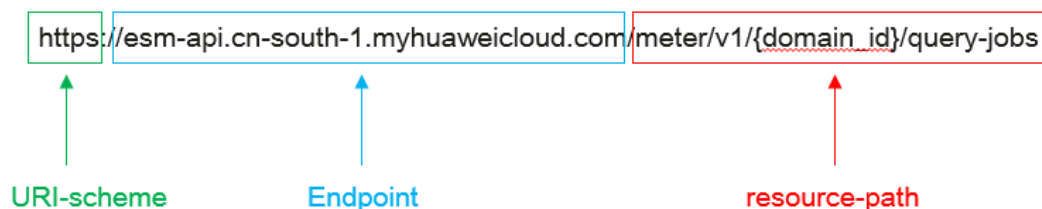
**Table 3-1** URI parameter description

| Parameter     | Description                                                                                                                                                                                                                                                                                                                    |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| URI-scheme    | Protocol used to transmit requests. All APIs use <b>HTTPS</b> .                                                                                                                                                                                                                                                                |
| Endpoint      | Domain name or IP address of the server where the REST service is deployed. The value varies depending on services and regions. Obtain the value from <a href="#">Regions and Endpoints</a> .<br><br>For example, the endpoint of ESM in the <b>CN South-Guangzhou</b> region is <b>esm-api.cn-south-1.myhuaweicloud.com</b> . |
| resource-path | Access path of an API. Obtain the path from the URI of an API. For example, the <b>resource-path</b> of the API for <b>creating a query task</b> is <b>/meter/v1/{domain_id}/query-jobs</b> .                                                                                                                                  |
| query-string  | (Optional) Query parameter. It is not necessary to configure query parameters for all APIs. Ensure that there is a question mark (?) before each query parameter, in the format of " <i>Parameter name=Parameter value</i> ". For example, <b>?limit=10</b> indicates that a maximum of 10 data records will be displayed.     |

For example, to obtain an ESM token in the **CN South-Guangzhou** region, obtain the ESM endpoint (**esm-api.cn-south-1.myhuaweicloud.com**) for this region and the **resource-path** (**/meter/v1/{domain\_id}/query-jobs**) in the URI of the API used to create a query task. Then, construct the URI as follows:

```
https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
```

**Figure 3-1** Example URI



**NOTE**

To simplify the URI display, this document provides only the **resource-path** and request method in the URI of each API. 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.

**Table 3-2** HTTP methods

| Method | Description                                                               |
|--------|---------------------------------------------------------------------------|
| 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 | Request the server to delete specified resources, for example, an object. |

For example, in the URI of the API used to **create a query task**, the request method is **POST**. The request is as follows:

```
POST https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
```

## Request Headers

You can 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.

**Table 3-3** lists common request header fields.

**Table 3-3** Common request header fields

| Name         | Description                                                                                                                                                                                                                                           | Mandatory                                                       | Example                                                                                           |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Content-Type | Type (or format) of the request body being sent from a client to a server. The default value <b>application/json</b> is recommended. Other values will be described in specific APIs.                                                                 | Yes                                                             | application/json                                                                                  |
| Accept       | Method of receiving the response body. Currently, the value can only be <b>application/json</b> .                                                                                                                                                     | No                                                              | application/json                                                                                  |
| X-Auth-Token | User token.<br>It is a response to the API for obtaining a user token. This API is the only one that does not require authentication.<br>After a response is returned, the value of <b>X-Subject-Token</b> in the response header is the token value. | Yes<br>This field is mandatory for authentication using tokens. | The following is part of an example token:<br>MIIPAgYJKoZIhvc-<br>NAQcCo...ggg1BBI<br>INPXsidG9rZ |

## (Optional) Request Body

This part is optional. A request body is generally sent in a structured format (for example, JSON or XML), which is specified by **Content-Type** in the request header. It is used to transfer content other than the request header. If the request body contains full-width characters, these characters must be coded in UTF-8.

Request bodies vary depending on APIs. Some APIs do not require a request body, such as the APIs that need to be requested using GET and DELETE methods.

 NOTE

For the API used to **create a query task**, you can obtain the required request parameters and parameter description from the API request. The following is a request carrying a request body, where values of fields are examples:

```
POST https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
Content-Type: application/json

{
  "hcsd_id": "*****",
  "region_id": "*****",
  "min_sdr_time": "2022-01-01 00:00:00",
  "max_sdr_time": "2022-02-01 00:00:00"
}
```

If all data required for the API request is available, you can send a request to call an API through curl, Postman, or coding. In the response to the API used to obtain a user token, **x-subject-token** is the target user token. This token can then be used to authenticate other API calls.

## 3.2 Authentication

Token authentication is required to call an ESM API.

### Token-based Authentication

 NOTE

A token is valid for 24 hours. If a token is used, the system caches the token to avoid frequent calling.

A token specifies temporary permissions in a computer system.

During token-based authentication, the token is added to requests to get permissions for calling an API. The token can be obtained by calling the API used to **obtain a user token**.

A cloud service can be deployed as either a project-level service or global service, where,

- For a project-level service, obtain a project-level token. When you call the API, set **auth.scope** in the request body to **project**.
- For a global service, obtain a global token. When you call the API, set **auth.scope** in the request body to **domain**.

ESM is a project-level service. When you call the API for obtaining 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, add **X-Auth-Token** (with value of **Token**) to the request header when you call other APIs. For example, if the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** to a request as follows:

```
POST https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

## 3.3 Response

### Status Codes

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 **201** is returned for calling the API used to create a query task, the request is successful.

### Response Header

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

### (Optional) Response Body

This part is optional. The body of a response is often returned in a structured format (for example, JSON or XML) 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 create a query task:

```
{
  "job_id": "*****"
}
```

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

```
{
  "error_msg": "The format of message is error",
  "error_code": "AS.0001"
}
```

In the error response, **error\_code** indicates an error code, and **error\_msg** describes the error.

# 4 API

## 4.1 Data Visualization

### 4.1.1 Querying Capacities of Physical Resources

Query the following available resource capacities of compute and storage resource pools:

- Compute resource pools (physical compute clusters used to build resource pools): total capacities (vCPU cores/memory), allocated capacities (vCPU cores/memory), and remaining capacities (vCPUs/memory)
- Storage resource pools (physical storage clusters used to build resource pools): total capacities (resource capacities of storage server clusters of different models such as SSD and SAS, in TB), allocated capacities, and remaining capacities

#### Function

Query the resource capacity of physical devices.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

## Precautions

None

## Calling Method

GET

## URI

/rest/dataapi/homs/open-api/v1/host-physical/capacity

### Path parameters

None

### Query parameters

None

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | string | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | string | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |

- Query parameters

| Parameter    | Mandatory | Type   | Value Range    | Description                                                                                                                                                      |
|--------------|-----------|--------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| device_type  | No        | string | <i>ECS/EVS</i> | Device type. Value <b>ECS</b> indicates the compute type (physical compute resources). Value <b>EVS</b> indicates the storage type (physical storage resources). |
| zone_type    | No        | string | manage/pod     | Zone type. Value <b>manage</b> indicates a management zone. Value <b>pod</b> indicates a tenant zone.                                                            |
| begin_time   | Yes       | int    | None           | Start timestamp of the query, in milliseconds                                                                                                                    |
| end_time     | Yes       | int    | None           | End timestamp of the query, in milliseconds                                                                                                                      |
| page_size    | Yes       | int    | 0~1000         | Page size                                                                                                                                                        |
| offset_value | Yes       | int    | None           | Query start value                                                                                                                                                |

- Request body parameters

None

- Sample request

```
GET /rest/dataapi/homs/open-api/v1/host-physical/capacity HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- Response parameters

| Parameter | Mandatory | Type    | Value Range | Description      |
|-----------|-----------|---------|-------------|------------------|
| code      | Yes       | String  | None        | Return code      |
| msg       | Yes       | String  | None        | Returned message |
| total     | Yes       | Integer | None        | Data records     |

| Parameter     | Mandatory | Type   | Value Range | Description                                                                                                                                                           |
|---------------|-----------|--------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| device_type   | No        | String | None        | Physical device type. Value <b>ECS</b> indicates the compute type (physical compute servers). Value <b>EVS</b> indicates the storage type (physical storage servers). |
| timestamp     | Yes       | Long   | None        | Timestamp                                                                                                                                                             |
| region        | Yes       | String | None        | Name of the region to which resources belong                                                                                                                          |
| zone_type     | No        | String | None        | Type of the region to which the resource belongs. The value can be <b>MANAGE</b> , <b>POD</b> , or <b>KVM_POD</b> .                                                   |
| allocated     | Yes       | String | None        | Allocated capacity. The vCPU unit is core, the memory unit is TB, and the storage unit is TB.                                                                         |
| available     | Yes       | String | None        | Remaining capacity. The vCPU unit is core, the memory unit is TB, and the storage unit is TB.                                                                         |
| resource_type | No        | String | None        | Specifications and model of a physical server, for example, C6XLarge physical compute server or SSD physical storage servers                                          |
| metric_type   | No        | String | None        | Capacity metric type. The value varies depending on the value of <b>device_type</b> , the physical resource type (compute or storage).                                |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
Storage
{
  "total": 2,
  "list": [
    {
      "available": "94.5693359375",
      "metric_type": "SAS",
      "device_type": "EVS",
      "zone_type": "MANAGE",
      "region": "cn-central-229",
      "allocated": "112.2265625",
      "resource_type": "SAS",
      "timestamp": "1649692800000"
    }
  ]
}
```

```
    },
    {
      "available": "102.4052734375",
      "metric_type": "SAS",
      "device_type": "EVS",
      "zone_type": "MANAGE",
      "region": "cn-east-264",
      "allocated": "173.3232421875",
      "resource_type": "SAS",
      "timestamp": "1649692800000"
    }
  ]
}
Compute
{
  "service_type": "ECS",
  "total": "44.072265625",
  "available": "26.486328125",
  "metric_type": "memory",
  "zone_type": "KVM_POD",
  "used": "0",
  "free": "44.072265625",
  "used_ratio": "0",
  "region": "cn-east-264",
  "resource_count": "0",
  "allocated": "15.2578125",
  "resource_type": "C6xLarge",
  "timestamp": "1649865600000"
},
{
  "service_type": "ECS",
  "total": "10792",
  "available": "5408",
  "metric_type": "vCpu",
  "zone_type": "KVM_POD",
  "used": "0",
  "free": "10792",
  "used_ratio": "0",
  "region": "cn-east-264",
  "resource_count": "0",
  "allocated": "4964",
  "resource_type": "M6xLarge",
  "timestamp": "1649865600000"
}
```

## Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

## Operation Severity

Minor

### 4.1.2 Querying Capacities of Cloud Service Resources

In this version, capacities of the following Huawei Cloud cloud services can be queried: ECS, BMS, EVS, OBS, EIP, RDS, DCC, DeH, SFS, and VPN.

#### 4.1.2.1 Querying the ECS-VM Capacity

##### Function

Query the allocated and available quantities of provisioned ECS-VMs with different specifications in the management and tenant zones.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

##### Precautions

None

##### Calling Method

GET

##### URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

##### Path parameters

None

##### Query parameters

None

##### Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | string | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | string | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |

- **Query parameters**

| Parameter    | Mandatory | Type   | Value Range    | Description                                                                                           |
|--------------|-----------|--------|----------------|-------------------------------------------------------------------------------------------------------|
| begin_time   | Yes       | int    | None           | Start timestamp of the query, in milliseconds                                                         |
| end_time     | Yes       | int    | None           | End timestamp of the query, in milliseconds                                                           |
| service_type | No        | string | ECS_VM         | Service type                                                                                          |
| zone_type    | No        | string | manage/<br>pod | Zone type. Value <b>manage</b> indicates a management zone. Value <b>pod</b> indicates a tenant zone. |
| page_size    | Yes       | int    | 0~1000         | Page size                                                                                             |
| offset_value | Yes       | int    | None           | Query start value                                                                                     |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=ECS_VM
HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter      | Type    | Value Range | Description                                                                                                            |
|----------------|---------|-------------|------------------------------------------------------------------------------------------------------------------------|
| resource_type  | string  | None        | Resource type                                                                                                          |
| available      | String  | None        | How many VMs still remain                                                                                              |
| az_name        | string  | None        | AZ name                                                                                                                |
| used           | Float64 | None        | Used VMs                                                                                                               |
| used_ratio     | Float64 | None        | Usage                                                                                                                  |
| az_id          | string  | None        | AZ ID                                                                                                                  |
| service_type   | String  | None        | Cloud service name, which identifies the cloud service to which resources belong. ecs-vm is the VM provisioned by ECS. |
| total          | Integer | None        | Data records                                                                                                           |
| az_name_en     | string  | None        | AZ name (English)                                                                                                      |
| metric_type    | String  | None        | VM specifications and models: for example, C6-2                                                                        |
| zone_type      | String  | None        | Type of the region to which the resource belongs. The value can be <b>MANAGE</b> , <b>POD</b> , or <b>KVM_POD</b> .    |
| free           | Float64 | None        | Remaining VMs                                                                                                          |
| region         | String  | None        | Name of the region to which resources belong                                                                           |
| resource_count | Float64 | None        | Total number of VMs                                                                                                    |
| allocated      | String  | None        | How many VMs have been allocated                                                                                       |

| Parameter | Type | Value Range | Description |
|-----------|------|-------------|-------------|
| timestamp | Long | None        | Timestamp   |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "resource_type": "",
      "available": "13.06640625",
      "az_name": "AZ 1",
      "used": "74.2802734375",
      "used_ratio": "0.40409390589222816",
      "az_id": "cn-north-213a",
      "service_type": "ecs-vm",
      "total": "238.96484375",
      "az_name_en": "AZ1",
      "metric_type": "xxx/C6 flavor",
      "zone_type": "MANAGE",
      "free": "109.5390625",
      "region": "cn-north-213",
      "resource_count": "1690",
      "allocated": "225.8984375",
      "timestamp": "1756742400000"
    }
  ]
}
```

## Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.2 Querying the BMS Capacity

#### Function

Query the allocated and remaining quantities of provisioned BMSs with different specifications.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

## Precautions

None

## Calling Method

GET

## URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

### Path parameters

None

### Query parameters

None

## Request

- Request header parameters

| Parameter      | Mandatory | Type   | Value Range | Description                                         |
|----------------|-----------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode | Yes       | string | None        | AppCode allocated by SRE                            |
| x-auth-token   | Yes       | string | None        | IAM authentication token for the calling party APIG |

| Parameter       | Mandatory                                         | Type   | Value Range | Description                |
|-----------------|---------------------------------------------------|--------|-------------|----------------------------|
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | string | None        | ID of the accessed tenant. |
| x-hcso-appcode  | Yes                                               | string | None        | AppCode allocated by SRE   |

- **Query parameters**

| Parameter    | Mandatory | Type   | Value Range | Description                                   |
|--------------|-----------|--------|-------------|-----------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds   |
| service_type | No        | string | BMS         | Service type                                  |
| zone_type    | No        | string | BMS_POD     | BMS pod                                       |
| page_size    | Yes       | int    | 0~1000      | Page size                                     |
| offset_value | Yes       | int    | None        | Query start value                             |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=BMS HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter      | Type    | Value Range | Description                                                                                                                   |
|----------------|---------|-------------|-------------------------------------------------------------------------------------------------------------------------------|
| resource_type  | string  | None        | Resource type                                                                                                                 |
| available      | String  | None        | How many BMSs still remain                                                                                                    |
| az_name        | string  | None        | AZ name                                                                                                                       |
| used           | Float64 | None        | Used BMSs                                                                                                                     |
| used_ratio     | Float64 | None        | Usage                                                                                                                         |
| az_id          | string  | None        | AZ ID                                                                                                                         |
| service_type   | String  | None        | Cloud service name, which identifies the cloud service to which resources belong. For this API, the value can be <b>BMS</b> . |
| total          | Integer | None        | How many BMSs are available                                                                                                   |
| az_name_en     | string  | None        | AZ name (English)                                                                                                             |
| metric_type    | String  | None        | BMS specifications, for example, physical.kd1ne.2xlarge                                                                       |
| zone_type      | String  | None        | Type of the region to which the resource belongs. The value can be <b>MANAGE</b> , <b>POD</b> , or <b>KVM_POD</b> .           |
| free           | Float64 | None        | Remaining BMSs                                                                                                                |
| region         | String  | None        | Name of the region to which resources belong                                                                                  |
| resource_count | Float64 | None        | Total number of resources                                                                                                     |
| allocated      | String  | None        | How many BMSs have been allocated                                                                                             |
| timestamp      | Long    | None        | Timestamp                                                                                                                     |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
```

```
"list":[
  {
    "resource_type": "",
    "available": "13.06640625",
    "az_name": "AZ 1",
    "used": "74.2802734375",
    "used_ratio": "0.40409390589222816",
    "az_id": "cn-north-213a",
    "service_type": "BMS",
    "total": "238.96484375",
    "az_name_en": "AZ1",
    "metric_type": "physical.kd1ne.2xlarge",
    "zone_type": "MANAGE",
    "free": "109.5390625",
    "region": "cn-north-213",
    "resource_count": "1690",
    "allocated": "225.8984375",
    "timestamp": "1756742400000"
  }
]
```

### Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.3 Querying the EVS Capacity

#### Function

Query the total, allocated, and remaining quantities of physical storage servers used by the EVS service.

| SLA Item             | Definition          |
|----------------------|---------------------|
| Request success rate | ≥ 99%               |
| Availability         | Tier 2              |
| Data consistency     | Strongly consistent |
| Throughput           | 60 times/minute     |
| TP50 request latency | 200 ms              |

| SLA Item               | Definition |
|------------------------|------------|
| TP99.9 request latency | 300 ms     |

## Precautions

None

## Calling Method

GET

## URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

### Path parameters

None

### Query parameters

None

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | string | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | string | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |

- **Query parameters**

| Parameter    | Mandatory | Type   | Value Range | Description                                                                                           |
|--------------|-----------|--------|-------------|-------------------------------------------------------------------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds                                                         |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds                                                           |
| service_type | No        | string | EVS         | Service type                                                                                          |
| zone_type    | No        | string | manage/pod  | Zone type. Value <b>manage</b> indicates a management zone. Value <b>pod</b> indicates a tenant zone. |
| page_size    | Yes       | int    | 0~1000      | Page size                                                                                             |
| offset_value | Yes       | int    | None        | Query start value                                                                                     |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=EVS HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter     | Type    | Value Range | Description               |
|---------------|---------|-------------|---------------------------|
| resource_type | string  | None        | Resource type             |
| available     | String  | None        | Remaining resources in TB |
| az_name       | string  | None        | AZ name                   |
| used          | Float64 | None        | Used resources            |

| Parameter      | Type    | Value Range | Description                                                                                                                   |
|----------------|---------|-------------|-------------------------------------------------------------------------------------------------------------------------------|
| used_ratio     | Float64 | None        | Usage                                                                                                                         |
| az_id          | string  | None        | AZ ID                                                                                                                         |
| service_type   | String  | None        | Cloud service name, which identifies the cloud service to which resources belong. For this API, the value can be <b>EVS</b> . |
| total          | Integer | None        | Number of data records                                                                                                        |
| az_name_en     | string  | None        | AZ name (English)                                                                                                             |
| metric_type    | String  | None        | EVS disk type, for example, SAS, SSD, high I/O, and common I/O                                                                |
| zone_type      | String  | None        | Type of the region to which the resource belongs. The value can be <b>MANAGE</b> or <b>POD</b> .                              |
| free           | Float64 | None        | Remaining resources                                                                                                           |
| region         | String  | None        | Name of the region to which resources belong                                                                                  |
| resource_count | Float64 | None        | Total number of resources                                                                                                     |
| allocated      | String  | None        | Allocated resources, in TB                                                                                                    |
| timestamp      | Long    | None        | Timestamp                                                                                                                     |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "resource_type": "",
      "available": "13.06640625",
      "az_name": "AZ 1",
      "used": "74.2802734375",
      "used_ratio": "0.40409390589222816",
      "az_id": "cn-north-213a",
      "service_type": "EVS",
      "total": "238.96484375",
      "az_name_en": "AZ1",
      "metric_type": "SAS",
      "zone_type": "MANAGE",
```

```
    "free": "109.5390625",  
    "region": "cn-north-213",  
    "resource_count": "1690",  
    "allocated": "225.8984375",  
    "timestamp": "1756742400000"  
  }  
]
```

## Status Codes

| Status Code | Description                                                          |
|-------------|----------------------------------------------------------------------|
| 200         | Operation successful.                                                |
| 400         | Parameter error.                                                     |
| 401         | Token authentication failed.                                         |
| 403         | Authentication failed.                                               |
| 404         | The REST API was not found.                                          |
| 500         | Internal application error. ServiceException is reported by default. |

### 4.1.2.4 Querying the OBS Capacity

#### Function

Query the total, allocated, and available OBS capacities.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

#### Precautions

None

#### Calling Method

GET

## URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

### Path parameters

None

### Query parameters

None

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | string | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | string | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |

- Query parameters

| Parameter    | Mandatory | Type   | Value Range | Description                                   |
|--------------|-----------|--------|-------------|-----------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds   |
| service_type | No        | string | OBS         | Service type                                  |

| Parameter    | Mandatory | Type   | Value Range | Description       |
|--------------|-----------|--------|-------------|-------------------|
| zone_type    | No        | string | OBS_POD     | OBS pod           |
| page_size    | Yes       | int    | 0~1000      | Page size         |
| offset_value | Yes       | int    | None        | Query start value |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=OBS HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter     | Type    | Value Range | Description                                                                                                                   |
|---------------|---------|-------------|-------------------------------------------------------------------------------------------------------------------------------|
| resource_type | string  | None        | Resource type                                                                                                                 |
| available     | String  | None        | Remaining capacity in TB                                                                                                      |
| az_name       | string  | None        | AZ name                                                                                                                       |
| used          | Float64 | None        | Used resources                                                                                                                |
| used_ratio    | Float64 | None        | Usage                                                                                                                         |
| az_id         | string  | None        | AZ ID                                                                                                                         |
| service_type  | String  | None        | Cloud service name, which identifies the cloud service to which resources belong. For this API, the value can be <b>OBS</b> . |
| total         | Integer | None        | Number of data records                                                                                                        |

| Parameter      | Type    | Value Range | Description                                                          |
|----------------|---------|-------------|----------------------------------------------------------------------|
| az_name_en     | string  | None        | AZ name (English)                                                    |
| metric_type    | String  | None        | OBS resource type, which can be a single-AZ or multi-AZ architecture |
| zone_type      | String  | None        | OBS is globally deployed and is not associated with any AZs.         |
| free           | Float64 | None        | Remaining resources                                                  |
| region         | String  | None        | Name of the region to which resources belong                         |
| resource_count | Float64 | None        | Total number of resources                                            |
| allocated      | String  | None        | Allocated capacity in TB                                             |
| timestamp      | Long    | None        | Timestamp                                                            |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "resource_type": "",
      "available": "13.06640625",
      "az_name": "AZ 1",
      "used": "74.2802734375",
      "used_ratio": "0.40409390589222816",
      "az_id": "cn-north-213a",
      "service_type": "OBS",
      "total": "238.96484375",
      "az_name_en": "AZ1",
      "metric_type": "a",
      "zone_type": "MANAGE",
      "free": "109.5390625",
      "region": "cn-north-213",
      "resource_count": "1690",
      "allocated": "225.8984375",
      "timestamp": "1756742400000"
    }
  ]
}
```

## Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.5 Querying the EIP Capacity

#### Function

Query the total, allocated, and remaining quantities of EIPs.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

#### Precautions

None

#### Calling Method

GET

#### URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

##### Path parameters

None

##### Query parameters

None

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | string | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | string | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | string | None        | AppCode allocated by SRE                            |

- Query parameters

| Parameter    | Mandatory | Type   | Value Range | Description                                   |
|--------------|-----------|--------|-------------|-----------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds   |
| service_type | No        | string | EIP         | Service type                                  |
| zone_type    | No        | string | EIP_POD     | EIP pod                                       |
| page_size    | Yes       | int    | 0–1000      | Page size                                     |
| offset_value | Yes       | int    | None        | Query start value                             |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=EIP HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter      | Type    | Value Range | Description                                                                                                                   |
|----------------|---------|-------------|-------------------------------------------------------------------------------------------------------------------------------|
| resource_type  | string  | None        | Resource type                                                                                                                 |
| available      | String  | None        | Remaining resources                                                                                                           |
| az_name        | string  | None        | AZ name                                                                                                                       |
| used           | Float64 | None        | Used EIPs                                                                                                                     |
| used_ratio     | Float64 | None        | Usage                                                                                                                         |
| az_id          | string  | None        | AZ ID                                                                                                                         |
| service_type   | String  | None        | Cloud service name, which identifies the cloud service to which resources belong. For this API, the value can be <b>EIP</b> . |
| total          | Integer | None        | How many EIPs are available in total                                                                                          |
| az_name_en     | string  | None        | AZ name (English)                                                                                                             |
| metric_type    | String  | None        | Resource type corresponding EIP                                                                                               |
| zone_type      | String  | None        | Type of the region to which the resource belongs. The value can be <b>EIP_POD</b> .                                           |
| free           | Float64 | None        | Remaining EIPs                                                                                                                |
| region         | String  | None        | Name of the region to which resources belong                                                                                  |
| resource_count | Float64 | None        | Total number of resources                                                                                                     |

| Parameter | Type   | Value Range | Description                       |
|-----------|--------|-------------|-----------------------------------|
| allocated | String | None        | How many EIPs have been allocated |
| timestamp | Long   | None        | Timestamp                         |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "resource_type": "",
      "available": "13.06640625",
      "az_name": "AZ 1",
      "used": "74.2802734375",
      "used_ratio": "0.40409390589222816",
      "az_id": "cn-north-213a",
      "service_type": "EIP",
      "total": "238.96484375",
      "az_name_en": "AZ1",
      "metric_type": "5_bgp",
      "zone_type": "MANAGE",
      "free": "109.5390625",
      "region": "cn-north-213",
      "resource_count": "1690",
      "allocated": "225.8984375",
      "timestamp": "1756742400000"
    }
  ]
}
```

## Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.6 Querying the RDS Capacity

#### Function

Query the allocated and remaining quantities of provisioned RDS instances with different specifications.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

#### Precautions

Currently, this API can only be used to query data from RDS for SQL Server databases.

#### Calling Method

GET

#### URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

##### Path parameters

None

##### Query parameters

None

#### Request

- Request header parameters

| Parameter      | Mandatory | Type   | Value Range | Description              |
|----------------|-----------|--------|-------------|--------------------------|
| X-APIG-Appcode | Yes       | String | None        | AppCode allocated by SRE |

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| x-auth-token    | Yes                                               | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |

- **Query parameters**

| Parameter    | Mandatory | Type   | Value Range | Description                                    |
|--------------|-----------|--------|-------------|------------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds. |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds.   |
| service_type | No        | String | RDS         | Service type.                                  |
| zone_type    | No        | String | RDS_POD     | RDS pod.                                       |
| page_size    | Yes       | int    | 0–1000      | Page size.                                     |
| offset_value | Yes       | int    | None        | Start value for the query.                     |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=RDS HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
```

```
x-auth-token: xxx  
x-hcso-domainid: xxx  
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter      | Type    | Value Range | Description                                                                                                   |
|----------------|---------|-------------|---------------------------------------------------------------------------------------------------------------|
| resource_type  | string  | None        | Resource type                                                                                                 |
| available      | String  | None        | How many RDS instances still remain                                                                           |
| az_name        | string  | None        | AZ name                                                                                                       |
| used           | Float64 | None        | Used resources                                                                                                |
| used_ratio     | Float64 | None        | Usage                                                                                                         |
| az_id          | string  | None        | AZ ID                                                                                                         |
| service_type   | String  | None        | Type of the cloud service to which the resource belongs. This parameter is fixed to <b>RDS</b> .              |
| total          | Integer | None        | How many RDS instances are available in total                                                                 |
| az_name_en     | string  | None        | AZ name (English)                                                                                             |
| metric_type    | String  | None        | RDS metric type, for example, SQL Server relational DB instances or NoSQL Server non-relational DB instances. |
| zone_type      | String  | None        | Region to which resources belong, which is fixed to <b>RDS_POD</b> (a tenant zone).                           |
| free           | Float64 | None        | Remaining resources                                                                                           |
| region         | String  | None        | Name of the region to which resources belong                                                                  |
| resource_count | Float64 | None        | Total number of resources                                                                                     |
| allocated      | String  | None        | How many RDS instances have been allocated                                                                    |
| timestamp      | Long    | None        | Timestamp                                                                                                     |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "resource_type": "",
      "available": "13.06640625",
      "az_name": "AZ 1",
      "used": "74.2802734375",
      "used_ratio": "0.40409390589222816",
      "az_id": "cn-north-213a",
      "service_type": "RDS",
      "total": "238.96484375",
      "az_name_en": "AZ1",
      "metric_type": "dbtype:sqlServer/nosqlServer",
      "zone_type": "MANAGE",
      "free": "109.5390625",
      "region": "cn-north-213",
      "resource_count": "1690",
      "allocated": "225.8984375",
      "timestamp": "1756742400000"
    }
  ]
}
```

## Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.7 Querying the DCC Capacity

#### Function

Query the total, allocated, and remaining quantities of DCC compute resources such as CPUs and memory.

| SLA Item             | Definition |
|----------------------|------------|
| Request success rate | ≥ 99%      |
| Availability         | Tier 2     |

| SLA Item               | Definition          |
|------------------------|---------------------|
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

## Precautions

None

## Calling Method

GET

## URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

### Path parameters

None

### Query parameters

None

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant.                          |

| Parameter      | Mandatory | Type   | Value Range | Description              |
|----------------|-----------|--------|-------------|--------------------------|
| x-hcso-appcode | Yes       | String | None        | AppCode allocated by SRE |

- **Query parameters**

| Parameter    | Mandatory | Type   | Value Range  | Description                                    |
|--------------|-----------|--------|--------------|------------------------------------------------|
| begin_time   | Yes       | int    | None         | Start timestamp of the query, in milliseconds. |
| end_time     | Yes       | int    | None         | End timestamp of the query, in milliseconds.   |
| service_type | No        | String | DCC_GENERATE | Service type.                                  |
| zone_type    | No        | String | DCC_POD      | DCC pod.                                       |
| page_size    | Yes       | int    | 0–1000       | Page size.                                     |
| offset_value | Yes       | int    | None         | Start value for the query.                     |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=DCC HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter      | Type    | Value Range | Description                                                                                      |
|----------------|---------|-------------|--------------------------------------------------------------------------------------------------|
| resource_type  | string  | None        | Resource type                                                                                    |
| available      | String  | None        | How many CPU cores or what memory size in TB still remains                                       |
| az_name        | string  | None        | AZ name                                                                                          |
| used           | Float64 | None        | Used resources                                                                                   |
| used_ratio     | Float64 | None        | Usage                                                                                            |
| az_id          | string  | None        | AZ ID                                                                                            |
| service_type   | String  | None        | Type of the cloud service to which the resource belongs. This parameter is fixed to <b>DCC</b> . |
| total          | Integer | None        | Number of data records                                                                           |
| az_name_en     | string  | None        | AZ name (English)                                                                                |
| metric_type    | String  | None        | Capacity metrics including CPU and memory for the DCC resource pool.                             |
| zone_type      | String  | None        | Region to which resources belong, which is fixed to <b>DCC_POD</b> (a tenant zone).              |
| free           | Float64 | None        | Remaining resources                                                                              |
| region         | String  | None        | Name of the region to which resources belong                                                     |
| resource_count | Float64 | None        | Total number of resources                                                                        |
| allocated      | String  | None        | How many CPU cores or what memory size in TB have been allocated.                                |
| timestamp      | Long    | None        | Timestamp                                                                                        |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
```

```
    "resource_type": "",
    "available": "13.06640625",
    "az_name": "AZ 1",
    "used": "74.2802734375",
    "used_ratio": "0.40409390589222816",
    "az_id": "cn-north-213a",
    "service_type": "dcc",
    "total": "238.96484375",
    "az_name_en": "AZ1",
    "metric_type": "Host/memory/vCPU",
    "zone_type": "MANAGE",
    "free": "109.5390625",
    "region": "cn-north-213",
    "resource_count": "1690",
    "allocated": "225.8984375",
    "timestamp": "1756742400000"
  }
]
```

### Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.8 Querying the DeH Capacity

#### Function

Query the allocated and remaining quantities of provisioned DeHs with different specifications.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

Precautions

None

Calling Method

GET

URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

Path parameters

None

Query parameters

None

Request

• Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant                           |
| x-hcso-appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |

• Query parameters

| Parameter    | Mandatory | Type   | Value Range | Description                                    |
|--------------|-----------|--------|-------------|------------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds. |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds.   |
| service_type | No        | String | DeH         | Service type.                                  |
| zone_type    | No        | String | DeH_POD     | DeH pod.                                       |
| page_size    | Yes       | int    | 0–1000      | Page size.                                     |
| offset_value | Yes       | int    | None        | Start value for the query.                     |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=DeH HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter     | Type    | Value Range | Description                                      |
|---------------|---------|-------------|--------------------------------------------------|
| resource_type | string  | None        | Resource type                                    |
| available     | String  | None        | How many dedicated hosts or servers still remain |
| az_name       | string  | None        | AZ name                                          |
| used          | Float64 | None        | Used resources                                   |
| used_ratio    | Float64 | None        | Usage                                            |

| Parameter      | Type    | Value Range | Description                                                                                      |
|----------------|---------|-------------|--------------------------------------------------------------------------------------------------|
| az_id          | string  | None        | AZ ID                                                                                            |
| service_type   | String  | None        | Type of the cloud service to which the resource belongs. This parameter is fixed to <b>deh</b> . |
| total          | Integer | None        | How many dedicated hosts or servers are available in total                                       |
| az_name_en     | string  | None        | AZ name (English)                                                                                |
| metric_type    | String  | None        | DeH flavor type, for example, the S and X series.                                                |
| zone_type      | String  | None        | Region to which resources belong, which is fixed to <b>DeH_POD</b> (a tenant zone).              |
| free           | Float64 | None        | Remaining resources                                                                              |
| region         | String  | None        | Name of the region to which resources belong                                                     |
| resource_count | Float64 | None        | Total number of resources                                                                        |
| allocated      | String  | None        | How many dedicated hosts or servers have been allocated                                          |
| timestamp      | Long    | None        | Timestamp                                                                                        |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "resource_type": "",
      "available": "13.06640625",
      "az_name": "AZ 1",
      "used": "74.2802734375",
      "used_ratio": "0.40409390589222816",
      "az_id": "cn-north-213a",
      "service_type": "deh",
      "total": "238.96484375",
      "az_name_en": "AZ1",
      "metric_type": "DeH flavor type: s3/l5",
      "zone_type": "MANAGE",
      "free": "109.5390625",
      "region": "cn-north-213",
      "resource_count": "1690",
```

```
    "allocated": "225.8984375",  
    "timestamp": "1756742400000"  
  }  
]
```

## Status Codes

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 200         | Operation successful.                   |
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.9 Querying the SFS Capacity

#### Function

Query the total, used, and remaining capacities of the SFS service.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

#### Precautions

None

#### Calling Method

GET

#### URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

**Path parameters**

None

**Query parameters**

None

**Request**

- Request header parameters**

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |

- Query parameters**

| Parameter    | Mandatory | Type   | Value Range | Description                                    |
|--------------|-----------|--------|-------------|------------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds. |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds.   |
| service_type | No        | String | SFS         | Service type.                                  |
| zone_type    | No        | String | SFS_POD     | SFS pod.                                       |

| Parameter    | Mandatory | Type | Value Range | Description                |
|--------------|-----------|------|-------------|----------------------------|
| page_size    | Yes       | int  | 0–1000      | Page size.                 |
| offset_value | Yes       | int  | None        | Start value for the query. |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=SFS HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter     | Type    | Value Range | Description                                                                                      |
|---------------|---------|-------------|--------------------------------------------------------------------------------------------------|
| resource_type | string  | None        | Resource type                                                                                    |
| available     | String  | None        | Remaining resources, in TB                                                                       |
| az_name       | string  | None        | AZ name                                                                                          |
| used          | Float64 | None        | Used resources                                                                                   |
| used_ratio    | Float64 | None        | Usage                                                                                            |
| az_id         | string  | None        | AZ ID                                                                                            |
| service_type  | String  | None        | Type of the cloud service to which the resource belongs. This parameter is fixed to <b>SFS</b> . |
| total         | Integer | None        | Total available SFS resources, in TB                                                             |
| az_name_en    | string  | None        | AZ name (English)                                                                                |

| Parameter      | Type    | Value Range | Description                                                                                              |
|----------------|---------|-------------|----------------------------------------------------------------------------------------------------------|
| metric_type    | String  | None        | SFS specifications type, which does not include backend specifications as virtual storage space is used. |
| zone_type      | String  | None        | Region to which resources belong, which is fixed to <b>SFS_POD</b> (a tenant zone).                      |
| free           | Float64 | None        | Remaining resources                                                                                      |
| region         | String  | None        | Name of the region to which resources belong                                                             |
| resource_count | Float64 | None        | Total number of resources                                                                                |
| allocated      | String  | None        | Allocated resources, in TB                                                                               |
| timestamp      | Long    | None        | Timestamp                                                                                                |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "resource_type": "",
      "available": "13.06640625",
      "az_name": "AZ 1",
      "used": "74.2802734375",
      "used_ratio": "0.40409390589222816",
      "az_id": "cn-north-213a",
      "service_type": "sfs",
      "total": "238.96484375",
      "az_name_en": "AZ1",
      "metric_type": "null",
      "zone_type": "MANAGE",
      "free": "109.5390625",
      "region": "cn-north-213",
      "resource_count": "1690",
      "allocated": "225.8984375",
      "timestamp": "1756742400000"
    }
  ]
}
```

## Status Codes

| Status Code | Description           |
|-------------|-----------------------|
| 200         | Operation successful. |

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 400         | Parameter error.                        |
| 401         | Token authentication failed.            |
| 403         | Authentication failed.                  |
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.2.10 Querying the VPN Capacity

#### Function

Query resource capacities of the VPN service, such as the quantities of VPN connections and VPN gateways.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

#### Precautions

None

#### Calling Method

GET

#### URI

/rest/dataapi/homs/open-api/v1/CloudService/capacity

#### Path parameters

None

#### Query parameters

None

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |

- Query parameters

| Parameter    | Mandatory | Type   | Value Range | Description                                    |
|--------------|-----------|--------|-------------|------------------------------------------------|
| begin_time   | Yes       | int    | None        | Start timestamp of the query, in milliseconds. |
| end_time     | Yes       | int    | None        | End timestamp of the query, in milliseconds.   |
| service_type | No        | String | VPN         | Service type.                                  |
| zone_type    | No        | String | VPN_POD     | VPN pod.                                       |
| page_size    | Yes       | int    | 0–1000      | Page size.                                     |
| offset_value | Yes       | int    | None        | Start value for the query.                     |

- Request body parameters

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudService/capacity?service_type=VPN HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

| Parameter      | Type    | Value Range | Description                                                                                      |
|----------------|---------|-------------|--------------------------------------------------------------------------------------------------|
| resource_type  | string  | None        | Resource type                                                                                    |
| available      | String  | None        | How many VPN connections and gateways still remain.                                              |
| az_name        | string  | None        | AZ name                                                                                          |
| used           | Float64 | None        | Used resources                                                                                   |
| used_ratio     | Float64 | None        | Usage                                                                                            |
| az_id          | string  | None        | AZ ID                                                                                            |
| service_type   | String  | None        | Type of the cloud service to which the resource belongs. This parameter is fixed to <b>VPN</b> . |
| total          | Integer | None        | How many VPN connections and gateways are available in total.                                    |
| az_name_en     | string  | None        | AZ name (English)                                                                                |
| metric_type    | String  | None        | VPN capacity metric, which can be the number of VPN connections or the number of gateways.       |
| zone_type      | String  | None        | Region to which resources belong, which is fixed to <b>VPN_POD</b> (a tenant zone).              |
| free           | Float64 | None        | Remaining resources                                                                              |
| region         | String  | None        | Name of the region to which resources belong                                                     |
| resource_count | Float64 | None        | Total number of resources                                                                        |

| Parameter | Type   | Value Range | Description                                                |
|-----------|--------|-------------|------------------------------------------------------------|
| allocated | String | None        | How many VPN connections and gateways have been allocated. |
| timestamp | Long   | None        | Timestamp                                                  |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 2,
  "list": [
    {
      "service_type": "VPN",
      "total": "0",
      "available": "0",
      "metric_type": "connection",
      "zone_type": "VPN_POD",
      "used": "0",
      "free": "0",
      "used_ratio": "0",
      "region": "cn-east-264",
      "resource_count": "0",
      "allocated": "0",
      "timestamp": "1650211200000"
    },
    {
      "service_type": "VPN",
      "total": "5",
      "available": "5",
      "metric_type": "gateway",
      "zone_type": "VPN_POD",
      "used": "0",
      "free": "0",
      "used_ratio": "0",
      "region": "cn-east-264",
      "resource_count": "0",
      "allocated": "0",
      "timestamp": "1650211200000"
    }
  ]
}
```

## Status Codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |

| Status Code | Description                             |
|-------------|-----------------------------------------|
| 404         | The REST API was not found.             |
| 500         | An internal application error occurred. |

### 4.1.3 Querying Audit Logs (Operation Logs)

#### Function

Query the audit log list.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

#### Precautions

None

#### Calling Method

GET

#### URI

/rest/dataapi/homs/open-api/v1/cloudAuditlog

##### Path parameters

None

##### Query parameters

| Parameter | Mandatory | Type   | Value Range | Description                                                         |
|-----------|-----------|--------|-------------|---------------------------------------------------------------------|
| log_type  | No        | String | None        | Log type. The value can be 0 (operation logs) or 1 (security logs). |

| Parameter    | Mandatory | Type | Value Range             | Description                |
|--------------|-----------|------|-------------------------|----------------------------|
| begin_time   | Yes       | long | Milliseconds timestamp. | Start time.                |
| end_time     | Yes       | long | Milliseconds timestamp. | End time.                  |
| page_size    | Yes       | int  | 0~1000                  | Page size.                 |
| offset_value | Yes       | int  | None                    | Start value for the query. |

## Request

- Request header parameters

| Parameter       | Mandatory                                               | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                                     | String | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                                     | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes<br>(HCS Online scenario)<br>No<br>(other scenarios) | String | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                                     | String | None        | AppCode allocated by SRE                            |

- Request body parameters

None

- Sample request

```
GET /rest/dataapi/homs/open-api/v1/cloudAuditlog HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

- Response status code 200: The Data object is returned. The Data object has the following attributes.

| Parameter | Mandatory | Type       | Value Range | Description                   |
|-----------|-----------|------------|-------------|-------------------------------|
| total     | Yes       | int32      | None        | Total number of data records. |
| list      | Yes       | List<Item> | None        | Process object information.   |

The Item object has the following attributes.

| Parameter        | Mandatory | Type   | Value Range | Description                                                                                                          |
|------------------|-----------|--------|-------------|----------------------------------------------------------------------------------------------------------------------|
| id               | Yes       | String | None        | Log ID.                                                                                                              |
| operating_name   | Yes       | String | None        | Operation name.                                                                                                      |
| operating_source | Yes       | int32  | None        | Operation source.                                                                                                    |
| operation_result | Yes       | String | None        | Operation result. If the value is <b>0</b> , the operation succeeds. If the value is <b>1</b> , the operation fails. |
| operation_detail | Yes       | String | None        | Operation details.                                                                                                   |
| resource_name    | Yes       | String | None        | Resource name.                                                                                                       |
| resource_type    | Yes       | String | None        | Resource type.                                                                                                       |

| Parameter            | Mandatory | Type   | Value Range | Description                                                                                                  |
|----------------------|-----------|--------|-------------|--------------------------------------------------------------------------------------------------------------|
| operating_user       | Yes       | String | None        | Operator.                                                                                                    |
| department           | Yes       | String | None        | Department.                                                                                                  |
| severity             | Yes       | String | None        | Risk level. The value can be <b>4</b> (critical), <b>3</b> (major), <b>2</b> (minor), or <b>1</b> (warning). |
| type                 | Yes       | String | None        | Log type. Value <b>0</b> indicates the operation log type. Value <b>1</b> indicates the security log type.   |
| start_time           | Yes       | String | None        | Start time.                                                                                                  |
| end_time             | Yes       | String | None        | End time.                                                                                                    |
| resource_id          | Yes       | String | None        | Resource ID.                                                                                                 |
| resource_region      | Yes       | String | None        | Region to which the resource belongs.                                                                        |
| source_address       | Yes       | String | None        | Resource IP address.                                                                                         |
| region_id            | Yes       | String | None        | Region ID.                                                                                                   |
| region_name          | Yes       | String | None        | Region name.                                                                                                 |
| resource_region_name | Yes       | String | None        | Name of the region to which the resource belongs.                                                            |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": 33,
  "list": [
    {
      "id": "2030",
      "operating_name": "addScheduleSchedule",
      "operating_source": "Operation source",
      "operation_result": "0 (success); 1 (failure)",
    }
  ]
}
```

```
"operation_detail": "Operation details",
  "resource_name": "CloudCapacity",
  "resource_type": "schedule",
  "operating_user": "capacityApi",
  "department": "Department",
  "severity": "Risk level. 4-critical, 3-major, 2-minor, 1-warning",
  "type": "Log type. 0: operation log; 1: security log.",
  "start_time": "2020-11-01 01:13:59",
  "end_time": "2020-11-01 01:13:59",
  "resource_id": "Resource ID",
  "resource_region": "Resource region name: cn-north-1",
  "source_addr": "Resource IP address obtained from regionIp: 10.0.25.204",
  "region_id": "cn-north-1",
  "region_name": "xx-region",
  "resource_region_name": "xx-region"
}
]
```

## Status Codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | REST API not found.          |

## Operation Severity

Minor

## 4.1.4 Querying Physical Device Details

### Function

Query physical device details.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

## Precautions

None

## Calling Method

GET

## URI

/rest/dataapi/homs/open-api/v1/DeviceAsset/info

### Path parameters

None

### Query parameters

| Parameter    | Mandatory | Type   | Value Range | Description                                                                                |
|--------------|-----------|--------|-------------|--------------------------------------------------------------------------------------------|
| device_type  | No        | String | None        | Device type, such as <b>server</b> , <b>switch</b> , <b>firewall</b> , and <b>router</b> . |
| page_size    | Yes       | int    | 0~1000      | Page size.                                                                                 |
| offset_value | Yes       | int    | None        | Start value for the query.                                                                 |

## Request

- Request header parameters

| Parameter      | Mandatory | Type   | Value Range | Description                                         |
|----------------|-----------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode | Yes       | String | None        | AppCode allocated by SRE                            |
| x-auth-token   | Yes       | String | None        | IAM authentication token for the calling party APIG |

| Parameter       | Mandatory                                         | Type   | Value Range | Description                |
|-----------------|---------------------------------------------------|--------|-------------|----------------------------|
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant. |
| x-hcso-appcode  | Yes                                               | String | None        | AppCode allocated by SRE   |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/DeviceAsset/info HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

- Response status code 200: The Data object is returned. The Data object has the following attributes.

| Parameter | Mandatory | Type       | Value Range | Description                   |
|-----------|-----------|------------|-------------|-------------------------------|
| total     | Yes       | int32      | None        | Total number of data records. |
| list      | Yes       | List<Item> | None        | Process object information.   |

The Item object has the following attributes.

| Parameter      | Mandatory | Type   | Value Range | Description                               |
|----------------|-----------|--------|-------------|-------------------------------------------|
| device_id      | Yes       | String | None        | Device ID.                                |
| name           | Yes       | String | None        | Device name.                              |
| device_type    | Yes       | int32  | None        | Device type.                              |
| running_status | Yes       | String | None        | Device running status.                    |
| model          | Yes       | String | None        | Device specifications.                    |
| management_ip  | Yes       | String | None        | IP address of the device management port. |
| os             | Yes       | String | None        | Operating system of a device.             |
| region         | Yes       | String | None        | Region code.                              |

• **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": "33",
  "list": [
    {
      "device_id": "Physical device ID",
      "name": "Device name",
      "device_type": "Device type",
      "running_status": "running status",
      "model": "Device specifications",
      "management_ip": "IP address of the device management port",
      "os": "Operating system of a device",
      "region": "cn-north-1"
    }
  ]
}
```

**Status Codes**

| Status Code | Description           |
|-------------|-----------------------|
| 200         | Operation successful. |
| 400         | Parameter error.      |

| Status Code | Description                  |
|-------------|------------------------------|
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | REST API not found.          |

## Operation Severity

Minor

## 4.1.5 Querying Cloud Service Alarms

### Function

Query cloud service alarms.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥99%                |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

### Precautions

None

### Calling Method

GET

### URI

/rest/dataapi/homs/open-api/v1/CloudServiceAlarm/info

#### Path parameters

None

#### Query parameters

| Parameter    | Mandatory | Type   | Value Range             | Description                                                                           |
|--------------|-----------|--------|-------------------------|---------------------------------------------------------------------------------------|
| cleared      | No        | String | None                    | Alarm clearance flag. The value can be <b>0</b> (uncleared) or <b>1</b> (cleared).    |
| service_type | No        | String | None                    | Cloud service name, which can be ECS or EVS.                                          |
| begin_time   | Yes       | String | Milliseconds timestamp. | Start time.                                                                           |
| end_time     | Yes       | String | Milliseconds timestamp. | End time. The time span between the start date and end date cannot exceed two months. |
| page_size    | Yes       | int    | 0~1000                  | Page size.                                                                            |
| offset_value | Yes       | int    | None                    | Start value for the query.                                                            |

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v1/CloudServiceAlarm/info HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

- Response status code 200: The Data object is returned. The Data object has the following attributes.

| Parameter | Mandatory | Type       | Value Range | Description                   |
|-----------|-----------|------------|-------------|-------------------------------|
| total     | Yes       | int32      | None        | Total number of data records. |
| list      | Yes       | List<Item> | None        | Process object information.   |

The Item object has the following attributes.

| Parameter  | Mandatory | Type   | Value Range | Description                                                                                                      |
|------------|-----------|--------|-------------|------------------------------------------------------------------------------------------------------------------|
| csn        | Yes       | String | None        | Alarm sequence number.                                                                                           |
| alarm_name | Yes       | String | None        | Alarm name.                                                                                                      |
| alarm_id   | Yes       | int32  | None        | Alarm ID.                                                                                                        |
| severity   | Yes       | String | None        | Alarm severity. The value can be <b>1</b> (critical), <b>2</b> (major), <b>3</b> (minor), or <b>4</b> (warning). |
| event_type | Yes       | String | None        | Event type.                                                                                                      |

| Parameter              | Mandatory | Type   | Value Range | Description                                                          |
|------------------------|-----------|--------|-------------|----------------------------------------------------------------------|
| origin_system_type     | Yes       | String | None        | Source system type.                                                  |
| origin_system_name     | Yes       | String | None        | Source system name.                                                  |
| moi                    | Yes       | String | None        | Information for alarm locating, which uniquely identifies the alarm. |
| additional_information | Yes       | String | None        | Additional information.                                              |
| latest_occure_utc      | Yes       | String | None        | UTC time when the latest alarm is generated.                         |
| first_occure_utc       | Yes       | String | None        | UTC time when an alarm occurs for the first time.                    |
| meName                 | Yes       | String | None        | Alarm object name.                                                   |
| count                  | Yes       | String | None        | Number of alarm occurrences.                                         |
| probable_cause         | Yes       | String | None        | Possible cause of an alarm.                                          |
| region                 | Yes       | String | None        | Region name.                                                         |
| dc_name                | Yes       | String | None        | Data center name.                                                    |
| res_pool_name          | Yes       | String | None        | Information about the pod for which an alarm is reported.            |
| azone_name             | Yes       | String | None        | AZ name.                                                             |
| tenant                 | Yes       | String | None        | Tenant name.                                                         |
| nativeMeDn             | Yes       | String | None        | Alarm IP address.                                                    |
| moc                    | Yes       | String | None        | Object type.                                                         |

| Parameter           | Mandatory | Type   | Value Range | Description                                                                                       |
|---------------------|-----------|--------|-------------|---------------------------------------------------------------------------------------------------|
| cleared             | Yes       | String | None        | Whether the alarm is cleared.                                                                     |
| clear_category      | Yes       | String | None        | Whether the alarm can be automatically cleared.                                                   |
| clear_utc           | Yes       | String | None        | UTC time when the alarm is cleared.                                                               |
| clear_user          | Yes       | String | None        | User who clears the alarm.                                                                        |
| clear_type          | Yes       | String | None        | Alarm clearance type.                                                                             |
| acked               | Yes       | String | None        | Alarm acknowledgment flag. The value can be <b>0</b> (unacknowledged) or <b>1</b> (acknowledged). |
| ack_user            | Yes       | String | None        | User who acknowledges the alarm.                                                                  |
| ack_utc             | Yes       | String | None        | UTC time when the alarm is acknowledged.                                                          |
| merge_key           | Yes       | String | None        | Merging key.                                                                                      |
| me_category         | Yes       | String | None        | Cloud service for which the alarm is generated.                                                   |
| me_type             | Yes       | String | None        | Service for which the alarm is generated.                                                         |
| product_name        | Yes       | String | None        | Microservice for which the alarm is generated.                                                    |
| LogicalRegionId     | Yes       | String | None        | Region code.                                                                                      |
| serviceAffectedType | Yes       | String | None        | Whether the alarm affects services.                                                               |
| affectedService     | Yes       | String | None        | Name of the service affected by the alarm.                                                        |
| meDn                | Yes       | String | None        | Alarm object ID.                                                                                  |

- **Sample response**

HTTP/1.1 200 OK  
Date: Tue, 18 Jul 2023 09:58:01 GMT

```
Server: example.com
Content-Type: application/json;charset=UTF8
{
  "total": "Total number",
  "list": [
    {
      "csn": "12346578",
      "alarm_name": "Alarm name",
      "alarm_id": "Alarm ID",
      "severity": "Alarm severity: 1-critical, 2-major, 3-minor, 4-warning",
      "event_type": "Event type",
      "origin_system_type": "Source system type",
      "origin_system_name": "Source system name",
      "moi": "Object ID used to locate an alarm",
      "additional_information": "Additional information",
      "latest_occur_utc": "UTC time when the latest alarm is generated",
      "first_occur_utc": "UTC time when an alarm occurs for the first time.",
      "meName": "Alarm object name",
      "count": "Number of alarm occurrences",
      "probable_cause": "Possible cause of an alarm.",
      "region": "Region name",
      "dc_name": "Data center name",
      "res_pool_name": "Information about the pod for which an alarm is reported.",
      "azone_name": "Availability zone name",
      "tenant": "Tenant name",
      "nativeMeDn": "Alarm IP address",
      "moc": "Object type",
      "cleared": "Whether the alarm is cleared.",
      "clear_category": "Whether an alarm can be automatically cleared.",
      "clear_utc": "UTC when an alarm is cleared",
      "clear_user": "User who clears an alarm.",
      "clear_type": "Alarm clearance type.",
      "acked": "Alarm acknowledgment flag. The value can be 0 (unacknowledged) or 1 (acknowledged).",
      "ack_user": "User who acknowledges the alarm.",
      "ack_utc": "UTC time when an alarm is acknowledged.",
      "merge_key": "Merging key",
      "me_category": "Cloud service for which the alarm is generated.",
      "me_type": "Service for which the alarm is generated",
      "product_name": "Microservice for which the alarm is generated.",
      "LogicalRegionId": "cn-north-201",
      "serviceAffectedType": "Affected service ID.",
      "affectedService": "Name of the service affected by an alarm.",
      "meDn": "Alarm object ID"
    }
  ]
}
```

## Status Codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | The REST API was not found.  |

## Operation Severity

Minor

### 4.1.6 Querying Hardware Alarm Information

#### Function

Query alarms of hardware devices.

| SLA Item               | Definition          |
|------------------------|---------------------|
| Request success rate   | ≥ 99%               |
| Availability           | Tier 2              |
| Data consistency       | Strongly consistent |
| Throughput             | 60 times/minute     |
| TP50 request latency   | 200 ms              |
| TP99.9 request latency | 300 ms              |

#### Precautions

None

#### Calling Method

GET

#### URI

/rest/dataapi/homs/open-api/v1/DeviceAlarm/info

##### Path parameters

None

##### Query parameters

| Parameter    | Mandatory | Type   | Value Range | Description                                                                        |
|--------------|-----------|--------|-------------|------------------------------------------------------------------------------------|
| cleared      | No        | String | None        | Alarm clearance flag. The value can be <b>0</b> (uncleared) or <b>1</b> (cleared). |
| service_type | No        | String | None        | Cloud service name, which can be <b>Server</b> or <b>Network</b> .                 |

| Parameter    | Mandatory | Type   | Value Range            | Description                |
|--------------|-----------|--------|------------------------|----------------------------|
| begin_time   | Yes       | String | Millisecond timestamp. | Start time.                |
| end_time     | Yes       | String | Millisecond timestamp. | End time.                  |
| page_size    | Yes       | int    | 0~1000                 | Page size.                 |
| offset_value | Yes       | int    | None                   | Start value for the query. |

## Request

- Request header parameters

| Parameter       | Mandatory                                         | Type   | Value Range | Description                                         |
|-----------------|---------------------------------------------------|--------|-------------|-----------------------------------------------------|
| X-APIG-Appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |
| x-auth-token    | Yes                                               | String | None        | IAM authentication token for the calling party APIG |
| x-hcso-domainid | Yes (HCS Online scenario)<br>No (other scenarios) | String | None        | ID of the accessed tenant.                          |
| x-hcso-appcode  | Yes                                               | String | None        | AppCode allocated by SRE                            |

- Request body parameters

None

- Sample request

GET /rest/dataapi/homs/open-api/v1/DeviceAlarm/info HTTP/1.1  
Host: example.com

```
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

- Response status code 200: The Data object is returned. The Data object has the following attributes.

| Parameter | Mandatory | Type       | Value Range | Description                   |
|-----------|-----------|------------|-------------|-------------------------------|
| total     | Yes       | int32      | None        | Total number of data records. |
| list      | Yes       | List<Item> | None        | Process object information.   |

The Item object has the following attributes.

| Parameter          | Mandatory | Type   | Value Range | Description                                                                                                      |
|--------------------|-----------|--------|-------------|------------------------------------------------------------------------------------------------------------------|
| csn                | Yes       | String | None        | Alarm sequence number.                                                                                           |
| alarm_name         | Yes       | String | None        | Alarm name.                                                                                                      |
| alarm_id           | Yes       | int32  | None        | Alarm ID.                                                                                                        |
| severity           | Yes       | String | None        | Alarm severity. The value can be <b>1</b> (critical), <b>2</b> (major), <b>3</b> (minor), or <b>4</b> (warning). |
| event_type         | Yes       | String | None        | Event type.                                                                                                      |
| origin_system_type | Yes       | String | None        | Source system type.                                                                                              |
| origin_system_name | Yes       | String | None        | Source system name.                                                                                              |

| Parameter              | Mandatory | Type   | Value Range | Description                                                          |
|------------------------|-----------|--------|-------------|----------------------------------------------------------------------|
| moi                    | Yes       | String | None        | Information for alarm locating, which uniquely identifies the alarm. |
| additional_information | Yes       | String | None        | Additional information.                                              |
| latest_occurrence_utc  | Yes       | String | None        | UTC time when the latest alarm is generated.                         |
| first_occurrence_utc   | Yes       | String | None        | UTC time when an alarm occurs for the first time.                    |
| meName                 | Yes       | String | None        | Alarm object name.                                                   |
| count                  | Yes       | String | None        | Number of alarm occurrences.                                         |
| probable_cause         | Yes       | String | None        | Possible cause of an alarm.                                          |
| region                 | Yes       | String | None        | Region name.                                                         |
| dc_name                | Yes       | String | None        | Data center name.                                                    |
| res_pool_name          | Yes       | String | None        | Information about the pod for which an alarm is reported.            |
| azone_name             | Yes       | String | None        | AZ name.                                                             |
| tenant                 | Yes       | String | None        | Tenant name.                                                         |
| nativeMeDn             | Yes       | String | None        | Alarm IP address.                                                    |
| moc                    | Yes       | String | None        | Object type.                                                         |
| cleared                | Yes       | String | None        | Whether the alarm is cleared.                                        |
| clear_category         | Yes       | String | None        | Whether an alarm can be automatically cleared.                       |
| clear_utc              | Yes       | String | None        | UTC time when an alarm is cleared.                                   |

| Parameter           | Mandatory | Type   | Value Range | Description                                                                                       |
|---------------------|-----------|--------|-------------|---------------------------------------------------------------------------------------------------|
| clear_user          | Yes       | String | None        | User who clears an alarm.                                                                         |
| clear_type          | Yes       | String | None        | Alarm clearance type.                                                                             |
| acked               | Yes       | String | None        | Alarm acknowledgment flag. The value can be <b>0</b> (unacknowledged) or <b>1</b> (acknowledged). |
| ack_user            | Yes       | String | None        | User who acknowledges the alarm.                                                                  |
| ack_utc             | Yes       | String | None        | UTC time when the alarm is acknowledged.                                                          |
| merge_key           | Yes       | String | None        | Merging key.                                                                                      |
| me_category         | Yes       | String | None        | Cloud service for which the alarm is generated.                                                   |
| me_type             | Yes       | String | None        | Service for which the alarm is generated.                                                         |
| product_name        | Yes       | String | None        | Microservice for which the alarm is generated.                                                    |
| LogicalRegionId     | Yes       | String | None        | Region code.                                                                                      |
| serviceAffectedType | Yes       | String | None        | Whether the alarm affects services.                                                               |
| affectedService     | Yes       | String | None        | Name of the service affected by the alarm.                                                        |
| meDn                | Yes       | String | None        | Alarm object ID.                                                                                  |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": "Total number",
  "list": [
    {
      "csn": "12346578",
      "alarm_name": "Alarm name",
      "alarm_id": "Alarm ID",
```

```
"severity": "Alarm severity: 1-critical, 2-major, 3-minor, 4-warning",
"event_type": "Event type",
"origin_system_type": "Source system type",
"origin_system_name": "Source system name",
"moi": "Object ID used to locate an alarm",
"additional_information": "Additional information",
"latest_occur_utc": "UTC time when the latest alarm is generated",
"first_occur_utc": "UTC time when an alarm occurs for the first time.",
"meName": "Alarm object name",
"count": "Number of alarm occurrences",
"probable_cause": "Possible cause of an alarm.",
"region": "Region name",
"dc_name": "Data center name",
"res_pool_name": "Information about the pod for which an alarm is reported.",
"azone_name": "Availability zone name",
"tenant": "Tenant name",
"nativeMeDn": "Alarm IP address",
"moc": "Object type",
"cleared": "Whether the alarm is cleared.",
"clear_category": "Whether an alarm can be automatically cleared.",
"clear_utc": "UTC when an alarm is cleared",
"clear_user": "User who clears an alarm.",
"clear_type": "Alarm clearance type.",
"acked": "Alarm acknowledgment flag. The value can be 0 (unacknowledged) or 1 (acknowledged).",
"ack_user": "User who acknowledges the alarm.",
"ack_utc": "UTC time when an alarm is acknowledged.",
"merge_key": "Merging key",
"me_category": "Cloud service for which the alarm is generated.",
"me_type": "Service for which the alarm is generated",
"product_name": "Microservice for which the alarm is generated.",
  "LogicalRegionId": "cn-north-201",
"serviceAffectedType": "Affected service ID.",
"affectedService": "Name of the service affected by an alarm.",
"meDn": "Alarm object ID"
  }
]
}
```

## Status Codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | REST API not found.          |

## Operation Severity

Minor

## 4.1.7 Querying Host Metric Data

### Function

Query host metric data.

| SLA Item               | Definition                                                                                    |
|------------------------|-----------------------------------------------------------------------------------------------|
| Request success rate   | ≥ 99.9%                                                                                       |
| Availability           | Tier 1                                                                                        |
| Data consistency       | Eventual consistency can be achieved.<br>The duration of inconsistency is less than 1 minute. |
| Throughput             | 4000 TPS                                                                                      |
| TP50 request latency   | 2 ms                                                                                          |
| TP99.9 request latency | 5 ms                                                                                          |

### Precautions

None

### Calling Method

GET

### URI

/rest/dataapi/homs/open-api/v1/host/metricdata

#### Path parameters

None

#### Query parameters

| Parameter    | Mandator<br>y | Type    | Value<br>Range | Description                        |
|--------------|---------------|---------|----------------|------------------------------------|
| host_id      | Yes           | string  | None           | Host ID                            |
| begin_time   | Yes           | integer | None           | Start time                         |
| end_time     | Yes           | integer | None           | End time                           |
| offset_value | No            | integer | None           | Offset: greater than or equal to 0 |

| Parameter | Mandatory | Type    | Value Range | Description                           |
|-----------|-----------|---------|-------------|---------------------------------------|
| page_size | No        | integer | 0-1000      | Page size: greater than or equal to 0 |

## Request

- Request header parameters

| Parameter       | Mandatory | Type   | Value Range | Description                                                                          |
|-----------------|-----------|--------|-------------|--------------------------------------------------------------------------------------|
| X-APIG-Appcode  | Yes       | string | None        | AppCode allocated by SRE                                                             |
| x-auth-token    | Yes       | string | None        | IAM authentication token for the calling party APIG                                  |
| x-hcso-domainid | No        | string | None        | ID of the accessed tenant. This parameter is mandatory only in HCS Online scenarios. |
| x-hcso-appcode  | Yes       | string | None        | AppCode allocated by SRE                                                             |

- Request body parameters

None

- Sample request

```
GET /rest/dataapi/homs/open-api/v1/host/metricdata HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- Response parameters

- Response status code 200: The Data object is returned. The Data object has the following attributes.

| Parameter | Mandatory | Type  | Value Range | Description                  |
|-----------|-----------|-------|-------------|------------------------------|
| total     | Yes       | int32 | None        | Total number of data records |

| Parameter | Mandatory | Type       | Value Range | Description                |
|-----------|-----------|------------|-------------|----------------------------|
| list      | Yes       | List<Item> | None        | Process object information |

The Item object has the following attributes.

| Parameter    | Mandatory | Type   | Value Range | Description |
|--------------|-----------|--------|-------------|-------------|
| time_stamp   | Yes       | Int64  | None        | Timestamp   |
| monitor_item | Yes       | string | None        | Monitor ID  |
| region_id    | Yes       | String | None        | Region ID   |
| az_name      | No        | string | None        | AZ name     |

| Parameter    | Mandatory | Type   | Value Range | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|-----------|--------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| metrics_name | Yes       | string | None        | Metric name<br>The involved 19 metrics are as follows:<br>CPU usage<br>Memory usage<br>Disk usage<br>Average system load<br>System uptime<br>Disk I/O read requests per second<br>Disk write I/O requests per second<br>Disk I/O usage<br>Average time consumed by disk I/O read requests<br>Average time consumed by disk I/O write requests<br>Disk I/O access duration<br>Bytes received by a NIC<br>Bytes sent by a NIC<br>NIC speed<br>Error rate of packets received by NIC<br>Loss rate of packets received by NIC<br>Loss rate of packets sent by NIC<br>Error rate of packets sent by NIC<br>NIC status |
| operator     | No        | string | None        | Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| host_id      | Yes       | string | None        | Host ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| az_id        | No        | string | None        | AZ ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| unit         | No        | string | None        | Metric unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| region_name  | No        | string | None        | Region name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter     | Mandatory | Type     | Value Range | Description  |
|---------------|-----------|----------|-------------|--------------|
| data_item     | Yes       | string   | None        | Data item    |
| metrics_value | No        | Float 64 | None        | Metric value |

• **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "total": "Total number",
  "list": [
    {
      "time_stamp": "Timestamp",
      "monitor_item": "Monitor project",
      "region_id": "Region ID",
      "az_name": "AZ name",
      "metrics_name": "Metric name",
      "operator": "Operator",
      "host_id": "Host ID",
      "az_id": "AZ ID",
      "unit": "Metric unit",
      "region_name": "Region name",
      "data_item": "Data item",
      "value": "Metric value"
    }
  ]
}
```

**Status code**

| Status code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | The API was not found.       |

**Operation Severity**

Minor

## 4.1.8 Querying External Tenant Resources

### Function

Query external tenant resources.

| SLA Item               | Definition                                                                                    |
|------------------------|-----------------------------------------------------------------------------------------------|
| Request success rate   | ≥ 99.9%                                                                                       |
| Availability           | Tier 1                                                                                        |
| Data consistency       | Eventual consistency can be achieved.<br>The duration of inconsistency is less than 1 minute. |
| Throughput             | 4000 TPS                                                                                      |
| TP50 request latency   | 2 ms                                                                                          |
| TP99.9 request latency | 5 ms                                                                                          |

### Precautions

None

### Calling Method

GET

### URI

/rest/dataapi/homs/open-api/v2/cloudresource/instancedata/{resource\_type}

**Path parameters**

| Parameter         | Mandator<br>y | Type   | Value<br>Range                                                                                                                                                                                                                                                                                             | Description   |
|-------------------|---------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| resource_t<br>ype | Yes           | string | <ul style="list-style-type: none"><li>• ECS</li><li>• EVS</li><li>• EIP</li><li>• OBS</li><li>• BMS</li><li>• ELB</li><li>• VPN</li><li>• DCS</li><li>• DMS</li><li>• RDS</li><li>• GAUSS</li><li>• MODEL_<br/>ARTS_INF</li><li>• MODEL_<br/>ARTS_TR<br/>AIN</li><li>• MODEL_<br/>ARTS_MA<br/>OS</li></ul> | Resource type |

#### Query parameters

| Parameter        | Mandator<br>y | Type        | Value<br>Range | Description                              |
|------------------|---------------|-------------|----------------|------------------------------------------|
| begin_tim<br>e   | Yes           | integ<br>er | None           | Start time                               |
| end_time         | Yes           | integ<br>er | None           | End time                                 |
| offset_valu<br>e | No            | integ<br>er | None           | Offset: greater than or equal<br>to 0    |
| page_size        | No            | integ<br>er | 0-1000         | Page size: greater than or<br>equal to 0 |

## Request

- Request header parameters

| Parameter       | Mandatory | Type   | Value Range | Description                                                                          |
|-----------------|-----------|--------|-------------|--------------------------------------------------------------------------------------|
| X-APIG-Appcode  | Yes       | string | None        | AppCode allocated by SRE                                                             |
| x-auth-token    | Yes       | string | None        | IAM authentication token for the calling party APIG                                  |
| x-hcso-domainid | No        | string | None        | ID of the accessed tenant. This parameter is mandatory only in HCS Online scenarios. |
| x-hcso-appcode  | Yes       | string | None        | AppCode allocated by SRE                                                             |

- **Request body parameters**

None

- **Sample request**

```
GET /rest/dataapi/homs/open-api/v2/cloudresource/instancedata/{resource_type}
HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
X-APIG-Appcode: xxx
x-auth-token: xxx
x-hcso-domainid: xxx
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

- Response status code 200: The Data object is returned. The Data object has the following attributes.

| Parameter | Mandatory | Type       | Value Range | Description                  |
|-----------|-----------|------------|-------------|------------------------------|
| total     | Yes       | int32      | None        | Total number of data records |
| list      | Yes       | List<Item> | None        | Process object information   |

The Item object has the following attributes.

| Parameter               | Mandatory | Type   | Value Range | Description                |
|-------------------------|-----------|--------|-------------|----------------------------|
| accumulate_factor_name  | Yes       | String | None        | Accumulated factor name    |
| accumulate_factor_value | No        | String | None        | Accumulated factor value   |
| az_code                 | No        | String | None        | AZ code                    |
| begin_time              | No        | String | None        | Start time                 |
| bp_info                 | No        | String | None        | Service information        |
| cloud_service_type_code | Yes       | String | None        | Cloud service type code    |
| csb_params              | No        | String | None        | CSB parameter              |
| enterprise_project_id   | No        | String | None        | Enterprise project ID      |
| error_msg               | No        | String | None        | Error message              |
| extend_params           | No        | String | None        | Extended parameter         |
| extend_params2          | No        | String | None        | Extended parameter 2       |
| record_type             | No        | String | None        | Record type                |
| region_code             | Yes       | String | None        | Region code                |
| related_resource        | No        | String | None        | Associated parent resource |
| related_root_resource   | No        | String | None        | Associated root resource   |
| resource_id             | Yes       | String | None        | Resource ID                |

| Parameter          | Mandatory | Type   | Value Range | Description                 |
|--------------------|-----------|--------|-------------|-----------------------------|
| resource_spec_code | No        | String | None        | Resource specification code |
| resource_type_code | No        | String | None        | Resource type code          |
| site_code          | No        | String | None        | Site code                   |
| tag                | No        | String | None        | Tag                         |
| time_stamp         | Yes       | String | None        | Timestamp                   |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "list": [
    {
      "accumulate_factor_name": "Accumulated factor name",
      "accumulate_factor_value": "Accumulated factor value",
      "az_code": "AZ code",
      "begin_time": "Start time",
      "bp_info": "Service information",
      "cloud_service_type_code": "Cloud service type code",
      "csb_params": "CSB parameter",
      "enterprise_project_id": "Enterprise project ID",
      "error_msg": "Error message",
      "extend_params": "Extended parameter",
      "extend_params2": "Extended parameter 2",
      "record_type": "Record type",
      "region_code": "Region code",
      "relate_parent_resource": "Associated parent resource",
      "relate_root_resource": "Associated root resource",
      "resource_id": "Resource ID",
      "resource_spec_code": "Resource specification code",
      "resource_type_code": "Resource type code",
      "site_code": "Site code",
      "tag": "Tag",
      "time_stamp": "Timestamp",
    }
  ],
  "total": "Total number",
}
```

## Status Codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | The API was not found.       |

## Operation Severity

Minor

## 4.2 SDRs

### 4.2.1 Creating a Query Task

#### Function

Create a query task.

#### Precautions

None

#### Calling Method

POST

#### URI

/meter/v1/{domain\_id}/query-jobs

##### Path parameters

| Parameter | Mandatory | Type   | Value Range                                | Description       |
|-----------|-----------|--------|--------------------------------------------|-------------------|
| domain_id | Yes       | string | Regular expression: ^[-_0-9a-zA-Z]{0,36}\$ | Tenant ID of ESM. |

##### Query parameters

None

## Request

- **Request header parameters**  
For details, see the header description in the sample request.
- **Request body parameters**

**Table 4-1** CreateQueryJobRequest object attributes

| Parameter    | Mandatory | Type   | Value Range                                                                             | Description                        |
|--------------|-----------|--------|-----------------------------------------------------------------------------------------|------------------------------------|
| hcsd_id      | No        | string | Regular expression: ^[-_0-9a-zA-Z]{0,36}                                                | Site ID                            |
| region_id    | No        | string | Regular expression: ^[-_0-9a-zA-Z]{0,255}                                               | Region ID                          |
| min_sdr_time | Yes       | string | Regular expression: ^\d{4}-\d{2}-\d{2}\d{2}:\d{2}:\d{2}\$<br><b>2022-01-01 00:00:00</b> | Time when you start querying SDRs: |
| max_sdr_time | Yes       | string | Regular expression: ^\d{4}-\d{2}-\d{2}\d{2}:\d{2}:\d{2}\$<br><b>2022-01-31 00:00:00</b> | Time when you stop querying SDRs:  |

- **Sample request**  
POST /meter/v1/{domain\_id}/query-jobs HTTP/1.1  
Host: example.com  
Content-Type: application/json  
Accept: application/json  
x-hcsd-appcode: xxx  
{  
 "hcsd\_id": "xxx",  
 "region\_id": "region",  
 "min\_sdr\_time": "2022-01-01 00:00:00",  
 "max\_sdr\_time": "2022-02-01 00:00:00"  
}

## Response

- **Response parameters**
  - Response status code: 201. CreateQueryJobResponse is returned.

**Table 4-2** CreateQueryJobResponse object attributes

| Parameter | Mandatory | Type   | Value Range | Description |
|-----------|-----------|--------|-------------|-------------|
| job_id    | No        | string | None        | Task ID     |

- Sample response**  
HTTP/1.1 201 OK  
Date: Tue, 18 Jul 2023 09:58:01 GMT  
Server: example.com  
Content-Type: application/json; charset=UTF8  
{  
 "job\_id": "xxx"  
}

Status Codes

**Table 4-3** Status codes

| Status Code | Description                  |
|-------------|------------------------------|
| 201         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | The REST API was not found.  |
| 500         | Internal error.              |

Operation Severity

Minor

4.2.2 Querying the Task Status

Function

Query the task status.

Precautions

None

Calling Method

GET

## URI

/meter/v1/{domain\_id}/query-jobs/{job\_id}

### Path parameters

**Table 4-4** Path parameters

| Parameter | Mandatory | Type   | Value Range                               | Description       |
|-----------|-----------|--------|-------------------------------------------|-------------------|
| job_id    | Yes       | string | Regular expression: ^[_0-9a-zA-Z]{0,36}\$ | Task ID           |
| domain_id | Yes       | string | Regular expression: ^[_0-9a-zA-Z]{0,36}\$ | Tenant ID of ESM. |

### Query parameters

None

## Request

- **Request header parameters**

For details, see the header description in the sample request.

- **Request body parameters**

None

- **Sample request**

```
GET /meter/v1/{domain_id}/query-jobs/{job_id} HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
x-hcso-appcode: xxx
```

## Response

- **Response parameters**

- Response status code: 200. QueryJobVo is returned.

**Table 4-5** QueryJobVo object attributes

| Parameter | Mandatory | Type   | Value Range | Description |
|-----------|-----------|--------|-------------|-------------|
| id        | Yes       | string | None        | Task ID     |

| Parameter | Mandatory | Type   | Value Range | Description                                                                          |
|-----------|-----------|--------|-------------|--------------------------------------------------------------------------------------|
| status    | Yes       | string | None        | Task status ( <b>success</b> , <b>failure</b> , <b>running</b> , or <b>pending</b> ) |
| progress  | Yes       | int32  | None        | Task progress: 0-100%                                                                |

- Sample response**  
HTTP/1.1 200 OK  
Date: Tue, 18 Jul 2023 09:58:01 GMT  
Server: example.com  
Content-Type: application/json; charset=UTF8  

```
{
  "id": "xxx",
  "status": "success",
  "progress": 100
}
```

Status Codes

Table 4-6 Status codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |
| 403         | Authentication failed.       |
| 404         | The REST API was not found.  |
| 500         | Internal error.              |

Operation Severity

Minor

4.2.3 Querying Job Data

Function

Query job data.

## Precautions

None

## Calling Method

POST

## URI

/meter/v1/{domain\_id}/query-jobs/{job\_id}/sdr

### Path parameters

| Parameter | Mandatory | Type   | Value Range                                | Description       |
|-----------|-----------|--------|--------------------------------------------|-------------------|
| job_id    | Yes       | string | Regular expression: ^[-_0-9a-zA-Z]{0,36}\$ | Task ID           |
| domain_id | Yes       | string | Regular expression: ^[-_0-9a-zA-Z]{0,36}\$ | Tenant ID of ESM. |

### Query parameters

None

## Request

- **Request header parameters**  
For details, see the header description in the sample request.
- **Request body parameters**

**Table 4-7** QueryJobSdrRequest object attributes

| Parameter | Mandatory | Type   | Value Range                                                       | Description                                                                             |
|-----------|-----------|--------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| marker    | No        | string | Regular expression: ^[-_+/=0-9a-zA-Z]{0,200}<br>Default value: "" | Query flag, which is in the previous response. It is not required upon the first query. |
| limit     | No        | int32  | 1~200<br>Default value: <b>100</b>                                | Number of returned SDRs                                                                 |

- **Sample request**

```
GET /meter/v1/{domain_id}/query-jobs/{job_id}/sdr HTTP/1.1
Host: example.com
Content-Type: application/json
Accept: application/json
x-hcso-appcode: xxx
{
  "marker": "xxx",
  "limit": 10
}
```

## Response

- **Response parameters**

- Response status code: 200. QueryJobSdrResponse is returned.

**Table 4-8** QueryJobSdrResponse object attributes

| Parameter | Mandatory | Type              | Value Range | Description                                                                                |
|-----------|-----------|-------------------|-------------|--------------------------------------------------------------------------------------------|
| data      | No        | List<SdrRecordVo> | None        | SDR data                                                                                   |
| marker    | No        | string            | None        | Query flag in the next query. If this parameter is left blank, all data has been returned. |

- **Sample response**

```
HTTP/1.1 200 OK
Date: Tue, 18 Jul 2023 09:58:01 GMT
Server: example.com
Content-Type: application/json; charset=UTF8
{
  "data": [],
  "marker": "xxx"
}
```

## Status Codes

**Table 4-9** Status codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | Operation successful.        |
| 400         | Parameter error.             |
| 401         | Token authentication failed. |

| Status Code | Description                 |
|-------------|-----------------------------|
| 403         | Authentication failed.      |
| 404         | The REST API was not found. |
| 500         | Internal error.             |

Operation Severity

Minor

# 5 Permissions and Supported Actions

---

This chapter describes fine-grained permissions management for your ESM. If your Huawei Cloud account does not require individual IAM users, skip this section.

New IAM users do not come with default permissions. You need to add them to one or more groups and then attach policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

You can grant permissions using roles and policies. Roles are provided by IAM to define service-based permissions that match users' job 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.

For more information about system policies supported by ESM, see [Permissions Management](#).

## NOTE

If you want to allow or deny the access to an API, use policy-based authorization.

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 IAM users who have been granted permissions allowing the actions can call the API successfully.

## Supported Actions

ESM provides system-defined policies that can be directly used in IAM. You can also create custom policies to supplement system-defined policies for more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- **Permissions:** statements in a policy that allow or deny certain operations.
- **APIs:** REST APIs that can be called by a user who has been granted specific permissions.
- **Actions:** specific operations that are allowed or denied.

- Dependencies: actions which a specific action depends on. When allowing an action for a user, you also need to allow any existing action dependencies for that user.
- Authorization scope: Type of projects in which policies can be used to grant permissions. A policy can be applied to IAM projects, enterprise projects, or both. Policies that contain actions for both IAM and enterprise projects can be used and applied for both IAM and Enterprise Management. Policies that contain actions only for IAM projects can be used and applied to IAM only. For details about the differences between IAM and enterprise projects, see [What Are the Differences Between IAM Projects and Enterprise Projects?](#)

# 6 Status Codes

Table 6-1 describes common status codes.

Table 6-1 Returned status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | OK                       |
| 201         | Created                  |
| 202         | Accepted                 |
| 204         | No Content               |
| 400         | Bad Request              |
| 401         | Unauthorized             |
| 403         | Forbidden                |
| 404         | Not Found                |
| 405         | Method Not Allowed       |
| 409         | Conflict                 |
| 413         | Request Entity Too Large |
| 415         | Unsupported Media Type   |
| 429         | Too Many Requests        |
| 500         | Internal Server Error    |
| 501         | Not Implemented          |
| 503         | Service Unavailable      |

# A Change History

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| Release Date | Description                                 |
|--------------|---------------------------------------------|
| 2025-10-30   | This issue is the seventh official release. |
| 2025-04-30   | This issue is the sixth official release.   |
| 2024-10-30   | This issue is the fifth official release.   |
| 2024-07-30   | This issue is the fourth official release.  |
| 2024-04-30   | This issue is the third official release.   |
| 2023-11-30   | This issue is the second official release.  |
| 2023-10-30   | This issue is the first official release.   |