

Cloud Service Engine

API Reference

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1 Before You Start

Cloud Service Engine (CSE) is a cloud middleware used for microservice applications. It supports ServiceComb engines contributed to Apache and open-source enhanced Nacos engines. You can also use other cloud services to quickly build a cloud-native microservice system, implementing quick development and high-availability O&M of microservice applications.

This document describes how to use APIs to perform operations on microservice engines, such as dynamic configuration, engine management, and microservice governance. For details about all supported operations, see [API Overview](#).

Before calling microservice engine APIs, ensure that you are familiar with microservice engine concepts. For details, see [Service Overview](#).

Service Center Address

The service center address is the request address for calling APIs. Different microservice engine instances have different service center addresses. For details, see [Obtaining the Service Center Address of a ServiceComb Engine](#).

Concepts

- Account
An account is created upon successful registration with the cloud platform. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity and should not be used directly to perform routine management. For security purposes, create users and grant them permissions for routine management.
- User
An Identity and Access Management (IAM) user is created using an account to use cloud services. Each IAM user has its own identity credentials (password and access keys).
An IAM user can view the account ID and user ID on the [My Credentials](#) page of the console. The account name, username, and password will be required for API authentication.
- Region

Regions are divided from the dimensions of geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.

For details, see [Region and AZ](#).

- Availability zone

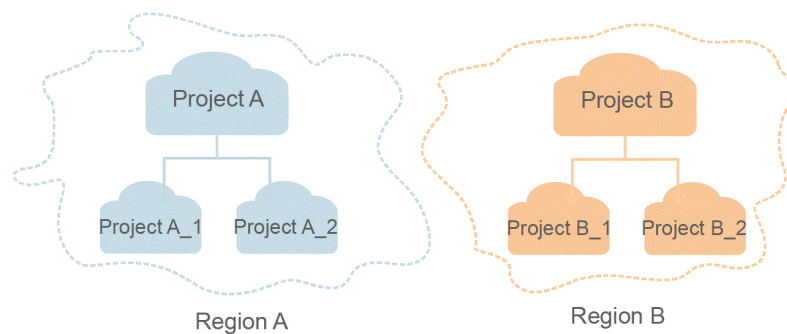
An availability zone (AZ) comprises one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Compute, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are connected using high-speed optical fibers to support cross-AZ high-availability systems.

- Project

Projects group and isolate resources (including compute, storage, and network resources) across physical regions. A default project is provided for each 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.

To view a project ID, go to the [My Credentials](#) page.

Figure 1-1 Project isolating model



- Enterprise project

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

For details about how to obtain enterprise project IDs and features, see the [Enterprise Management User Guide](#).

2 API Overview

CSE provides open APIs for microservice development, helping you quickly migrate services to the cloud at low costs and enabling efficient running of microservice applications.

For details about the APIs, see the following table.

Table 2-1 Overview

Type	Subtype	Description
CSE APIs	Dynamic Configuration	APIs related to configuration import to and export from the configuration management center.
	Engine Management	APIs related to microservice engine creation, query, and deletion.
	Microservice Governance	APIs related to governance policy creation, modification, query, and deletion.
	ServiceComb Engine Authentication	APIs related to RBAC account role modification, password change, and deletion of a ServiceComb engine.
Nacos APIs	Nacos APIs	APIs related to namespace creation, modification, query, and deletion.
ServiceComb-native APIs	Authentication	APIs related to microservice identity authentication.
	Microservice	APIs related to microservice management.
	Schema	APIs related to microservice schema query and upload.
	Microservice Instance	APIs related to microservice instance registry and heartbeat reporting.

Type	Subtype	Description
	Dependency	APIs related to microservice dependency query.
	Configuration Management	APIs related to configuration management of the configuration center.

NOTICE

APIs in [Microservice](#), [Schema](#), [Microservice Instance](#), and [Dependency](#) are available only in ME-Riyadh, CN-Hong Kong, and AP-Singapore.

3 Calling APIs

3.1 Making an API Request

This section describes how to make a REST API request, and uses the IAM API for [creating an IAM user](#) 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.

- **URI-scheme:** Protocol used to transmit requests. All APIs use **HTTPS**.
- **Endpoint:** Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from [Regions and Endpoints](#). For example, the endpoint of IAM in CN-Hong Kong is iam.ap-southeast-1.myhuaweicloud.com.
- **resource-path:** Access path of an API for performing a specified operation. Obtain the value from the URI of an API. For example, **resource-path** of the API used to create an IAM user is **/v3.0/OS-USER/users**.
- **query-string:** Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, **? limit=10** means to query up to 10 pieces of data.

For example, to create an IAM user, obtain the endpoint of any region (for example, the endpoint of CN-Hong Kong: iam.ap-southeast-1.myhuaweicloud.com) and **resource-path (/v3.0/OS-USER/users)** in the URI of the API for [creating an IAM user as an administrator](#). Then, construct the URI as follows:

```
https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
```

Figure 3-1 Example URI**NOTE**

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

Request Methods

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

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

For example, for the API used to [create an IAM user](#), the request method is **POST**. An example request is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
```

Request Header

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

Common request header fields are as follows:

- **Content-Type**: request body type or format. This field is mandatory and its default value is **application/json**. Other values of this field will be provided for specific APIs if any.
- **X-Auth-Token**: A user token only for token-based API authentication. The user token is a response to the API used to [obtain a user token through password authentication](#). This API is the only one that does not require authentication.
- **Authorization**: signature authentication information. This field is optional. When AK/SK-based authentication is enabled, this field is automatically specified when SDK is used to sign the request. For details, see [AK/SK-based Authentication](#).

- **X-Sdk-Date**: time when a request is sent. This field is optional. When AK/SK-based authentication is enabled, this field is automatically specified when SDK is used to sign the request. For details, see [AK/SK-based Authentication](#).
- **X-Project-ID**: subproject ID. This field is optional and can be used in multi-project scenarios. The **X-Project-ID** field is mandatory in the request header for accessing resources in a subproject through AK/SK-based authentication.
- **X-Domain-ID**: account ID, which is optional. When you call APIs of global services using AK/SK-based authentication, **X-Domain-ID** needs to be configured in the request header.

The following shows an example request of the API for [creating an IAM user](#) when AK/SK authentication is used:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****
```

Request Body

The body of a request is often sent in a structured format as specified in **Content-Type**.

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

For the API for [creating an IAM user](#), you can check the required request parameters and their description in the API request. The following provides an example request with a body included. Replace the italic fields in bold with the actual values.

- **accountid**: ID of the account to which the IAM user belongs.
- **username**: IAM username to be created.
- **email**: email address of the IAM user.
- *********: password of the IAM user.

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****

{
  "user": {
    "domain_id": "accountid",
    "name": "username",
    "password": "*****",
    "email": "email",
    "description": "IAM User Description"
  }
}
```

By now, all data required for an API request is available. You can send the request to call the API through curl, Postman, or coding.

3.2 Authentication

You can use either of the following authentication methods to call APIs:

- Token-based authentication: Requests are authenticated using a token.
- AK/SK-based authentication: Requests are encrypted using an AK/SK pair

Token-based Authentication

NOTE

- The validity period of a token is 24 hours. If a token is used for authentication, cache it to prevent frequent API calling.
- Ensure that the token is valid when you use it. Using a token that will soon expire may cause API calling failures.

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

To obtain a token, call the API by referring to [Obtaining a User Token Through Password Authentication](#). This service requires a project-level token to call APIs, you must set **auth.scope** in the request body to **project**.

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

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

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-Type: application/json
X-Auth-Token: ABCDEFGH....
```

AK/SK-based Authentication

NOTE

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

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

- **AK:** access key ID. It is a unique identifier associated with a secret access key and is used in conjunction with a secret access key to sign requests cryptographically.
- **SK:** secret access key. It is used together with an AK to identify a sender who initiates a request and to cryptographically sign requests, preventing the request from being modified.

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

NOTICE

Unlike SDKs provided by services, the signing SDK is only for signing.

3.3 Response

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

Status Code

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

If status code 201 is returned for the API for [creating an IAM user](#), the request is successful.

Response Header

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

[Figure 3-2](#) shows the response header for the API for [creating an IAM user](#).

Figure 3-2 Response header

```
"X-Frame-Options": "SAMEORIGIN",
"X-IAM-ETag-id": "2562365939-d8f6f12921974cb097338ac11fcec8a",
"Transfer-Encoding": "chunked",
"Strict-Transport-Security": "max-age=31536000; includeSubdomains;",
"Server": "api-gateway",
"X-Request-Id": "af2953f2bcc67a42325a69a19e6c32a2",
"X-Content-Type-Options": "nosniff",
"Connection": "keep-alive",
"X-Download-Options": "noopen",
"X-XSS-Protection": "1; mode=block;",
"X-IAM-Trace-Id": "token_ null_af2953f2bcc67a42325a69a19e6c32a2",
"Date": "Tue, 21 May 2024 09:03:40 GMT",
"Content-Type": "application/json; charset=utf8"
```

Response Body

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

The following shows part of the response body for the API for [creating an IAM user](#).

```
{
  "user": {
    "id": "c131886aec...",
    "name": "IAMUser",
    "description": "IAM User Description",
    "areacode": "",
    "phone": "",
    "email": "***@***.com",
    "status": null,
    "enabled": true,
    "pwd_status": false,
    "access_mode": "default",
    "is_domain_owner": false,
    "xuser_id": "",
    "xuser_type": "",
    "password_expires_at": null,
    "create_time": "2024-05-21T09:03:41.000000",
    "domain_id": "d78cbac1.....",
    "xdomain_id": "30086000.....",
    "xdomain_type": "",
    "default_project_id": null
  }
}
```

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

```
{
  "error_msg": "Request body is invalid.",
  "error_code": "IAM.0011"
}
```

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 Examples

4.1 Registry and Discovery

Scenarios

This section describes how to register and discover microservices by calling APIs. For details about how to call APIs, see [Calling APIs](#).

Process

1. Register the my-provider microservice.
2. Register the my-provider microservice instance.
3. Register the my-consumer microservice.
4. The my-consumer microservice discovers the my-provider microservice instance.

NOTE

The preceding microservice names are examples.

Prerequisites

Obtain the registry center address of the ServiceComb engine instance by referring to [Service Center Address](#). The following uses **{cse_endpoint}** as an example.

Procedure

- Step 1** Register the my-provider microservice.

Call the [API for creating static information for a microservice](#). The following shows an example request.

```
curl -k -H "x-domain-name:default" -XPOST "https://{cse_endpoint}/v4/default/registry/microservices" -d '{
  "service": {
    "serviceName": "my-provider",
    "appld": "default",
    "version": "1.0.0",
    "description": "test",
```

```
    "level": "MIDDLE",  
    "status": "UP"  
  }  
}'
```

Response:

```
{"serviceId":"918282e8562dc5fdc9a8dcd4d1baabb492190aa4"}
```

serviceId will be replaced with **{providerServiceId}** in the following example.

Step 2 Register the my-provider microservice instance.

Call the [API for registering a microservice instance](#). The validity period of the instance is 1 hour. The instance is automatically brought offline when the validity period expires. Assume that the listening address of the my-provider microservice instance is **127.0.0.1:8080**. The following shows an example request.

```
curl -k -H "x-domain-name:default" -XPOST "https://{cse_endpoint}/v4/default/registry/microservices/  
{providerServiceId}/instances" -d '{  
  "instance": {  
    "hostName": "test",  
    "endpoints": [  
      "rest:127.0.0.1:8080"  
    ],  
    "status": "UP",  
    "healthCheck": {  
      "mode": "push",  
      "interval": 900,  
      "times": 3  
    }  
  }  
}'
```

Response:

```
{"instanceId":"2be605a095ed11eabcbe0255ac100fa3"}
```

Step 3 Register the my-consumer microservice.

Call the [API for creating static information for a microservice](#). The following shows an example request.

```
curl -k -H "x-domain-name:default" -XPOST "https://{cse_endpoint}/v4/default/registry/microservices" -d '{  
  "service": {  
    "serviceName": "my-consumer",  
    "appId": "default",  
    "version": "1.0.0",  
    "description": "test",  
    "level": "MIDDLE",  
    "status": "UP"  
  }  
}'
```

Response:

```
{"serviceId":"9db248934c31fc754d6e922b48ede4a5c004d3c1"}
```

serviceId will be replaced with **{consumerServiceId}** in the following example.

Step 4 The my-consumer microservice discovers the my-provider microservice instance.

Call API [Querying a Microservice Instance by Filter Criteria](#). The my-consumer microservice queries information about the my-provider microservice instance from the service center based on its own service ID. The following shows an example request.

```
curl -k -H "x-domain-name:default" -H "X-ConsumerId:{consumerServiceId}" -XGET "https://{cse_endpoint}/v4/default/registry/instances?appId=default&serviceName=my-provider&version=0.0.0%2B"
```

Response:

```
{
  "instances": [
    {
      "instanceId": "2be605a095ed11eabcbe0255ac100fa3",
      "serviceId": "918282e8562dc5fdc9a8dcd4d1baabb492190aa4",
      "endpoints": [
        "rest:127.0.0.1:8080"
      ],
      "hostName": "test",
      "status": "UP",
      "healthCheck": {
        "mode": "push",
        "interval": 150,
        "times": 3
      },
      "timestamp": "1589465646",
      "modTimestamp": "1589465646",
      "version": "1.0.0"
    }
  ]
}
```

In actual practice, the my-consumer microservice can obtain the address of the my-provider microservice instance from the **endpoint** field in the instance query result and initiate service invoking.

Alternatively, choose **Service Catalog** on the CSE console to view the service registry information.

----End

5 CSE API

5.1 API Calling

CSE provides REST APIs, allowing you to call APIs using HTTPS.

CSE supports APIs of configuration management, engine management, and microservice governance.

To call the CSE APIs of a microservice engine, see [Calling APIs](#).

5.2 Dynamic Configuration

5.2.1 Importing kie Configurations

Function

This API is used to import kie configurations.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:config:upload	write	-	g:EnterpriseProjectId	cse:config:modify	-

URI

POST /v1/{project_id}/kie/file

Table 5-1 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-2 Query parameters

Parameter	Mandatory	Type	Description
override	No	String	Overwrite policy. Range: <ul style="list-style-type: none"> force: overwrites duplicate keys. abort: stops the import if duplicate keys are found. skip: skips duplicate keys. Default Value: force
label	No	String	To import a specified label, enter a value in the format of {Label key}:{Label value}. If this parameter is empty, the label of the body is imported.

Request

Table 5-3 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-4 FormData parameter

Parameter	Mandatory	Type	Description
upload_file	Yes	File	Contents in the file must be in key-value pairs, for example, {"data": [{"key1": "value1", "key2": "value2"}]}.

Response

Status code: 200

Table 5-5 Response body parameters

Parameter	Type	Description
OK	Array of GetKieConfigs objects	List of configuration items that are successfully imported.
failure	Array of failure objects	List of configuration items that fail to be imported and their errors.

Table 5-6 GetKieConfigs

Parameter	Type	Description
id	String	ID of a configuration item.
key	String	Key of a configuration item.
labels	Object	Label of a configuration item.
value	String	Value of a configuration item.

Parameter	Type	Description
value_type	String	Type of a configuration item value. Range: <ul style="list-style-type: none"> • text • yaml • json • properties • ini • xml
status	String	Status of a configuration item. Range: <ul style="list-style-type: none"> • disabled: The configuration is unavailable. • enabled: The configuration is available.
create_time	Integer	Creation time.
update_time	Integer	Update time.
create_revision	Long	Version number of the created configuration.
update_revision	Long	Version number of the updated configuration.

Table 5-7 failure

Parameter	Type	Description
key	String	Key of the configuration item that fails to be imported.
labels	Object	Label of the configuration item that fails to be imported.
error_code	String	Error code displayed for an import failure.
error_message	String	Import failure cause.

Status code: 400

Table 5-8 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-9 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{endpoint}/v3/{project_id}/kie/file
{
}
```

Example Response

Status code: 200

OK

```
{
  "success": [ {
    "id": "8a9e6a5d-8d65-48fb-a40c-5150c8479da8",
    "key": "string",
    "labels": {
      "key": "value"
    },
    "value": "string",
    "value_type": "text",
    "status": "enabled",
    "create_time": 1623139038,
    "update_time": 1623139038,
    "create_revision": 13,
    "update_revision": 13
  } ],
  "failure": [ {
    "key": "string",
    "labels": {
      "key": "value"
    },
    "error_code": "SVCSTG.004xxxxx",
    "error_message": "Invalid parameters"
  } ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.2.2 Exporting kie Configurations

Function

This API is used to export kie configurations.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:config:download	write	-	g:EnterpriseProjectId	cse:config:modify	-

URI

POST /v1/{project_id}/kie/download

Table 5-10 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-11 Query parameters

Parameter	Mandatory	Type	Description
label	No	String	Export data filtered by label. Format: {Label key}:{Label value}.
match	No	String	Matching option of the filtered items. Value exact indicates exact matching, including the same number of labels. If the value is null, inclusive matching is used.

Request

Table 5-12 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .
x_engine_id	Yes	String	ID of an exclusive microservice engine.

Table 5-13 Request body parameter

Parameter	Mandatory	Type	Description
ids	Yes	Array of strings	Set of configuration item IDs.

Response

Status code: 200

Table 5-14 Response body parameters

Parameter	Type	Description
metadata	metadata object	Description of the exported file.
data	Array of CreateKieReq objects	List of exported configuration items.

Table 5-15 metadata

Parameter	Type	Description
version	String	Version number of the exported data.
annotations	Object	Other information about the exported file.

Table 5-16 CreateKieReq

Parameter	Type	Description
id	String	ID of a configuration item.
key	String	Key of a configuration item.
labels	Object	Label of a configuration item.
value	String	Value of a configuration item.
value_type	String	Type of a configuration item value. Range: <ul style="list-style-type: none"> • text • yaml • json • properties • ini • xml
status	String	Status of a configuration item. Range: <ul style="list-style-type: none"> • disabled: The configuration is unavailable. • enabled: The configuration is available.

Status code: 400

Table 5-17 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-18 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{endpoint}/v3/{project_id}/kie/download/jobs/{job_id}
{
  "ids" : [ "8a9e6a5d-8d65-48fb-a40c-5150c8479da8", "8a9e6a5d-8d65-48fb-a40c-5150c8479da8" ]
}
```

Example Response

Status code: 200

Content of the exported file. The file is named based on the value of the environment label. For label=environment:development, the file name is development+timestamp.json. For label=environment:, the file name is default+timestamp.json. If there are no or multiple environments, the file name is custom+timestamp.json.

```
{
  "metadata" : {
    "version" : "1.0.0",
    "annotations" : { }
  },
  "data" : [ {
    "id" : "46f9ae5f0d36c438d5d70392b42a2a1072879e8f7e373af4c021d1155bb5c4ac",
    "key" : "$random(6)-$date(yyyy-MM-dd-HH-mm-ss)",
    "labels" : {
      "key" : "value"
    },
    "value" : "$random(20)",
    "value_type" : "text",
    "status" : "enabled"
  } ]
}
```

Status Code

Status Code	Description
200	Content of the exported file. The file is named based on the value of the environment label. For label=environment:development, the file name is development+timestamp.json. For label=environment:, the file name is default+timestamp.json. If there are no or multiple environments, the file name is custom+timestamp.json.
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.2.3 Deleting the ServiceComb 1.0 Configuration Scope

Function

This API is used to delete the ServiceComb 1.0 configuration scope.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

DELETE /v3/{project_id}/govern/configs/{dimension}

Table 5-19 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
dimension	Yes	String	Configuration scope name.

Request

Table 5-20 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .
X-ENVIRONMENT	No	String	Environment name.

Table 5-21 Body parameters

Parameter	Mandatory	Type	Description
dimensionInfo	No	String	Configuration scope information.
flush	No	String	Whether to refresh.
keys	No	Array of String	Key to be deleted.

Response

Status code: 200

Table 5-22 Response body parameters

Parameter	Type	Description
Result	String	Deletion result.

Status code: 400

Table 5-23 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-24 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
DELETE https://{endpoint}/v3/{project_id}/govern/configs/{dimension}

{
  "dimensionInfo": "string",
  "flush": "true",
  "keys": [
    "string"
  ]
}
```

Example Response

Status code: 200

OK

```
{
  "Result": "Success"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3 Engine Management

5.3.1 Querying the Flavor List of a Microservice Engine

Function

This API is used to query the flavor list of a microservice engine, including exclusive ServiceComb engines and registry/configuration centers.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v2/{project_id}/enginemgr/flavors

Table 5-25 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-26 Query parameter

Parameter	Mandatory	Type	Description
specType	No	String	Deployment type of a microservice engine. <ul style="list-style-type: none"> • To query an exclusive ServiceComb engine, set it to CSE2. • To query a registry/configuration center, set it to Nacos2.

Request

Table 5-27 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-28 Response body parameters

Parameter	Type	Description
total	Integer	Total number of microservice engine flavors.
data	Array of FlavorBrief objects	Microservice engine flavor details.

Table 5-29 FlavorBrief

Parameter	Type	Description
flavor	String	Microservice engine flavor or linear flavor. <ul style="list-style-type: none"> Engine flavors are displayed for ServiceComb engines. Linear flavors are displayed for Nacos engines.
description	String	Microservice engine flavor description.
spec	EngineSpec object	Parameters about an exclusive microservice engine.

Table 5-30 EngineSpec

Parameter	Type	Description
availableCpuMemory	String	CPU and memory.
linear	String	Linear flavor or not.
availablePrefix	String	Prefix of the available node flavor type.

Status code: 400

Table 5-31 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-32 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v2/{project_id}/enginemgr/flavors?specType=CSE2
```

Example Response

Status code: 200

Response struct for querying the flavor list of a microservice engine.

```
{
  "total": 0,
  "data": [ {
    "flavor": "cse.s1.small2",
    "description": "string",
    "spec": [ {
      "availableCpuMemory": "2-4",
```

```

"linear" : false,
"availablePrefix" : "s,c,t"
}]
}]
}

```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.2 Querying the Microservice Engine List

Function

This API is used to query the microservice engine list.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:list	list	-	-	-	-

URI

GET /v2/{project_id}/enginemgr/engines

Table 5-33 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-34 Query parameters

Parameter	Mandatory	Type	Description
offset	Yes	Integer	Page number.
limit	Yes	String	Number of records displayed on each page.
type	No	String	<ul style="list-style-type: none"> To query all microservice engines, set it to ALL. To query a ServiceComb engine, set it to CSE. To query a registry/configuration center, set it to Nacos.

Request

Table 5-35 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-36 Response body parameters

Parameter	Type	Description
total	Integer	Total number of microservice engines that meet the search criteria.
data	Array of EngineSimpleInfo objects	Microservice engine details.

Table 5-37 EngineSimpleInfo

Parameter	Type	Description
id	String	Microservice engine ID.
name	String	Microservice engine name.
enterpriseProjectId	String	ID of the enterprise project to which a microservice engine belongs.
enterpriseProjectName	String	Name of the enterprise project to which a microservice engine belongs.
type	String	Microservice engine type. Range: <ul style="list-style-type: none"> • CSE: exclusive ServiceComb engine. • NACOS: registry/configuration center.
description	String	Microservice engine description.
flavor	String	Microservice engine flavor. <ul style="list-style-type: none"> • cse.s1.xxx: flavor of an exclusive ServiceComb engine. • cse.nacos2.xxx: flavor of a registry/configuration center. Range: <ul style="list-style-type: none"> • cse.s1.small2 • cse.s1.medium2 • cse.s1.large2 • cse.s1.xlarge2 • cse.nacos2.c1.large.10 • cse.nacos2.c1.xlarge.20 • cse.nacos2.c1.xlarge.50 • cse.nacos2.c1.xlarge.60 • cse.nacos2.c1.2xlarge.100

Parameter	Type	Description
payment	String	Billing mode of a microservice engine. Range: <ul style="list-style-type: none"> • 1: on-demand • 2: free of charge
authType	String	Billing mode of a microservice engine. Range: <ul style="list-style-type: none"> • RBAC: Security authentication is enabled for the engine. • NONE: Security authentication is not enabled for the engine.
status	String	Current status of a microservice engine. Range: <ul style="list-style-type: none"> • Creating • Available • Unavailable • Deleting • Deleted • Upgrading • Modifying • CreateFailed • DeleteFailed • UpgradeFailed • ModifyFailed • Freezed
externalAddress	String	External IP address of a microservice engine.
serviceEndpoint	Map<String,Endpoint>	Address for accessing a microservice engine component.
publicAddress	String	Public IP address of a microservice engine.
publicServiceEndpoint	Map<String,Endpoint>	Public access address of a microservice engine.
totalInstance	Integer	Total number of instances supported by a microservice engine.
usedInstance	Integer	Total number of used instances.
availableInstance	Integer	Total number of available instances.

Parameter	Type	Description
version	String	Current version of a microservice engine.
latestVersion	String	Latest version of a microservice engine.
createTime	Long	Creation time of a microservice engine.
dueTo	Long	Expiration time of a microservice engine.
latestJobId	Integer	ID of the latest job of a microservice engine.
engineAdditionalActions	Array of strings	Additional operations allowed by a microservice engine. Range: <ul style="list-style-type: none"> ForceDelete Rollback Retry
specType	String	Deployment type of a microservice engine. Range: <ul style="list-style-type: none"> CSE2 Nacos2
reference	EngineReference object	Additional information about a microservice engine.
tags	String	Microservice engine tag.

Table 5-38 EntrypointItem

Parameter	Type	Description
masterEntryoint	String	Primary IPv4 address for accessing an exclusive microservice engine component.
masterEntryointIpv6	String	Primary IPv6 address for accessing an exclusive microservice engine component.
slaveEntryoint	String	Secondary IPv4 address for accessing an exclusive microservice engine component.
slaveEntryointIpv6	String	Secondary IPv6 address for accessing an exclusive microservice engine component.
type	String	Type of an exclusive microservice engine component. Range: <ul style="list-style-type: none"> REGISTRY SERVICE

Table 5-39 EngineReference

Parameter	Type	Description
vpc	String	VPC name.
azList	Array of strings	AZ list of a microservice engine.
networkId	String	Subnet network ID of a microservice engine.
subnetCidr	String	IPv4 subnet division of a microservice engine.
subnetCidrV6	String	IPv6 subnet division of a microservice engine.
subnetGateway	String	Subnet gateway of a microservice engine.
publicIpId	String	Public network address ID of a microservice engine.
serviceLimit	Integer	Total number of microservices supported by a microservice engine.
instanceLimit	Integer	Total number of instances supported by a microservice engine.
inputs	Map<String,String>	Additional parameter of a microservice engine.

Status code: 400

Table 5-40 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-41 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v2/{project_id}/enginemgr/engines
```

Example Response

Status code: 200

Response structure for querying the microservice engine list.

```
{
  "total" : 0,
  "data" : [ {
    "id" : "891bf21a-4024-4f47-b38c-bd259ca8f10a",
    "name" : "test",
    "enterpriseProjectId" : "0",
    "enterpriseProjectName" : "default",
    "type" : "CSE",
    "description" : "string",
    "flavor" : "cse.s1.medium2",
    "payment" : "0",
    "authType" : "NONE",
    "status" : "Available",
    "externalAddress" : "192.168.0.169",
    "serviceEndpoint" : {
      "kie" : {
        "masterEntrypoint" : "https://192.168.0.169:30110",
        "masterEntrypointIpv6" : "https://[2407:c080:11f0:11:b11d:675c:97ab:65f6]:30110",
        "slaveEntrypoint" : "string",
        "slaveEntrypointIpv6" : "string",
        "type" : "REGISTRY"
      }
    },
    "publicAddress" : "",
    "publicServiceEndpoint" : {
      "kie" : {
        "masterEntrypoint" : "",
        "masterEntrypointIpv6" : "",
        "slaveEntrypoint" : "",
        "slaveEntrypointIpv6" : "",
        "type" : "REGISTRY"
      }
    },
    "totalInstance" : 200,
    "usedInstance" : 0,
    "availableInstance" : 200,
    "version" : "2.3.1",
    "latestVersion" : "2.3.4",
    "createTime" : 1635576800332,
    "dueTo" : 4102415999000,
    "latestJobId" : 12339,
    "engineAdditionalActions" : [ "Retry" ],
    "specType" : "CSE2",
    "reference" : {
      "vpc" : "vpc-test",
      "azList" : [ "string" ],
      "networkId" : "88550801-e892-4f8e-b21b-f7147f604f69",
      "subnetCidr" : "192.168.0.0/24",
      "subnetCidrV6" : "2407:c080:11f0:11::/64",
      "subnetGateway" : "192.168.0.2",
      "publicIpld" : "",
      "serviceLimit" : 200,
      "instanceLimit" : 200,
      "inputs" : {
        "is_arm_cluster" : "true",
        "nodeFlavor" : "s6.large.2"
      }
    }
  }
}
```

```
}]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.3 Creating a Microservice Engine

Function

This API is used to create a microservice engine. You can create an exclusive ServiceComb engine or registry/configuration center.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:create	write	-	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId • g:TagKeys 	-	-

URI

POST /v2/{project_id}/enginemgr/engines

Table 5-42 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Request

Table 5-43 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-44 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Microservice engine name. Enter 3 to 24 characters. Start with a letter but do not end with a hyphen (-). Use only letters, digits, and hyphens (-).
description	No	String	Microservice engine description. Maximum length: 255

Parameter	Mandatory	Type	Description
payment	Yes	String	<p>Billing mode of a microservice engine.</p> <p>Range:</p> <ul style="list-style-type: none"> 0: yearly/monthly (not supported). 1: pay-per-use. 2: free of charge (not supported). <p>Maximum length: 24</p>
flavor	Yes	String	<p>Microservice engine flavor.</p> <ul style="list-style-type: none"> cse.s1.xxx: flavor of an exclusive ServiceComb engine. cse.nacos2.xxx: flavor of a registry/configuration center. <p>Range:</p> <ul style="list-style-type: none"> cse.s1.small2 cse.s1.medium2 cse.s1.large2 cse.s1.xlarge2 cse.nacos2.c1.large.10 cse.nacos2.c1.xlarge.20 cse.nacos2.c1.xlarge.40 cse.nacos2.c1.xlarge.60 cse.nacos2.c1.2xlarge.100
azList	No	Array of strings	<p>List of AZs where an exclusive ServiceComb engine is deployed. This parameter is mandatory when you create an exclusive ServiceComb engine.</p> <p>Array length: 1–3</p>

Parameter	Mandatory	Type	Description
authType	No	String	Authentication type of the engine. This parameter is mandatory when you create an exclusive ServiceComb engine. Range: <ul style="list-style-type: none"> RBAC: Security authentication is enabled for the engine. NONE: Security authentication is not enabled for the engine.
vpc	Yes	String	VPC name. Maximum length: 64
vpcId	Yes	String	VPC ID. Maximum length: 64
networkId	Yes	String	Subnet ID of a microservice engine. Maximum length: 64
subnetCidr	Yes	String	Subnet division of a microservice engine. Maximum length: 24
publicIpId	No	String	Public network address ID of a microservice engine. Currently, the value is null . Maximum length: 64
auth_cred	No	EngineRbacPw object	This parameter is mandatory when RBAC authentication is selected for creating an exclusive ServiceComb engine. It contains the engine authentication information.
specType	Yes	String	Deployment type of a microservice engine. Range: <ul style="list-style-type: none"> CSE2 Nacos2 Default Value: CSE2
inputs	No	Map<String,String>	Additional parameter of an engine.

Parameter	Mandatory	Type	Description
enginestateInfo	No	enginestateInfo object	Engine status information.
enterpriseProject	No	enterpriseProject object	Enterprise project information.
resourceParams	No	resourceParams object	Microservice engine resource parameter.
productId	No	String	Product ID.
capacityProductId	No	String	Capacity product ID.
isFree	No	Boolean	Whether the microservice engine is free of charge.
subnetName	No	String	Name of the subnet used by a microservice engine.
tags	No	Array of strings	Tag.
elbId	No	String	ID of the ELB used by a microservice engine.
elbName	No	String	Name of the ELB used by a microservice engine.

Table 5-45 EngineRbacPwd

Parameter	Mandatory	Type	Description
pwd	No	String	Password of the default user root of an exclusive microservice engine with security authentication enabled.

Table 5-46 enginestateInfo

Parameter	Mandatory	Type	Description
cluster	No	Boolean	Cluster.
twinClusters	No	Boolean	Twin cluster.
singleEngine	No	Boolean	Single engine.

Table 5-47 enterpriseProject

Parameter	Mandatory	Type	Description
id	No	String	Enterprise project ID.
name	No	String	Enterprise project name.
description	No	String	Enterprise project description.
status	No	Integer	Enterprise project status. Range: <ul style="list-style-type: none"> • 1: enabled • 2: disabled
created_at	No	String	Creation time of an enterprise project.
updated_at	No	String	Update time of an enterprise project.
label	No	String	Enterprise project label.

Table 5-48 resourceParams

Parameter	Mandatory	Type	Description
isAutoRenew	No	Integer	Automatic refresh or not.

Response

Status code: 200

Table 5-49 Response body parameters

Parameter	Type	Description
id	String	Microservice engine ID.
name	String	Microservice engine name.
jobId	Integer	ID of the job executed by a microservice engine.

Status code: 400

Table 5-50 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-51 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

POST https://{endpoint}/v2/{project_id}/enginemgr/engines

```
{
  "name" : "string",
  "description" : "string",
  "payment" : "string",
  "flavor" : "cse.s1.small2",
  "azList" : [ "string" ],
  "authType" : "NONE",
  "vpc" : "string",
  "networkId" : "string",
  "subnetCidr" : "string",
  "vpcId" : "string",
  "publicIpId" : "string",
  "specType" : "string",
  "inputs" : {
    "nodeFlavor" : "string"
  }
}
```

Example Response

Status code: 200

Response structure for creating a microservice engine.

```
{
  "id" : "891bf21a-4024-4f47-b38c-bd259ca8f10a",
  "name" : "test",
  "jobId" : 17655
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.4 Querying Microservice Engine Details

Function

This API is used to query microservice engine details.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:get	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

GET /v2/{project_id}/enginemgr/engines/{engine_id}

Table 5-52 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
engine_id	Yes	String	Microservice engine ID.

Request

Table 5-53 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-54 Response body parameters

Parameter	Type	Description
id	String	Microservice engine ID.
name	String	Microservice engine name.
description	String	Microservice engine description.
authType	String	Authentication type of a microservice engine. Range: <ul style="list-style-type: none"> RBAC: Security authentication is enabled for the engine. NONE: Security authentication is not enabled for the engine.
flavor	String	Microservice engine flavor.
payment	String	Billing mode of a microservice engine.

Parameter	Type	Description
version	String	Current version of a microservice engine.
latestVersion	String	Latest version of a microservice engine.
status	String	Status of a microservice engine. Range: <ul style="list-style-type: none"> • Creating • Available • Unavailable • Deleting • Deleted • Upgrading • Modifying • CreateFailed • DeleteFailed • UpgradeFailed • ModifyFailed • Freezed
beDefault	Boolean	Whether the engine is the default engine.
createUser	String	Creator of a microservice engine.
createTime	Long	Creation time of a microservice engine.
cceSpec	Spec object	Application specifications of a microservice engine.
externalEntry point	EngineExternalEntrypoint object	External node address of a microservice engine.
reference	EngineReference object	Parameters about a microservice engine.
latestJobId	Integer	ID of the latest job of a microservice engine.
enterpriseProjectId	String	ID of the enterprise project to which a microservice engine belongs.
enterpriseProjectName	String	Name of the enterprise project to which a microservice engine belongs.
engineAdditionalActions	Array of strings	Additional operations allowed by a microservice engine. Range: <ul style="list-style-type: none"> • ForceDelete • Rollback • Retry

Parameter	Type	Description
specType	String	Deployment type of a microservice engine. Range: <ul style="list-style-type: none"> • CSE • CSE2 • Nacos2
type	String	Microservice engine type. Range: <ul style="list-style-type: none"> • CSE: exclusive ServiceComb engine. • NACOS: registry/configuration center.
projectId	String	ID of the project to which an exclusive microservice engine belongs.
vmIds	Array of strings	ID list of VMs used by the current engine on the resource tenant side.

Table 5-55 Spec

Parameter	Type	Description
id	Long	CCE specification ID of a microservice engine.
engineId	String	Microservice engine ID.
specType	String	CCE cluster deployment type of a microservice engine. The value is CCE.
cluster	String	CCE cluster information about a microservice engine. Currently, the value is null .
clusterId	String	CCE cluster ID of a microservice engine.
clusterNodes	SpecClusterNode object	CCE node list of an exclusive microservice engine.
flavor	String	CCE cluster flavor of a microservice engine.
region	String	Region where the CCE cluster of a microservice engine is located.
version	String	CCE cluster version of a microservice engine.
extendParam	String	Additional parameter of the CCE cluster of a microservice engine.

Table 5-56 SpecClusterNode

Parameter	Type	Description
clusterNodes	Array of ClusterNode objects	CCE node information.

Table 5-57 ClusterNode

Parameter	Type	Description
id	String	CCE node ID of an exclusive microservice engine.
az	String	AZ to which the CCE cluster of an exclusive microservice engine belongs.
ip	String	CCE node IP of an exclusive microservice engine.
label	String	CCE node label of an exclusive microservice engine.
status	String	CCE node label of an exclusive microservice engine. Range: <ul style="list-style-type: none"> ● Build: The node is being created. ● Installing: The node is being managed. ● Upgrading: The node is being upgraded. ● Active: The node is running properly. ● Abnormal: The node is abnormal. ● Deleting: The node is being deleted. ● Error: The node is faulty.

Table 5-58 EngineExternalEntrypoint

Parameter	Type	Description
externalAddress	String	External IP address of an exclusive microservice engine.
publicAddress	String	Public network address of an exclusive microservice engine.
serviceEndpoint	Map<String, EntryPointItem >	Address for accessing an exclusive microservice engine component.

Parameter	Type	Description
publicServiceEndpoint	Map<String,EndpointItem>	Public network address of an exclusive microservice engine component.

Table 5-59 EndpointItem

Parameter	Type	Description
masterEndpoint	String	Primary IPv4 address for accessing a microservice engine component.
masterEndpointIpv6	String	Primary IPv6 address for accessing a microservice engine component.
slaveEndpoint	String	Secondary IPv4 address for accessing a microservice engine component.
slaveEndpointIpv6	String	Secondary IPv6 address for accessing a microservice engine component.
endpointList	Array of strings	IPv4 public address of the application gateway.
type	String	Microservice engine component type. Range: <ul style="list-style-type: none"> • REGISTRY • SERVICE

Table 5-60 EngineReference

Parameter	Type	Description
vpc	String	VPC name.
vpcId	String	VPC ID. Maximum characters: 64
azList	Array of strings	AZ list of a microservice engine.
networkId	String	Subnet network ID of a microservice engine.
subnetCidr	String	IPv4 subnet division of a microservice engine.
subnetCidrV6	String	IPv6 subnet division of a microservice engine.
subnetGateway	String	Subnet gateway of a microservice engine.
elbId	String	ID of the ELB of a microservice engine.

Parameter	Type	Description
publicIpId	String	Public network address ID of a microservice engine.
serviceLimit	String	Total number of microservices supported by a microservice engine.
instanceLimit	String	Total number of instances supported by a microservice engine.
inputs	Map<String,String>	Additional parameter of a microservice engine.

Status code: 400

Table 5-61 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-62 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}
```

Example Response

Status code: 200

Response structure for querying microservice engine details.

```
{
  "id" : "891bf21a-4024-4f47-b38c-bd259ca8f10a",
  "name" : "test",
  "description" : "string",
```

```

"authType" : "NONE",
"flavor" : "cse.s1.medium2",
"payment" : "0",
"version" : "2.3.1",
"latestVersion" : "2.3.4",
"status" : "Creating",
"beDefault" : true,
"createUser" : "string",
"createTime" : 1635576800332,
"cceSpec" : {
  "id" : 7465,
  "engineId" : "891bf21a-4024-4f47-b38c-bd259ca8f10a",
  "specType" : "CCE",
  "cluster" : "",
  "clusterId" : "41115a6f-912f-11eb-9af9-0255ac100188",
  "clusterNodes" : {
    "clusterNodes" : [ {
      "id" : "c13aaf5c-2192-421c-8e03-522e2b9a06b5",
      "az" : "test",
      "ip" : "172.31.25.277",
      "label" : "test",
      "status" : "Active"
    } ]
  },
  "flavor" : "string",
  "region" : "test",
  "version" : "",
  "extendParam" : ""
},
"externalEntrypoint" : {
  "externalAddress" : "192.168.0.169",
  "publicAddress" : "",
  "serviceEndpoint" : {
    "serviceCenter" : {
      "masterEntrypoint" : "https://192.168.0.169:30110",
      "masterEntrypointIpv6" : "https://[2407:c080:11f0:11:b11d:675c:97ab:65f6]:30110",
      "slaveEntrypoint" : "",
      "slaveEntrypointIpv6" : "",
      "type" : "REGISTRY"
    }
  },
  "publicServiceEndpoint" : {
    "serviceCenter" : {
      "masterEntrypoint" : "",
      "masterEntrypointIpv6" : "",
      "slaveEntrypoint" : "",
      "slaveEntrypointIpv6" : "",
      "type" : "REGISTRY"
    }
  }
},
"reference" : {
  "vpc" : "vpc-test",
  "azList" : [ "string" ],
  "networkId" : "88550801-e892-4f8e-b21b-f7147f604f69",
  "subnetCidr" : "192.168.0.0/24",
  "subnetCidrV6" : "2407:c080:11f0:11::/64",
  "subnetGateway" : "192.168.0.2",
  "publicIpld" : "",
  "serviceLimit" : "200",
  "instanceLimit" : "200",
  "inputs" : {
    "nodeFlavor" : "s6.large.2",
    "is_arm_cluster" : "false"
  }
},
"latestJobId" : 12339,
"enterpriseProjectId" : "0",
"enterpriseProjectName" : "default",

```

```
"engineAdditionalActions" : [ "Noting" ],
"specType" : "CSE2",
"type" : "CSE",
"projectId" : "string",
"vmIds" : [ ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.5 Querying Details About a Microservice Engine Job

Function

This API is used to query details about a microservice engine job.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine: get	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

GET /v2/{project_id}/enginemgr/engines/{engine_id}/jobs/{job_id}

Table 5-63 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
engine_id	Yes	String	Microservice engine ID.
job_id	Yes	String	Job ID.

Request

Table 5-64 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-65 Response body parameters

Parameter	Type	Description
id	Integer	Job ID.
engineId	String	ID of the engine to which a job belongs.

Parameter	Type	Description
type	String	Job type. Range: <ul style="list-style-type: none"> • Create • Delete • Upgrade • Modify
description	String	Job description.
status	String	Job status. Range: <ul style="list-style-type: none"> • Init • Executing • Error • Timeout • Finished
scheduling	Integer	Whether the job is being executed. Range: <ul style="list-style-type: none"> • 0: The job is not being executed. • 1: The job is being executed.
createUser	String	Job creator.
startTime	Long	Start time of a job.
endTime	Long	End time of a job.
context	String	Job execution context.
tasks	Array of TaskSteps objects	Job phases.

Table 5-66 TaskSteps

Parameter	Type	Description
taskName	String	Phase name.
taskNames	Array of strings	List of procedures contained in the current phase.

Parameter	Type	Description
status	String	Status of a phase. Range: <ul style="list-style-type: none"> • Init • Executing • Error • Timeout • Finished
startTime	Long	Start time of a phase.
endTime	Long	End time of a phase.
taskExecutorBrief	TaskExecutorBrief object	Metadata of a phase.
tasks	Array of Task objects	Procedure.

Table 5-67 Task

Parameter	Type	Description
jobId	Integer	ID of the job to which the sub-job belongs.
id	Long	Sub-job ID, which is in UUID format.
type	String	Sub-job type. Range: <ul style="list-style-type: none"> • Create • Delete • Upgrade • Modify
assigned	String	Executor of a sub-job.
taskName	String	Sub-job name.
engineName	String	Name of the engine to which the sub-job belongs.
taskOrder	Integer	Sequence in which sub-jobs are executed, in ascending order.

Parameter	Type	Description
status	String	Sub-job status. Range: <ul style="list-style-type: none"> • Init • Executing • Error • Timeout • Finished
startTime	Long	Start time of a sub-job.
endTime	Long	End time of a sub-job.
createTime	Long	Creation time of a sub-job.
updateTime	Long	Update time of a sub-job.
timeout	Integer	Whether a sub-job times out.
log	String	Sub-job details, which are auxiliary information generated during the execution.
output	String	Sub-job output information.
taskExecutorBrief	TaskExecutorBrief object	Job metadata.

Table 5-68 TaskExecutorBrief

Parameter	Type	Description
duration	Long	Duration of a sub-job.
description	String	Sub-job description.

Status code: 400

Table 5-69 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-70 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}/jobs/{job_id}
```

Example Response

Status code: 200

Structure for querying details about a microservice engine job.

```
{
  "id": 12339,
  "engineId": "ad76972c-a743-4770-859c-c98a680f4d98",
  "type": "Create",
  "description": "",
  "status": "Finished",
  "scheduling": 0,
  "createUser": "test",
  "startTime": 1636540095901,
  "endTime": 1636540460230,
  "context": "string",
  "tasks": [ {
    "taskName": "resourcePrepare",
    "taskNames": [ "TenantTaskExecutor" ],
    "status": "Finished",
    "startTime": 1636540100216,
    "endTime": 1636540110215,
    "taskExecutorBrief": {
      "duration": 6000,
      "description": "Resource preparation"
    }
  },
  "tasks": [ {
    "jobId": 12339,
    "id": 89117,
    "type": "Create",
    "assigned": "string",
    "taskName": "TenantTaskExecutor",
    "engineName": "test",
    "taskOrder": 0,
    "status": "Init",
    "startTime": 1636540100216,
    "endTime": 1636540110215,
    "createTime": 1636540095910,
    "updateTime": 1636540110230,
    "timeout": -1,
    "log": "string",
    "output": "{}",
    "taskExecutorBrief": {
      "duration": 6000,
      "description": "Tenant processing"
    }
  }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.6 Querying Details About the Microservice Engine Quota

Function

This API is used to query details about the microservice engine quota.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v2/{project_id}/enginemgr/quotas

Table 5-71 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Request

Table 5-72 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-73 Response body parameter

Parameter	Type	Description
quotas	quotas object	Microservice engine quota content.

Table 5-74 quotas

Parameter	Type	Description
resources	Array of TenantQuotaUsed objects	List of microservice engine quota details.

Table 5-75 TenantQuotaUsed

Parameter	Type	Description
type	String	Quota type. Fixed value: Engine.
used	Integer	Used quota.
quota	Integer	Total engine quota.

Status code: 400

Table 5-76 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-77 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

GET https://{endpoint}/v2/{project_id}/enginemgr/quotas

Example Response

Status code: 200

Structure for querying details about the microservice engine quota.

```
{
  "quotas": {
    "resources": [ {
      "type": "Engine",
      "used": 4,
      "quota": 5
    } ]
  }
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.7 Deleting a Microservice Engine

Function

This API is used to delete a microservice engine.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:delete	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

DELETE /v2/{project_id}/enginemgr/engines/{engine_id}

Table 5-78 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
engine_id	Yes	String	Microservice engine ID.

Request

Table 5-79 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-80 Response body parameters

Parameter	Type	Description
id	String	Microservice engine ID.
name	String	Microservice engine name.
jobId	Integer	ID of the job executed by a microservice engine.

Status code: 400

Table 5-81 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-82 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
DELETE https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}
```

Example Response

Status code: 200

Response structure for deleting a microservice engine.

```
{
  "id" : "891bf21a-4024-4f47-b38c-bd259ca8f10a",
  "name" : "test",
  "jobId" : 17655
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.8 Upgrading a Microservice Engine

Function

This API is used to upgrade a microservice engine, including exclusive ServiceComb engine and registry/configuration center.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:upgrade	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

PUT /v2/{project_id}/enginemgr/engines/{engine_id}/upgrade

Table 5-83 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID.
engine_id	Yes	String	ID of the engine to be upgraded.

Request

Table 5-84 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-85 Request body parameter

Parameter	Mandatory	Type	Description
version	Yes	String	Version number. Maximum length: 24

Response

Status code: 200

Table 5-86 Response body parameters

Parameter	Type	Description
id	String	Microservice engine ID.
name	String	Microservice engine name.
jobId	Integer	ID of the job executed by a microservice engine.

Status code: 400

Table 5-87 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-88 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
{  
  "version" : "2.4.0"  
}
```

Example Response

Status code: 200

Response structure for upgrading a microservice engine.

```
{  
  "id" : "891bf21a-4024-4f47-b38c-bd259ca8f10a",  
  "name" : "test",  
  "jobId" : 17655  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.9 Updating Microservice Engine Configurations

Function

This API is used to upgrade the configuration of a microservice engine, including exclusive ServiceComb engine and registry/configuration center.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:update	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

PUT /v2/{project_id}/enginemgr/engines/{engine_id}/config

Table 5-89 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID.
engine_id	Yes	String	ID of the engine to be updated.

Request

Table 5-90 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-91 Request body parameter

Parameter	Mandatory	Type	Description
authType	Yes	String	authType authentication type. Range: <ul style="list-style-type: none"> • RBAC: Security authentication is enabled for the engine. • NONE: Security authentication is not enabled for the engine.

Response

Status code: 200

Table 5-92 Response body parameters

Parameter	Type	Description
id	String	Microservice engine ID.
name	String	Microservice engine name.
jobId	Integer	ID of the job executed by a microservice engine.

Status code: 400

Table 5-93 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-94 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
PUT https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}/config
{
  "authType": "RBAC"
}
```

Example Response

Status code: 200

Structure for updating the microservice engine configurations.

```
{
  "id": "891bf21a-4024-4f47-b38c-bd259ca8f10a",
  "name": "test",
  "jobId": 17655
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.10 Changing Microservice Engine Specifications

Function

This API is used to change microservice engine specifications.

 **NOTE**

This API applies only to pay-per-use engines.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:resize	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

PUT /v2/{project_id}/enginemgr/engines/{engine_id}/resize

Table 5-95 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID.
engine_id	Yes	String	Engine ID.

Request

Table 5-96 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-97 Request body parameters

Parameter	Mandatory	Type	Description
flavor	Yes	String	New flavor.
inputs	No	Map<String,String>	New configuration, which overwrites the input parameter of the component.

Response

Status code: 200

Table 5-98 Response body parameters

Parameter	Type	Description
id	String	Engine ID.
name	String	Engine name.
job_id	Integer	Job ID.

Status code: 400

Table 5-99 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-100 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
PUT https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}/resize
{
  "flavor": "string",
  "inputs": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Example Response

Status code: 200

Response structure for changing microservice engine specifications.

```
{
  "id": "string",
  "name": "string",
  "job_id": 0
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.11 Retrying an Exclusive ServiceComb Engine Job

Function

This API is used to retry an exclusive ServiceComb engine job.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:update	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

PUT /v2/{project_id}/enginemgr/engines/{engine_id}/actions

Table 5-101 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID.
engine_id	Yes	String	Engine ID.

Request

Table 5-102 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-103 Request body parameter

Parameter	Mandatory	Type	Description
action	Yes	String	Operation type. Range: Retry

Response

Status code: 200

Table 5-104 Response body parameters

Parameter	Type	Description
id	String	Microservice engine ID.
name	String	Microservice engine name.
jobId	Integer	ID of the job executed by a microservice engine.

Status code: 400

Table 5-105 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-106 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
{  
  "action": "Retry"  
}
```

Example Response

Status code: 200

Response body for retrying an exclusive ServiceComb engine job.

```
{  
  "id": "string",  
  "name": "string",  
  "jobId": 0  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.12 Updating Microservice Engine Details

Function

This API is used to update microservice engine details, including the name and description.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:update	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	-	-

URI

PUT /v2/{project_id}/enginemgr/engines/{engine_id}

Table 5-107 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
engine_id	Yes	String	Microservice engine ID.

Request

Table 5-108 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-109 Request body parameter

Parameter	Mandatory	Type	Description
description	No	String	Microservice engine description. Maximum length: 255
alias	No	String	Alias of a microservice engine (displayed name). Maximum length: 64

Response

Status code: 200

None

Status code: 400

Table 5-110 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-111 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}
{
  "description": "string",
  "alias": "string",
  "maintenanceConfig": {
    "time": "13:00"
  }
}
```

Example Response

Status code: 200

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.13 Querying the Engine Job List

Function

This API is used to query the engine job list.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine: get	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

GET /v2/{project_id}/enginemgr/engines/{engine_id}/jobs

Table 5-112 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
engine_id	Yes	String	Microservice engine ID.

Table 5-113 Query parameters

Parameter	Mandatory	Type	Description
offset	No	String	Page number.
limit	No	String	Number of records displayed on each page.
from-time	No	String	Start time of the query date range.
to-time	No	String	End time of the query date range.

Request

Table 5-114 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-115 Response body parameters

Parameter	Type	Description
total	Integer	Total number of engine jobs.
data	Array of Job objects	Job list.

Table 5-116 Job

Parameter	Type	Description
id	Integer	Job ID.
engineId	String	ID of the engine to which a job belongs.
type	String	Job type. Range: <ul style="list-style-type: none"> • Create • Delete • Update • Upgrade • Configure • Modify
description	String	Job description.
status	String	Job status. Range: <ul style="list-style-type: none"> • PreInit • Init • Executing • Error • Timeout • Finished
scheduling	Integer	Whether the job is being executed. Range: <ul style="list-style-type: none"> • 0: The job is not being executed. • 1: The job is being executed.
createUser	String	Job creator.
startTime	Long	Start time of a job.
endTime	Long	End time of a job.
context	String	Job execution context.

Parameter	Type	Description
tasks	Array of Task objects	Job phases.

Table 5-117 Task

Parameter	Type	Description
jobId	Integer	ID of the job to which the sub-job belongs.
id	Long	Sub-job ID, which is in UUID format.
type	String	Sub-job type. Range: <ul style="list-style-type: none"> • Create • Delete • Update • Upgrade • Configure • Modify
assigned	String	Executor of a sub-job.
taskName	String	Sub-job name.
engineName	String	Name of the engine to which the sub-job belongs.
taskOrder	Integer	Sequence in which sub-jobs are executed, in ascending order.
status	String	Sub-job status. Range: <ul style="list-style-type: none"> • PreInit • Init • Executing • Error • Timeout • Finished
startTime	Long	Start time of a sub-job.
endTime	Long	End time of a sub-job.
createTime	Long	Creation time of a sub-job.
updateTime	Long	Update time of a sub-job.
timeout	Integer	Whether a sub-job times out.

Parameter	Type	Description
log	String	Sub-job details, which are auxiliary information generated during the execution.
output	String	Sub-job output information.
taskExecutorBrief	TaskExecutorBrief object	Job metadata.

Table 5-118 TaskExecutorBrief

Parameter	Type	Description
duration	Long	Duration of a sub-job.
description	String	Sub-job description.

Status code: 400

Table 5-119 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-120 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

GET https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}/jobs

Example Response

Status code: 200

OK

```
{
  "total": 100,
  "data": [
    {
      "id": 12339,
      "engineId": "ad76972c-a743-4770-859c-c98a680f4d98",
      "type": "Create",
      "description": "",
      "status": "Finished",
      "scheduling": 0,
      "createUser": "test",
      "startTime": 1636540095901,
      "endTime": 1636540460230,
      "context": "string",
      "tasks": [
        {
          "jobId": 12339,
          "id": 89117,
          "type": "Create",
          "assigned": "string",
          "taskName": "TenantTaskExecutor",
          "engineName": "test",
          "taskOrder": 0,
          "status": "Init",
          "startTime": 1636540100216,
          "endTime": 1636540110215,
          "createTime": 1636540095910,
          "updateTime": 1636540110230,
          "timeout": -1,
          "log": "string",
          "output": "{}",
          "taskExecutorBrief": {
            "duration": 6000,
            "description": "Tenant processing"
          }
        }
      ]
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.14 Querying an RBAC Token

Function

This API is used to obtain an RBAC token based on the IAM token.

 **NOTE**

If a ServiceComb engine is used, you need to create or import an IAM user in the engine.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

POST /v2/{project_id}/enginemgr/engines/{engine_id}/tokens

Table 5-121 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
engine_id	Yes	String	Microservice engine ID.

Request

Table 5-122 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .

Parameter	Mandatory	Type	Description
Accept	Yes	String	Set it to application/json .
X- Namespace- ID	No	String	Nacos namespace.

Response

Status code: 200

Table 5-123 Response body parameters

Parameter	Type	Description
token	String	RBAC token.

Status code: 400

Table 5-124 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-125 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

POST `https://{endpoint}/v2/{project_id}/enginemgr/engines/{engine_id}/tokens`

Example Response

Status code: 200

OK

```
{  
  "token": "string"  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.15 Backing Up and Restoring a Microservice Engine

Function

This API is used to restore a specified microservice engine using a specified backup file.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:create	write	-	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId • g:TagKeys 	-	-

URI

POST /cseengine/v1/engines/{engine_id}/backups/{backup_id}/recovery

Table 5-126 Path parameters

Parameter	Mandatory	Type	Description
engine_id	Yes	String	Microservice engine ID.
backup_id	Yes	String	Backup file ID.

Request

Table 5-127 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-128 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of a restoration record.

Parameter	Mandatory	Type	Description
description	No	String	Description of a restoration record.

Response

Status code: 200

Table 5-129 Response body parameters

Parameter	Type	Description
id	String	ID of the restoration record.
engineId	String	Microservice engine ID.
backupId	String	ID of the microservice engine backup file.
status	String	Status of the microservice engine restoration record. Range: <ul style="list-style-type: none"> • RecoveringData • RestartingService • RecoveringDataFailed • RestartingServiceFailed • Success
backupName	String	Name of the microservice engine backup file.
name	String	Name of the microservice engine restoration record.
description	String	Description of the microservice engine restoration record.
progress	Integer	Data restoration progress.
time	Long	Data restoration duration.
reason	String	Reason why data fails to be restored.

Status code: 400

Table 5-130 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-131 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{endpoint}/cseengine/v1/engines/{engine_id}/backups/{backup_id}/recovery
{
  "name" : "string",
  "description" : "string"
}
```

Example Response

Status code: 200

Response structure for backing up and restoring a microservice engine.

```
{
  "id" : "string",
  "name" : "test",
  "description" : "string",
  "engineId": "engineId",
  "backupId": "backupId",
  "backupName": "backupName",
  "status": "RecoveringData",
  "progress": "20",
  "time": "123",
  "reason": "string"
}
```

Status Codes

Status Code	Description
200	Response structure for querying microservice engine details.
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.16 Creating a Microservice Backup Policy

Function

This API is used to create a microservice backup policy.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:create	write	-	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId • g:TagKeys 	-	-

URI

POST /cseengine/v1/engines/{engineId}/backup-strategies

Table 5-132 Path parameter

Parameter	Mandatory	Type	Description
engine_id	Yes	String	Microservice engine ID.

Request

Table 5-133 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-134 Request body parameters

Parameter	Mandatory	Type	Description
schedule	Yes	String	Scheduling cron expression for describing the backup time.
reserve	No	int	Backup file retention days.
maxFiles	No	int	Maximum number of files.

Response

Status code: 200

Table 5-135 Response body parameters

Parameter	Type	Description
id	String	Backup policy ID.
engineId	String	Engine ID.
schedule	String	Scheduling cron expression for describing the backup time.
reserve	String	Backup file retention days.
maxFiles	int	Maximum number of files.
createAt	long	Creation timestamp.
nextAt	long	Next backup timestamp.

Status code: 400

Table 5-136 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-137 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{endpoint}/cseengine/v1/engines/{engineId}/backup-strategies
```

```
{  
  "schedule": "string",  
  "reserve": "10",  
  "maxFiles": "10"  
}
```

Example Response

Status code: 200

success

```
{  
  "id": "string",  
  "engineId": "string",  
  "schedule": "string",  
  "reserve": "10",  
  "maxFiles": "10",  
  "createAt": "10000",  
  "nextAt": "100000"  
}
```

Status Codes

Status Code	Description
200	success
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.3.17 Creating a Microservice Engine Tag

Function

This API is used to create a microservice engine tag.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
cse:engine:tagResource	write	engine	<ul style="list-style-type: none"> • <i>g:ResourceTag/<tag-key></i> • <i>g:EnterpriseProjectId</i> 	cse:engine:modify	-

URI

POST /v2/{project_id}/{resource_type}/{resource_id}/tags/create

Table 5-138 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
resource_type	Yes	String	Resource type.
resource_id	Yes	String	Resource ID.

Request

Table 5-139 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Table 5-140 Request body parameters

Parameter	Mandatory	Type	Description
tags	Yes	Array of SimpleTag	Tag list.
action	Yes	String	Action type.
sys_tags	Yes	Array of SimpleTag	System tag.
engineId	Yes	String	Engine ID.
resourceTags	No	Array of ResourceTag	Resource tag list.
resourceTags WithoutValue	No	Array of ResourceTag	Resource tag without value.

Table 5-141 SimpleTag

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key.
value	Yes	String	Tag value.

Table 5-142 ResourceTag

Parameter	Mandatory	Type	Description
id	No	String	Resource tag ID.
key	No	String	Resource tag key.
value	No	String	Resource tag value.
engine_id	No	String	Engine ID.
type	No	String	Type.
date_time	No	long	Timestamp.

Response

Status code: 200

Status code: 400

Table 5-143 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-144 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{endpoint}/v2/{project_id}/{resource_type}/{resource_id}/tags/create
```

Example Response

Status code: 200

success

```
{
  "tags": [
    {
      "key": "key",
      "value": "value"
    }
  ],
  "sys_tags": [
    {
      "key": "key",
      "value": "value"
    }
  ],
  "action": "test",
  "resourceTags": [
    {
      "id": "id",
      "key": "key",
      "value": "value",
      "engine_id": "engine_id",
      "type": "type",
      "date_time": 123456
    }
  ],
}
```

Status Codes

Status Code	Description
200	success
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.4 Microservice Governance

5.4.1 Querying the Governance Policy List

Function

This API is used to query the governance policy list.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:list	list	-	-	cse:governance:get	-

URI

GET /v3/{project_id}/govern/governance/display

Table 5-145 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-146 Query parameters

Parameter	Mandatory	Type	Description
environment	Yes	String	Environment. all indicates to query all environments.
app	No	String	Application.

Request

Table 5-147 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Response

Status code: 200

Table 5-148 Response body parameter

Parameter	Type	Description
<i>[Array]</i>	Array of GovPolicyDetail objects	Response structure for querying the governance policy list.

Table 5-149 GovPolicyDetail

Parameter	Type	Description
matchGroup	CreateBusinessScene object	Traffic definition.
policies	Array of policies objects	Governance policy definition.

Table 5-150 CreateBusinessScene

Parameter	Type	Description
name	String	Traffic name.

Parameter	Type	Description
status	String	Status. Range: <ul style="list-style-type: none"> enabled: The traffic is enabled. disabled: The traffic is disabled.
selector	GovSelector object	Governance policy delivery scope.
spec	spec object	Traffic feature description.

Table 5-151 spec

Parameter	Type	Description
alias	String	Feature name.
matches	Array of matches objects	Matching condition definition.

Table 5-152 matches

Parameter	Type	Description
name	String	Condition name.
apiPath	Object	Matched PATH .
headers	Object	Matched Headers .
method	Array of strings	List of matched Method .
serviceName	String	Matched microservice name.

Table 5-153 policies

Parameter	Type	Description
id	String	Governance policy ID.
name	String	Governance policy name.

Parameter	Type	Description
kind	String	Governance type. Range: <ul style="list-style-type: none"> • retry • rate-limiting • loadbalance • circuit-breaker • instance-isolation • fault-injection • bulkhead
status	String	Status. Range: <ul style="list-style-type: none"> • enabled • disabled
selector	GovSelector object	Governance policy delivery scope.
spec	Object	Governance policy definition content.

Table 5-154 GovSelector

Parameter	Type	Description
environment	String	Environment.
app	String	Application.
service	String	Optional. Governance is delivered to a microservice.

Status code: 400

Table 5-155 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v3/{project_id}/govern/governance/display
```

Example Response

Status code: 200

Response structure for querying the governance policy list.

```
[ {
  "matchGroup" : {
    "name" : "",
    "status" : "enabled",
    "selector" : {
      "environment" : "string",
      "app" : "string",
      "service" : "string"
    },
    "spec" : {
      "alias" : "string",
      "matches" : [ {
        "name" : "string",
        "apiPath" : { },
        "headers" : { },
        "method" : [ "string" ],
        "serviceName" : "string"
      } ]
    }
  },
  "policies" : [ {
    "id" : "string",
    "name" : "string",
    "kind" : "string",
    "status" : "string",
    "selector" : {
      "environment" : "string",
      "app" : "string",
      "service" : "string"
    },
    "spec" : { }
  } ]
} ]
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.2 Creating a Dark Launch Policy

Function

This API is used to create a dark launch policy.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:update	write	-	-	-	-

URI

PUT /v3/{project_id}/govern/route-rule/microservices/{service_name}

Table 5-156 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
service_name	Yes	String	Microservice name.

Table 5-157 Query parameters

Parameter	Mandatory	Type	Description
environment	No	String	Environment. If this parameter is left blank, <empty> is used.
app_id	No	String	Application. If this parameter is left blank, default is used.

Request

Table 5-158 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Table 5-159 Request body parameter

Parameter	Mandatory	Type	Description
<i>[Array]</i>	Yes	Array of CreateRules objects	Structure of the request for creating a dark launch policy.

Table 5-160 CreateRules

Parameter	Mandatory	Type	Description
precedence	No	Integer	Priority. A larger value indicates a higher priority.
match	No	CreateMatch object	Request matching rule. The value ranges from 0 to N. If this parameter is left empty, the request is matched.
route	No	Array of CreateRoute objects	Routing rule list.

Table 5-161 CreateMatch

Parameter	Mandatory	Type	Description
headers	No	headers object	Matched Headers .

Table 5-162 headers

Parameter	Mandatory	Type	Description
<header>	No	<header> object	Rule for matching Headers.

Table 5-163 <header>

Parameter	Mandatory	Type	Description
exact	No	String	Exactly matched value.
caseInsensitive	No	Boolean	Case insensitive or not.

Table 5-164 CreateRoute

Parameter	Mandatory	Type	Description
name	No	String	Rule name.
weight	No	Integer	Weight.
tags	No	tags object	List of matched instance tags.

Table 5-165 tags

Parameter	Mandatory	Type	Description
<tag>	No	String	Instance tag. Instances that meet the tag conditions are placed in this group.

Response

Status code: 200

Table 5-166 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-167 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

PUT https://{endpoint}/v3/{project_id}/govern/route-rule/microservices/{service_name}

```
[ {
  "precedence" : 1,
  "match" : {
    "headers" : {
      "<header>" : {
        "exact" : "test",
        "caseInsensitive" : false
      }
    }
  },
  "route" : [ {
    "name" : "rule_1",
    "weight" : 20,
    "tags" : {
      "<tag>" : "1.0.0"
    }
  }
]
}]
```

Example Response

Status code: 200

Response structure for creating a dark launch policy.

```
{
  "result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.3 Querying a Dark Launch Policy

Function

This API is used to query a dark launch policy.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:get	read	-	-	-	-

URI

GET /v3/{project_id}/govern/route-rule/microservices/{service_name}

Table 5-168 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
service_name	Yes	String	Microservice name.

Table 5-169 Query parameters

Parameter	Mandatory	Type	Description
environment	No	String	Environment. If this parameter is left blank, <empty> is used.
app_id	No	String	Application. If this parameter is left blank, default is used.

Request

Table 5-170 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Response

Status code: 200

Table 5-171 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-172 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v3/{project_id}/govern/route-rule/microservices/{service_name}
```

Example Response

Status code: 200

Response structure for querying a dark launch policy.

```
{
  "result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.4 Deleting a Dark Launch Policy

Function

This API is used to delete a dark launch policy.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:delete	write	-	-	-	-

URI

DELETE /v3/{project_id}/govern/route-rule/microservices/{service_name}

Table 5-173 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
service_name	Yes	String	Microservice name.

Table 5-174 Query parameters

Parameter	Mandatory	Type	Description
environment	No	String	Environment. If this parameter is left blank, <empty> is used.
app_id	No	String	Application. If this parameter is left blank, default is used.

Request

Table 5-175 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Response

Status code: 200

Table 5-176 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-177 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
DELETE https://{endpoint}/v3/{project_id}/govern/route-rule/microservices/{service_name}
```

Example Response

Status code: 200

Response structure for deleting a dark launch policy.

```
{
  "Result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.5 Changing a Governance Policy

Function

This API is used to change a governance policy.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:update	write	-	-	-	-

URI

PUT /v3/{project_id}/govern/governance/{kind}/{policy_id}

Table 5-178 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
kind	Yes	String	Governance policy kind.
policy_id	Yes	String	Governance policy ID.

Request

Table 5-179 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.
x-environment	No	String	Environment.

Table 5-180 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Governance policy name.
selector	No	GovSelector object	Governance policy delivery scope.
spec	No	Object	Governance policy definition content.

Table 5-181 GovSelector

Parameter	Mandatory	Type	Description
environment	No	String	Environment.
app	No	String	Application.
service	No	String	Optional. Governance is delivered to a microservice.

Response

Status code: 200

Table 5-182 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-183 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
PUT https://{endpoint}/v3/{project_id}/govern/governance/{kind}/{policy_id}
{
  "name": "string",
  "selector": {
    "environment": "string",
    "app": "string",
    "service": "string"
  },
  "spec": { }
}
```

Example Response

Status code: 200

Response structure for changing a governance policy.

```
{
  "result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.6 Deleting a Governance Policy

Function

This API is used to delete a governance policy.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:delete	write	-	-	-	-

URI

DELETE /v3/{project_id}/govern/governance/{kind}/{policy_id}

Table 5-184 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
kind	Yes	String	Governance policy kind.
policy_id	Yes	String	Governance policy ID.

Request

Table 5-185 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.
x-environment	No	String	Environment.

Response

Status code: 200

Table 5-186 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-187 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
DELETE https://{endpoint}/v3/{project_id}/govern/governance/{kind}/{policy_id}
```

Example Response

Status code: 200

Response structure for deleting a governance policy.

```
{
  "Result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.7 Querying Governance Policy Details

Function

This API is used to query governance policy details.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:get	read	-	-	-	-

URI

GET /v3/{project_id}/govern/governance/{kind}/{policy_id}

Table 5-188 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
kind	Yes	String	Governance policy kind.
policy_id	Yes	String	Governance policy ID.

Request

Table 5-189 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.
x-environment	No	String	Environment.

Response

Status code: 200

Table 5-190 Response body parameters

Parameter	Type	Description
name	String	Governance policy name.
selector	GovSelector object	Governance policy delivery scope.
spec	Object	Governance policy definition content.

Table 5-191 GovSelector

Parameter	Type	Description
environment	String	Environment.
app	String	Application.
service	String	Optional. Governance is delivered to a microservice.

Status code: 400

Table 5-192 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v3/{project_id}/govern/governance/{kind}/{policy_id}
```

Example Response

Status code: 200

Response structure for querying governance policy details.

```
{
  "name" : "string",
  "selector" : {
    "environment" : "string",
    "app" : "string",
    "service" : "string"
  },
  "spec" : { }
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.8 Creating a Governance Policy

Function

This API is used to create a governance policy.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:create	write	-	-	-	-

URI

POST /v3/{project_id}/govern/governance/{kind}

Table 5-193 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
kind	Yes	String	Governance policy kind.

Request

Table 5-194 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.
x-environment	No	String	Environment.

Table 5-195 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Governance policy name.
selector	No	GovSelector object	Governance policy delivery scope.
spec	No	Object	Governance policy definition content.

Table 5-196 GovSelector

Parameter	Mandatory	Type	Description
environment	No	String	Environment.
app	No	String	Application.
service	No	String	Optional. Governance is delivered to a microservice.

Response

Status code: 200

Table 5-197 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-198 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{endpoint}/v3/{project_id}/govern/governance/{kind}
{
  "name": "string",
  "selector": {
    "environment": "string",
    "app": "string",
    "service": "string"
  },
  "spec": {}
}
```

Example Response

Status code: 200

Response structure for creating a governance policy.

```
{
  "result": "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.9 Querying the Governance Policy List of a Specified Kind

Function

This API is used to query the governance policy list of a specified kind.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:policy:list	list	-	-	cse:governance:get	-

URI

GET /v3/{project_id}/govern/governance/{kind}

Table 5-199 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
kind	Yes	String	Governance policy kind.

Request

Table 5-200 Request header parameters

Parameter	Mandatory	Type	Description
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
X-Auth-Token	Yes	String	User token.

Parameter	Mandatory	Type	Description
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.
x-environment	No	String	Environment.

Response

Status code: 200

Table 5-201 Response body parameter

Parameter	Type	Description
<i>[Array]</i>	Array of GovPolicyDetail objects	Response structure for querying the governance policy list.

Table 5-202 GovPolicyDetail

Parameter	Type	Description
matchGroup	CreateBusinessScene object	Traffic definition.
policies	Array of policies objects	Governance policy definition.

Table 5-203 CreateBusinessScene

Parameter	Type	Description
name	String	Traffic name.
status	String	Status. Range: <ul style="list-style-type: none"> enabled: The traffic is enabled. disabled: The traffic is disabled.
selector	GovSelector object	Governance policy delivery scope.

Parameter	Type	Description
spec	spec object	Traffic feature description.

Table 5-204 spec

Parameter	Type	Description
alias	String	Feature name.
matches	Array of matches objects	Matching condition definition.

Table 5-205 matches

Parameter	Type	Description
name	String	Condition name.
apiPath	Object	Matched PATH .
headers	Object	Matched Headers .
method	Array of strings	List of matched Method .
serviceName	String	Matched microservice name.

Table 5-206 policies

Parameter	Type	Description
id	String	Governance policy ID.
name	String	Governance policy name.
kind	String	Governance type. Range: <ul style="list-style-type: none"> ● retry ● rate-limiting ● loadbalance ● circuit-breaker ● instance-isolation ● fault-injection ● bulkhead

Parameter	Type	Description
status	String	Status. Range: <ul style="list-style-type: none"> enabled disabled
selector	GovSelector object	Governance policy delivery scope.
spec	Object	Governance policy definition content.

Table 5-207 GovSelector

Parameter	Type	Description
environment	String	Environment.
app	String	Application.
service	String	Optional. Governance is delivered to a microservice.

Status code: 400

Table 5-208 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v3/{project_id}/govern/governance/{kind}
```

Example Response

Status code: 200

Response structure for querying the governance policy list of a specified type.

```
[{
  "matchGroup": {
    "name": "",
    "status": "enabled",
    "selector": {
      "environment": "string",
      "app": "string",
```

```

"service" : "string"
},
"spec" : {
  "alias" : "string",
  "matches" : [ {
    "name" : "string",
    "apiPath" : { },
    "headers" : { },
    "method" : [ "string" ],
    "serviceName" : "string"
  } ]
},
"policies" : [ {
  "id" : "string",
  "name" : "string",
  "kind" : "string",
  "status" : "string",
  "selector" : {
    "environment" : "string",
    "app" : "string",
    "service" : "string"
  },
  "spec" : { }
} ]
} ]
} ]

```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

5.4.10 Querying Microservice Thresholds in Batches

Function

This API is used to query microservice thresholds in batches.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v3/{project_id}/csemonitor/thresholds

Table 5-209 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-210 Query parameters

Parameter	Mandatory	Type	Description
services	Yes	String	List of services whose thresholds are to be queried, which are separated by commas (.). Example: service1,service2

Request

Table 5-211 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-212 Response body parameters

Parameter	Type	Description
OK	Array of MetricThreshold objects	Query result.

Table 5-213 MetricThreshold

Parameter	Type	Description
\$timestamp	Long	Timestamp.
appld	String	Application ID.
avgDelay	Integer	Average latency, in milliseconds.
environment	String	Environment name.
failureRate	Float	Request failure rate (%).
serviceName	String	Service name.
throughput	Integer	Throughput, in seconds.

Status code: 400

Table 5-214 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-215 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v3/{project_id}/csemonitor/thresholds?services=service1,service2
```

Example Response

Status code: 200

OK

```
[  
  {  
    "serviceName": "string",  
    "appId": "string",  
    "environment": "",  
    "throughput": 10,  
    "avgDelay": 10,  
    "failureRate": 10.0,  
    "$timestamp": 0  
  }  
]
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.4.11 Querying Microservice Reporting Information

Function

This API is used to query microservice reporting information.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

```
GET /v3/{project_id}/csemonitor/metric
```

Table 5-216 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-217 Query parameters

Parameter	Mandatory	Type	Description
service	Yes	String	List of service names, which are separated by commas (,).
instance	No	String	Instance name.
function	No	String	Function name.
flag	No	String	Batch query flag.

Request

Table 5-218 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-219 Response body parameters

Parameter	Type	Description
OK	Array of MetricInfo objects	Query result.

Table 5-220 MetricInfo

Parameter	Type	Description
time	Long	Timestamp.
appld	String	Service ID.
version	String	Service version.
qps	Double	Number of requests per second.
latency	Double	Delay, in milliseconds.
rate	Double	Success rate (%). Value range: 0–100.
failureRate	Double	Failure rate (%). Value range: 0–100.
total	Long	Total number of requests.
breakerRateA gg	Float	Average circuit breaker rate.
circuitBreaker Open	Boolean	Current circuit breaker status.
failure	Long	Total number of failures.
shortCircuited	Long	Total number of short circuits.
semaphoreRej ected	Long	Total number of rejected semaphores.
threadPoolRej ected	Long	Total number of rejected threads in the thread pool.
countTimeout	Long	Total number of timeout requests.
l995	double	Top 99.5% of all request latency sorted in ascending order.
l99	double	Top 99% of all request latency sorted in ascending order.
l90	double	Top 90% of all request latency sorted in ascending order.
l75	double	Top 75% of all request latency sorted in ascending order.
l50	double	Top 50% of all request latency sorted in ascending order.
l25	double	Top 25% of all request latency sorted in ascending order.
l5	double	Top 5% of all request latency sorted in ascending order.
name	String	Name.

Parameter	Type	Description
serviceId	String	Service ID.
instanceCount	Long	Number of service instances.
environment	String	Environment name.
diagnosis	Array of Diagnosis object	Service diagnosis result.
instanceId	String	Instance ID.
thread	Integer	Number of threads.
cpu	Double	CPU usage (%).
memory	Map object	Memory usage (%).
functionCount	Long	Number of functions.
customs	Map object	Custom variable.
providersCache	Array of ProviderCache object	Server instance set.
functionType	String	Function type.

Table 5-221 ProviderCache

Parameter	Type	Description
appld	String	Application ID.
microserviceName	String	Service name.
detail	String	Details.
pulledInstances	Array of ProviderInstance object	Service provider instance information.
status	String	Status information.

Table 5-222 ProviderInstance

Parameter	Type	Description
instanceId	String	Instance ID.

Parameter	Type	Description
endpoints	Array of String	List of instance access points.
hostName	String	Instance domain name.
timestamp	String	Timestamp.

Table 5-223 Diagnosis

Parameter	Type	Description
instanceCache	Array of InstanceCache object	Service instance cache result.

Table 5-224 InstanceCache

Parameter	Type	Description
status	String	Check status. Range: <ul style="list-style-type: none"> • NORMAL • ABNORMAL • UNKNOWN
timestamp	Long	Timestamp.
producers	Array of Producer object	Service provider list.
checkTime	Long	Check time. If an exception occurs, the latest exception time is displayed. Otherwise, the latest check time is displayed.
latestStatus	String	Check status. Range: <ul style="list-style-type: none"> • NORMAL • ABNORMAL • UNKNOWN

Table 5-225 Producer

Parameter	Type	Description
status	String	Check status. Range: <ul style="list-style-type: none"> • NORMAL • ABNORMAL • UNKNOWN
appld	String	Application ID.
microserviceName	String	Microservice name.
detail	String	Details.

Status code: 400

Table 5-226 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-227 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v3/{project_id}/csemonitor/metric
```

Example Response

Status code: 200

OK

```
[
  [
    {
      "time": 1733973104652,
      "appId": "weathermap",
      "version": "0.0.2",
      "qps": 0.0,
      "latency": 0.0,
      "failureRate": 0.0,
      "total": 0,
      "breakerRateAgg": 0.0,
      "circuitBreakerOpen": false,
      "failure": 0,
      "shortCircuited": 0,
      "semaphoreRejected": 0,
      "threadPoolRejected": 0,
      "countTimeout": 0,
      "l995": 0,
      "l99": 0,
      "l90": 0,
      "l75": 0,
      "l50": 0,
      "l25": 0,
      "l5": 0,
      "serviceId": "da21c8749d7ca08047b7d8da63f79e296127c21b",
      "instanceCount": 10,
      "environment": "",
      "diagnosis": {
        "instanceCache": null
      },
      "name": "weather"
    }
  ]
]
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.4.12 Querying the Reported Information List

Function

Querying the Reported Information List

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v3/{project_id}/csemonitor/metric/list

Table 5-228 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 5-229 Query parameters

Parameter	Mandatory	Type	Description
page	No	String	Page number.
number	No	String	Page size.
sortType	No	String	Sorting type. Range: <ul style="list-style-type: none"> • increase • decrease
sortKey	No	String	Sorting field. Range: <ul style="list-style-type: none"> • name • qps • latency • total
appls	No	String	List of applications to be queried, which are separated by commas (,).
nameFilter	No	String	Filter name.

Request

Table 5-230 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 .
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .

Response

Status code: 200

Table 5-231 Response body parameters

Parameter	Type	Description
list	Array of KeyObject	Key list.
appls	Array of String	Application ID list.
page	Integer	Page number.
number	Integer	Number of records on the current page.
total	Integer	Total number of queries.

Table 5-232 KeyObject

Parameter	Type	Description
key	String	Key.
serviceId	String	Service ID.
serviceName	String	Service name.
appld	String	Application ID.
version	String	Version.
environment	String	Environment name.

Parameter	Type	Description
custom	Map object	Custom information.

Status code: 400

Table 5-233 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-234 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v3/{project_id}/csemonitor/metric/list
```

Example Response

Status code: 200

OK

```
{
  "list": [
    {
      "key": "string",
      "serviceId": "string",
      "appld": "string",
      "version": "string",
      "environment": "string",
      "custom": {
        "key": 1.0
      }
    }
  ],
  "applds": ["string", "string"],
  "page": 0,
  "number": 0,
}
```

```
"total": 0
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.5 ServiceComb Engine Authentication

5.5.1 Modifying the RBAC Account of a ServiceComb Engine

Function

This API is used to modify the RBAC account of a ServiceComb engine.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:update	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

PUT /v3/{project_id}/accounts/{name}

Table 5-235 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
name	Yes	String	RBAC account name.

Request

Table 5-236 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .
X-Engine-Id	Yes	String	ServiceComb engine ID.
Authorization	Yes	String	RBAC token of the ServiceComb engine. The format is Bear {token text} .

Table 5-237 Request body parameters

Parameter	Mandatory	Type	Description
roles	No	Array of strings	New role list of the account, which will completely overwrite the original role list.

Response

Status code: 200

Table 5-238 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-239 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-240 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
PUT https://{endpoint}/v3/{project_id}/accounts/{name}
{
  "roles": [
    "admin"
  ]
}
```

Example Response

Status code: 200

OK

```
{
  "Result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.5.2 Changing the RBAC Account Password of a ServiceComb Engine

Function

This API is used to change the RBAC account password of a ServiceComb engine.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:update	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

POST /v3/{project_id}/accounts/{name}/password

Table 5-241 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
name	Yes	String	RBAC account name.

Request

Table 5-242 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .
X-Engine-Id	Yes	String	ServiceComb engine ID.
Authorization	Yes	String	RBAC token of the ServiceComb engine. The format is Bear {token text} .

Table 5-243 Request body parameters

Parameter	Mandatory	Type	Description
currentPassword	No	String	Current password. <ul style="list-style-type: none"> Required when the modifier changes its own password. Otherwise (for example, the admin account changes the password of another account), the current password is not required.
password	Yes	String	New password.

Response

Status code: 200

Table 5-244 Response body parameters

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-245 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-246 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
POST /v3/{project_id}/accounts/{name}/password
{
  "currentPassword": "currentPassword",
  "password": "password"
}
```

Example Response

Status code: 200

OK

```
{
  "Result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

5.5.3 Deleting the RBAC Account of a ServiceComb Engine

Function

This API is used to delete the RBAC account of a ServiceComb engine.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:engine:update	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

DELETE /v3/{project_id}/accounts/{name}

Table 5-247 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.
name	Yes	String	RBAC account name.

Request

Table 5-248 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.
X-Enterprise-Project-ID	No	String	If this parameter is not set, the default enterprise project is default and the ID is 0 . Default Value: 0
Content-Type	Yes	String	Set it to application/json;charset=UTF-8 .
Accept	Yes	String	Set it to application/json .
X-Engine-Id	Yes	String	ServiceComb engine ID.
Authorization	Yes	String	RBAC token of the ServiceComb engine. The format is Bear {token text} .

Response

Status code: 200

Table 5-249 Response body parameter

Parameter	Type	Description
result	String	Result.

Status code: 400

Table 5-250 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Status code: 500

Table 5-251 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
DELETE https://{endpoint}/v3/{project_id}/accounts/{name}
```

Example Response

Status code: 200

OK

```
{
  "Result" : "string"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [Error Codes](#).

6 Nacos API

6.1 Querying the nacos Namespace

Function

This API is used to query the nacos namespace.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:get	read	engine	<ul style="list-style-type: none"> • <code>g:ResourceTag/<tag-key></code> • <code>g:EnterpriseProjectId</code> 	-	-

URI

GET /v1/{project_id}/nacos/v1/console/namespaces

Table 6-1 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 6-2 Query parameters

Parameter	Mandatory	Type	Description
offset	Yes	Integer	Page number. The value starts from 0.
limit	Yes	Integer	Page size. 0 indicates that all results are displayed on one page.

Request

Table 6-3 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Response

Status code: 200

Table 6-4 Response body parameters

Parameter	Type	Description
code	Integer	Response code
data	Array of Table 6-5	Namespace information list.

Table 6-5 ListData

Parameter	Type	Description
namespace	String	Namespace name.
namespaceShowName	String	Namespace display name.
quota	number	Namespace quota.
configCount	number	Number of configurations in the namespace.
type	number	Namespace type. <ul style="list-style-type: none"> 0: Reserved namespace 1: User-created namespace

Status code: 400

Table 6-6 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
GET https://{endpoint}/v1/{project_id}/nacos/v1/console/namespaces
```

Example Response

```
{
  "code": 200,
  "message": null,
  "data": [
    {
      "namespace": "",
      "namespaceShowName": "public",
      "quota": 200,
      "configCount": 0,
      "type": 0
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

6.2 Creating the nacos Namespace

Function

This API is used to create the nacos namespace.

Authorization Information

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:create	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId • g:TagKeys 	-	-

URI

POST /v1/{project_id}/nacos/v1/console/namespaces

Table 6-7 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 6-8 Query parameters

Parameter	Mandatory	Type	Description
custom_namespace_id	Yes	String	Namespace ID. The value can contain a maximum of 128 characters, including uppercase letters, lowercase letters, digits, hyphens (-), and underscores (_).
namespace_name	Yes	String	Namespace name. The value can contain a maximum of 128 characters, excluding @, #, \$, %, ^, &, and *.
namespace_desc	No	String	Namespace description. The value can contain a maximum of 256 characters.

Request

Table 6-9 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Response

Status code: 200

Status code: 400

Table 6-10 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

Request form data example:

```
POST https://{endpoint}/v1/{project_id}/nacos/v1/console/namespaces
customNamespaceId=namespace_id&namespaceName=namespace_name&namespaceDesc=&namespaceId=
```

Example Response

```
true
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

6.3 Updating the nacos Namespace

Function

This API is used to update the nacos namespace.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:update	read	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	cse:namespace:write	-

URI

PUT /v1/{project_id}/nacos/v1/console/namespaces

Table 6-11 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 6-12 Query parameters

Parameter	Mandatory	Type	Description
namespace	Yes	String	Namespace ID.
namespace_show_name	Yes	String	Namespace name. The value can contain a maximum of 128 characters, excluding @, #, \$, %, ^, &, and *.
namespace_desc	Yes	String	Namespace description. The value can contain a maximum of 256 characters.

Request

Table 6-13 Request header parameters

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

Parameter	Mandatory	Type	Description
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Response

Status code: 200

Status code: 400

Table 6-14 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

Request form data example:

```
PUT https://{endpoint}/v1/{project_id}/nacos/v1/console/namespaces
customNamespaceId=namespace_id&namespaceName=namespace_name&namespaceDesc=&namespaceId=
```

Example Response

```
true
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

6.4 Deleting the nacos Namespace

Function

This API is used to delete the nacos namespace.

Authorization Information

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:delete	write	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	cse:namespace:write	-

URI

DELETE /v1/{project_id}/nacos/v1/console/namespaces

Table 6-15 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which must be unique. The value contains 1 to 64 characters.

Table 6-16 Query parameter

Parameter	Mandatory	Type	Description
namespace_id	Yes	String	Namespace ID.

Request

Table 6-17 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	IAM token.
x-engine-id	Yes	String	Instance ID of an exclusive microservice engine.
X-Enterprise-Project-ID	Yes	String	Enterprise project ID.

Response

Status code: 200

Status code: 400

Table 6-18 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.
detail	String	Location details.

Example Request

```
DELETE https://{endpoint}/v1/{project_id}/nacos/v1/console/namespaces
```

Example Response

```
true
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Error Code

See [Error Codes](#).

7 ServiceComb API

7.1 API Calling


CSE provides REST APIs, allowing you to call APIs using HTTPS.


NOTICE

APIs in [Microservice](#), [Schema](#), [Microservice Instance](#), and [Dependency](#) are available only in ME-Riyadh, CN-Hong Kong, and AP-Singapore.

To call the ServiceComb APIs of an exclusive ServiceComb engine, do as follows:

1. Log in to [CSE](#).
2. Choose **Exclusive ServiceComb Engines**.
3. Click the target ServiceComb engine.

When calling the APIs in [Authentication](#), [Microservice](#), [Schema](#), [Microservice Instance](#), and [Dependency](#), view or click  to copy the service center address of the engine.

When calling the APIs in [Configuration Management](#), view or click  to copy the configuration center address of the engine.

4. Call the API by referring to [Calling APIs](#). In [Request URI](#), replace **{Endpoint}** with the obtained service center address.

7.2 Authentication

7.2.1 Obtaining the User Token of an Exclusive ServiceComb Engine

Function

This API is intended only for exclusive ServiceComb engines with security authentication enabled.

Before accessing APIs of an exclusive ServiceComb engine with security authentication enabled, you need to call this API to obtain a user token. This token is the unique credential for accessing the APIs.

The token must be contained in the request header when an access request is sent. The format is as follows:

```
Authorization:Bearer{Token}
```

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

POST /v4/token

Request

Table 7-1 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	ServiceComb engine account name.
password	Yes	String	ServiceComb engine account password.

Response

Status code: 200

Table 7-2 Response body parameter

Parameter	Type	Description
token	String	User token, which is valid for 12 hours.

Status code: 401

Table 7-3 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-4 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

```
POST https://{Service center address}/v4/token
{
  "name": "root",
  "password": "*****"
}
```

Example Response

Status code: 200

OK

```
{
  "token" :
  "****bGciOijSUzUxMilsInR5cCl6lkpXVCJ9.*****.*****-2JxeUe3eOl5Md5kzOIAE_EYUATxCbJ5Gm
  gpSSJf*****"
}
```

Status Code

Status Code	Description
200	OK
401	Unauthorized
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.3 Microservice

7.3.1 Querying Information About a Microservice

Function

This API is used to query the definition information about a microservice based on `service_id`.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/microservices/{service_id}

Table 7-5 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^[*]\$</code> . See Querying Information About All Microservices .

Request

Table 7-6 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 200

Table 7-7 Response body parameter

Parameter	Type	Description
service	MicroService object	Microservice information.

Table 7-8 Microservice

Parameter	Type	Description
serviceId	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: $\wedge.*\$$
environment	String	Microservice environment. Value: development, testing, acceptance, or production.

Parameter	Type	Description
appld	String	Application ID, which must be unique. The value contains 1 to 160 characters. Regular expression: <code>^[a-zA-Z0-9]\$ ^[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]\$</code>
serviceName	String	Microservice name, which must be unique in an application. The value contains 1 to 128 characters. Regular expression: <code>^[a-zA-Z0-9]\$ ^[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]\$</code>
version	String	Microservice version. The value contains 1 to 64 characters. Regular expression: <code>^[0-9]\$ ^[0-9]+([.][0-9]+)\$</code>
description	String	Microservice description. The value contains a maximum of 256 characters.
level	String	Microservice level. Range: <ul style="list-style-type: none"> ● FRONT ● MIDDLE ● BACK
registerBy	String	Microservice registration mode. Range: <ul style="list-style-type: none"> ● SDK ● PLATFORM ● SIDECAR ● UNKNOWN
schemas	Array of strings	Microservice schema content. The value must be 1 to 160 bytes long. Only digits, letters, underscores (<code>_</code>), hyphens (<code>-</code>), and periods (<code>.</code>) are allowed. An array contains a maximum of 100 schemas.
status	String	Microservice status. Range: <ul style="list-style-type: none"> ● UP: The microservice is online. ● DOWN: The microservice is offline.
timestamp	String	Microservice registration time.
modTimestamp	String	Latest modification time (UTC).
framework	Framework object	Development framework.

Parameter	Type	Description
paths	Array of ServicePath objects	Service path.

Table 7-9 Framework

Parameter	Type	Description
name	String	Microservice development framework.
version	String	Version of the microservice development framework.

Table 7-10 ServicePath

Parameter	Type	Description
Path	String	Route address.
Property	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.

Status code: 400

Table 7-11 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-12 Response body parameters

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

Parameter	Type	Description
detail	String	Location details.

Example Request

Query details about the microservice whose ID is **819706e21b7173306797d19922ce4231441c17c5**.

```
GET https://{endpoint}/v4/{project_id}/registry/microservices/819706e21b7173306797d19922ce4231441c17c5
```

Example Response

Status code: 200

Successfully queried.

```
{
  "service": {
    "serviceId": "819706e21b7173306797d19922ce4231441c17c5",
    "appld": "default",
    "serviceName": "SERVICECENTER",
    "version": "2.4.8",
    "level": "BACK",
    "schemas": [
      "servicecenter.grpc.api.ServiceCtrl",
      "servicecenter.grpc.api.ServiceInstanceCtrl"
    ],
    "status": "UP",
    "timestamp": "1616426688",
    "modTimestamp": "1616426688",
    "environment": "development"
  }
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.3.2 Deleting Definition Information About a Microservice

Function

This API is used to delete definition and related information about a microservice, and deregister all instances of the microservice.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

DELETE /v4/{project_id}/registry/microservices/{service_id}

Table 7-13 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: $\wedge.*\$$. See Querying Information About All Microservices .

Table 7-14 Query parameter

Parameter	Mandatory	Type	Description
force	No	Boolean	<p>Whether to forcibly delete information about a microservice.</p> <p>Range:</p> <ul style="list-style-type: none"> • true: Forcibly delete such information. • false: Do not forcibly delete such information. <p>If you choose forcible deletion, all service instances are automatically deregistered and related service dependencies are deleted. If this parameter is not transferred, the service cannot be deleted when it has an instance.</p> <p>Default Value: false</p>

Request

Table 7-15 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 400

Table 7-16 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-17 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Delete the microservice whose ID is **e0f0da073f2c91e8979a89ff2d7c69t6**.

```
DELETE https://{endpoint}/v4/d9f4da085f2c11e8959a00ff2d7c69b7/registry/microservices/
e0f0da073f2c91e8979a89ff2d7c69t6
```

Example Response

None

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.3.3 Querying Information About All Microservices

Function

This API is used to query definition information about microservices that meet filter criteria.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/microservices

Table 7-18 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Request

Table 7-19 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 200

Table 7-20 Response body parameter

Parameter	Type	Description
services	Array of MicroService objects	Microservice list.

Table 7-21 Microservice

Parameter	Type	Description
serviceId	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: $\wedge.*$$

Parameter	Type	Description
environment	String	<p>Microservice environment.</p> <p>Range:</p> <ul style="list-style-type: none"> development testing acceptance production <p>You can use the API for uploading schemas in batches to add or modify an existing schema only when the value is development, testing, or acceptance.</p>
appld	String	<p>Application ID, which must be unique. The value contains 1 to 160 characters. Regular expression: <code>^[a-zA-Z0-9]\${1,160}[a-zA-Z0-9_-.][a-zA-Z0-9]\$</code></p>
serviceName	String	<p>Microservice name, which must be unique in an application. The value contains 1 to 128 characters. Regular expression: <code>^[a-zA-Z0-9]\${1,128}[a-zA-Z0-9_-.][a-zA-Z0-9]\$</code></p>
version	String	<p>Microservice version. The value contains 1 to 64 characters. Regular expression: <code>^[0-9]\${1,64}[0-9]+(?:[0-9]+)?\$</code></p>
description	String	<p>Microservice description. The value contains a maximum of 256 characters.</p>
level	String	<p>Microservice level.</p> <p>Range:</p> <ul style="list-style-type: none"> FRONT MIDDLE BACK
registerBy	String	<p>Microservice registration mode.</p> <p>Range:</p> <ul style="list-style-type: none"> SDK PLATFORM SIDECAR UNKNOWN
schemas	Array of strings	<p>Microservice schema content. The value must be 1 to 160 bytes long. Only digits, letters, underscores (<code>_</code>), hyphens (<code>-</code>), and periods (<code>.</code>) are allowed. An array contains a maximum of 100 schemas.</p>

Parameter	Type	Description
status	String	Microservice status. Range: <ul style="list-style-type: none"> UP: The microservice is online. DOWN: The microservice is offline.
timestamp	String	Microservice registration time.
modTimestamp	String	Latest modification time (UTC).
framework	Framework object	Development framework.
paths	Array of ServicePath objects	Service path.

Table 7-22 Framework

Parameter	Type	Description
name	String	Microservice development framework.
version	String	Version of the microservice development framework.

Table 7-23 ServicePath

Parameter	Type	Description
Path	String	Route address.
Property	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.

Status code: 400

Table 7-24 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-25 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query information about all registered microservices.

```
GET https://{endpoint}/v4/{project_id}/registry/microservices
```

Example Response

Status code: 200

Successfully queried.

```
{
  "services": [
    {
      "serviceId": "8aed80ea052ac04a64dfc79c24f2170224d074f5",
      "appld": "default",
      "serviceName": "test",
      "version": "1.0.0",
      "description": "this is a test",
      "level": "BACK",
      "status": "UP",
      "timestamp": "1650543950",
      "modTimestamp": "1650543950"
    },
    {
      "serviceId": "dcc6c1073eab3cadb47cea2e1a874b7883b02a63",
      "appld": "test",
      "serviceName": "test1",
      "version": "1.0.0",
      "level": "BACK",
      "status": "UP",
      "timestamp": "1650544223",
      "modTimestamp": "1650544223"
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Status Code	Description
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.3.4 Creating Static Information for a Microservice

Function

This API is used to create static information for a microservice before registering a microservice instance. The registered instance is associated with the static information based on **serviceld**. One service corresponds to multiple instances.

serviceld can be customized. If **serviceld** is not customized, the system generates a random service ID.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

POST /v4/{project_id}/registry/microservices

Table 7-26 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Table 7-29 Microservice

Parameter	Mandatory	Type	Description
serviceId	No	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^.*\$</code>
environment	No	String	Microservice environment. Range: <ul style="list-style-type: none"> development testing acceptance production You can use the API for uploading schemas in batches to add or modify an existing schema only when the value is development, testing, or acceptance . Default Value: development
appId	No	String	Application ID, which must be unique. The value contains 1 to 160 characters. Regular expression: <code>^[a-zA-Z0-9]\${1,160}\$</code>
serviceName	Yes	String	Microservice name, which must be unique in an application. The value contains 1 to 128 characters. Regular expression: <code>^[a-zA-Z0-9]\${1,128}\$</code>
version	No	String	Microservice version. The value contains 1 to 64 characters. Regular expression: <code>^[0-9]\${1,64}\$</code>
description	No	String	Microservice description. The value contains a maximum of 256 characters.

Parameter	Mandatory	Type	Description
level	No	String	Microservice level. Range: <ul style="list-style-type: none"> • FRONT • MIDDLE • BACK
registerBy	No	String	Microservice registration mode. Range: <ul style="list-style-type: none"> • SDK • PLATFORM • SIDECAR • UNKNOWN
schemas	No	Array of strings	Foreign key ID of a microservice access schema. The array length supports a maximum of 100 schemas.
status	No	String	Microservice status. Range: <ul style="list-style-type: none"> • UP: The microservice is online. • DOWN: The microservice is offline. Default Value: UP
timestamp	No	String	Microservice registration time.
modTimestamp	No	String	Latest modification time (UTC).
framework	No	Framework object	Development framework.
paths	No	Array of ServicePath objects	Service path.

Table 7-30 Framework

Parameter	Mandatory	Type	Description
name	No	String	Microservice development framework. Default value: UNKNOWN .

Parameter	Mandatory	Type	Description
version	No	String	Version of the microservice development framework.

Table 7-31 ServicePath

Parameter	Mandatory	Type	Description
Path	No	String	Route address.
Property	No	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.

Table 7-32 Rule

Parameter	Mandatory	Type	Description
ruleId	No	String	Customized rule ID.
ruleType	No	String	Rule type. Range: <ul style="list-style-type: none"> • WHITE: whitelist. • BLACK: blacklist.
attribute	No	String	If the value starts with tag_XXX , the attributes are filtered by Tag . Otherwise, the attributes are filtered by serviceld , Appld , ServiceName , Version , Description , Level , or Status .
pattern	No	String	Matching rule. The value is a regular expression containing 1 to 64 characters.
description	No	String	Rule description.
timestamp	No	String	Time when a rule is created. This parameter is used only when you query rules.
modTimestamp	No	String	Update time.

Table 7-33 MicroServiceInstance

Parameter	Mandatory	Type	Description
instanceId	No	String	Instance ID, which must be unique. The instance ID is generated by the service center.
serviceId	No	String	Microservice ID, which must be unique. During instance creation, use the service ID in the URL instead of the service ID here.
version	No	String	Microservice version.
hostName	Yes	String	Host information.
endpoints	Yes	Array of strings	Access address information.
status	No	String	Instance status. Range: <ul style="list-style-type: none"> ● UP: The instance is healthy. ● DOWN: The instance is unhealthy. ● STARTING: The instance is starting. ● OUTOFSERVICE: The instance is not providing services. Default Value: UP
properties	No	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.
healthCheck	No	HealthCheck object	Health check information.
dataCenterInfo	No	DataCenterInfo object	Data center information.
timestamp	No	String	Time when an instance is created, which is automatically generated.
modTimestamp	No	String	Update time.

Table 7-34 HealthCheck

Parameter	Mandatory	Type	Description
mode	Yes	String	Heartbeat mode. Value: push or pull.
port	No	Integer	Port.
interval	Yes	Integer	Heartbeat interval. Unit: s. If the value is less than 5s, the registration is performed at an interval of 5s.
times	Yes	Integer	Maximum retries.

Table 7-35 DataCenterInfo

Parameter	Mandatory	Type	Description
name	Yes	String	Region name.
region	Yes	String	Region.
availableZone	Yes	String	AZ.

Response

Status code: 200

Table 7-36 Response body parameter

Parameter	Type	Description
serviceId	String	Microservice ID, which must be unique.

Status code: 400

Table 7-37 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-38 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Create static information about a microservice: microservice name is **test**, microservice version is **1.0.0**, rule type is whitelist, host information of the instance is **instanceTest**, and access address is **rest:127.0.0.1:8080**.

POST https://{endpoint}/v4/{project_id}/registry/microservices

```
{
  "service": {
    "appId": "default",
    "serviceName": "test",
    "version": "1.0.0",
    "description": "this is a test"
  },
  "rules": [{
    "ruleType": "WHITE",
    "attribute": "tag_123",
    "pattern": "aaa"
  }],
  "instances": [{
    "hostName": "instanceTest",
    "endpoints": ["rest:127.0.0.1:8080"]
  }],
  "tags": {
    "test_tag1": "test_tag1",
    "test_tag2": "test_tag2",
    "test_tag3": "test_tag3"
  }
}
```

Example Response

Status code: 200

Successfully created. **serviceld** indicates the ID generated for the microservice. Subsequent operations are operated based on the microservice ID.

```
{
  "serviceld" : "8aed80ea052ac04a64dfc79c24f2170224d074f5"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request

Status Code	Description
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.3.5 Deleting Static Information About Microservices in Batches

Function

This API is used to delete the definitions and related information about microservices in batches, and deregister all instances of the microservices.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

DELETE /v4/{project_id}/registry/microservices

Table 7-39 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Table 7-40 Query parameter

Parameter	Mandatory	Type	Description
force	No	Boolean	<p>Whether to forcibly delete static information about microservices.</p> <p>Range:</p> <ul style="list-style-type: none"> • true: Forcibly delete such information. • false: Do not forcibly delete such information. <p>If you choose forcible deletion, all service instances are automatically deregistered and related service dependencies are deleted. If this parameter is not transferred, the service cannot be deleted when it has an instance.</p> <p>Default Value: false</p>

Request

Table 7-41 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Table 7-42 Request body parameter

Parameter	Mandatory	Type	Description
serviceIds	Yes	Array of strings	Service ID list. For details about how to obtain the service ID list, see Querying Information About All Microservices .

Response

Status code: 200

Table 7-43 Response body parameter

Parameter	Type	Description
services	Array of DelServicesRsplnfo objects	List of services to be deleted.

Table 7-44 DelServicesRsplnfo

Parameter	Type	Description
serviceId	String	Microservice ID.

Status code: 400

Table 7-45 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-46 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.

Parameter	Type	Description
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Delete the static information about the microservices whose IDs are **id1** and **id2**.

```
DELETE https://{endpoint}/v4/{project_id}/registry/microservices
```

```
{
  "serviceIds" : [ "id1", "id2" ]
}
```

Example Response

Status code: 200

Successfully deleted.

```
{
  "services" : [ {
    "serviceId" : "id1"
  },
  {
    "serviceId" : "id2"
  }
 ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.3.6 Modifying Extended Attributes of a Microservice

Function

This API is used to modify static information about a microservice. To update some fields in the static information, input all static information (including the fields that do not need to be updated) in JSON format.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

PUT /v4/{project_id}/registry/microservices/{service_id}/properties

Table 7-47 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^.*\$</code> . See Querying Information About All Microservices .

Request

Table 7-48 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Table 7-49 Request body parameter

Parameter	Mandatory	Type	Description
properties	Yes	Object	<p>Extended attribute. You can customize a key and value. The value must be at least 1 byte long.</p>

Response

Status code: 400

Table 7-50 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-51 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Modify extended information about a microservice with specified **service_id**.

```
PUT https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/properties
{
  "properties": {
    "a": "test"
  }
}
```

Example Response

None

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.3.7 Querying the Unique Service or Schema ID of a Microservice

Function

This API is used to query the unique service or schema ID of a microservice based on filter criteria.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/existence

Table 7-52 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Table 7-53 Query parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Request type. Range: <ul style="list-style-type: none"> • microservice • schema NOTE <ul style="list-style-type: none"> • If type is set to microservice, env, appld, serviceName, and version are mandatory. • If type is set to schema, serviceld and schemald are mandatory.
env	No	String	Microservice environment. Range: <ul style="list-style-type: none"> • development • testing • acceptance • production
appld	Yes	String	Application ID, which needs to be transferred when the resource type is microservice . The value contains 1 to 160 characters. Regular expression: $^{\wedge}[a-zA-Z0-9]^{\wedge}[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]^{\wedge}$

Parameter	Mandatory	Type	Description
serviceName	Yes	String	Microservice name, which needs to be transferred when the resource type is microservice . The value contains 1 to 128 characters. Regular expression: <code>^[a-zA-Z0-9]\$ ^[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]\$</code>
version	Yes	String	Microservice version, which needs to be transferred when the resource type is microservice . The value contains 1 to 64 characters. Regular expression: <code>^[0-9]\$ ^[0-9]+(\.[0-9]+)\$</code>
serviceId	Yes	String	Microservice ID, which needs to be transferred when the resource type is schema . The value contains 1 to 64 characters. Regular expression: <code>^.*\$</code>
schemald	Yes	String	Schema ID, which needs to be transferred when the resource type is schema . The value contains 1 to 160 characters. Regular expression: <code>^[a-zA-Z0-9]{1,160}\$ ^[a-zA-Z0-9][a-zA-Z0-9_-.]{0,158}[a-zA-Z0-9]\$</code> .

Request

Table 7-54 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 200

Table 7-55 Response header parameter

Parameter	Type	Description
X-Schema-Summary	String	Summary of a microservice schema.

Table 7-56 Response body parameters

Parameter	Type	Description
serviceId	String	When a service is queried, a service ID is returned.
schemaId	String	When a schema is queried, a schema ID is returned.

Status code: 400

Table 7-57 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-58 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query **serviceld** based on **microservice** as **type**, **default** as **appld**, **service** as **serviceName**, and **1.0.0** as **version**.

```
GET https://{endpoint}/v4/{project_id}/registry/existence?
type=microservice&appld=default&serviceName=service&version=1.0.0
```

Example Response

Status code: 200

Successfully queried. **serviceld** or **schemald** is returned.

```
{
  "serviceld" : "8aed80ea052ac04a64dfc79c24f2170224d074f5"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.4 Schema

7.4.1 Querying a Microservice Schema

Function

Query a microservice schema based on **service_id** and **schema_id**.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/microservices/{service_id}/schemas/{schema_id}

Table 7-59 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^[.*\$]</code> . For details about how to obtain the service ID list, see Querying Information About All Microservices .
schema_id	Yes	String	Schema ID. For details about how to obtain the schema ID list, see Querying All Schema Information About a Microservice .

Request

Table 7-60 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 200

Table 7-61 Response header parameter

Parameter	Type	Description
X-Schema-Summary	String	Schema summary.

Table 7-62 Response body parameter

Parameter	Type	Description
schema	String	Schema content.

Status code: 400

Table 7-63 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.

Parameter	Type	Description
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-64 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query details about a schema with specified **service_id** and **schema_id**.

```
GET https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/schemas/{schema_id}
```

Example Response

Status code: 200

Successfully queried. If the summary exists, the value of **X-Schema-Summary** in the header is the summary of the schema.

```
{
  "schema" : "---\nswagger: \"2.0\"\ninfo:\n  version: \"1.0.0\"\n  title: \"swagger definition for\ncom.service.provider.controller.ProviderImpl\"\n  x-java-interface:\n    \"cse.gen.springmvc.provider.provider.ProviderImplIntf\"\n  basePath: \"/provider\"\n  consumes:\n    \"application/json\"\n  produces:\n    \"application/json\"\n  paths:\n    /helloworld:\n      get:\n        operationId:\n          \"helloworld\"\n        produces:\n          - \"application/json\"\n        parameters:\n          - name: \"name\"\n            in: \"query\"\n            required: true\n            type: \"string\"\n        responses:\n          200:\n            description:\n              \"response of 200\"\n            schema:\n              type: \"string\"\n}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.4.2 Modifying a Microservice Schema

Function

Modify a microservice schema based on `schema_id`.

Restrictions

In versions earlier than 2.3.33, schema overwriting is not supported in production environment. In version 2.3.33 and later, the environment variable `SCHEMA_EDITABLE` can be used to support schema overwriting.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

PUT `/v4/{project_id}/registry/microservices/{service_id}/schemas/{schema_id}`

Table 7-65 Path parameters

Parameter	Mandatory	Type	Description
<code>project_id</code>	Yes	String	Fixed value: default.
<code>service_id</code>	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^.*\$</code> . For details about how to obtain the service ID list, see Querying Information About All Microservices .

Parameter	Mandatory	Type	Description
schema_id	Yes	String	Microservice schema ID, which must be unique. The value contains 1 to 160 characters. Regular expression: <code>^[a-zA-Z0-9]{1,160}\$ ^[a-zA-Z0-9][a-zA-Z0-9_-.]{0,158}[a-zA-Z0-9]\$</code> . For details about how to obtain the schema ID list, see Querying All Schema Information About a Microservice .

Request

Table 7-66 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required. The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine .

Table 7-67 Request body parameters

Parameter	Mandatory	Type	Description
schema	Yes	String	Schema content.
summary	No	String	Schema summary.

Response

Status code: 400

Table 7-68 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-69 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Modify the content and summary of a schema with specified **service_id** and **schema_id**.

```
PUT https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/schemas/{schema_id}
{
  "schema": "---\nswagger: \"2.0\"\ninfo:\n  version: \"1.0.0\"\n  title: \"swagger definition for\ncom.service.provider.controller.ProviderImpl\"\n  x-java-interface:\n\"cse.gen.springmvc.provider.provider.ProviderImplIntf\"\n  basePath: \"/provider\"\n  consumes:\n- \"application/json\"\n  produces:\n- \"application/json\"\n  paths:\n    /helloworld:\n      get:\n        operationId:\n\"helloworld\"\n        produces:\n- \"application/json\"\n        parameters:\n- name: \"name\"\n  in: \"query\"\n        required: true\n        type: \"string\"\n      responses:\n        200:\n          description:\n\"response of 200\"\n          schema:\n            type: \"string\"\n        \"summary\": \"test\"
}
```

Example Response

None

Status Code

Status Code	Description
200	OK

Status Code	Description
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.4.3 Querying All Schema Information About a Microservice

Function

Query all schema information (including **schemald** and **summary**) about a microservice.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/microservices/{service_id}/schemas

Table 7-70 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^[.*\$]</code> . For details about how to obtain the service ID list, see Querying Information About All Microservices .

Table 7-71 Query parameter

Parameter	Mandatory	Type	Description
withSchema	No	Integer	Whether to display schema . Range: <ul style="list-style-type: none"> 0: Only schema_id and summary are displayed. 1: schema_id, summary, and schema are displayed. Default Value: 0

Request

Table 7-72 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required. The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine .

Response

Status code: 200

Table 7-73 Response body parameter

Parameter	Type	Description
schemas	Array of Schema objects	Schema list.

Table 7-74 Schema

Parameter	Type	Description
schemald	String	Schema ID.
schema	String	Schema content.
summary	String	Summary of a microservice schema.

Status code: 400

Table 7-75 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-76 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query the schema of a microservice with specified **service_id**, including **schema_id**, **summary**, and **schema**.

```
GET /v4/{project_id}/registry/microservices/{service_id}/schemas?withSchema=1
```

Example Response

Status code: 200

Successfully queried.

```
{
  "schemas": [
    {
      "schemald": "xxxxmvc",
      "schema": "---\nswagger: \"2.0\"\ninfo:\n  version: \"1.0.0\"\n  title: \"swagger definition for com.service.provider.controller.ProviderImpl\"\n  x-java-interface: \"cse.gen.springmvc.provider.provider.ProviderImplIntf\"\nbasePath: \"/provider\"\nconsumes:\n  \"application/json\"\nproduces:\n  - \"application/json\"\npaths:\n  /helloworld:\n    get:\n      operationId: \"helloworld\"\n      produces:\n        - \"application/json\"\n      parameters:\n        - name: \"name\"\n          in: \"query\"\n            required: true\n            type: \"string\"\n      responses:\n        200:\n          description: \"response of 200\"\n          schema:\n            type: \"string\"\nxxxxx",
      "summary": "abcda7b4072ef2d7a5fc9aefccf03e5548029ae31c6cd5fc29da7685d6d9e14adea3"
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5 Microservice Instance

7.5.1 Registering a Microservice Instance

Function

This API is used to register a microservice instance after a microservice is created.

Information about the instance must be provided during registration.

instanceid can be customized. If it is customized, the new instance ID will overwrite the original one. If it is not customized, the system automatically generates an ID. If the endpoints are duplicate, the original ID is used.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

POST /v4/{project_id}/registry/microservices/{service_id}/instances

Table 7-77 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^.*\$. For details about how to obtain the service ID list, see Querying Information About All Microservices .

Request

Table 7-78 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required. The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine .

Table 7-79 Request body parameter

Parameter	Mandatory	Type	Description
instance	Yes	MicroServiceInstance object	Microservice instance information.

Table 7-80 MicroServiceInstance

Parameter	Mandatory	Type	Description
instanceId	No	String	Instance ID, which must be unique. The instance ID is generated by the service center.
serviceId	No	String	Microservice ID, which must be unique. During instance creation, use the microservice ID in the URL instead of the microservice ID specified here.
version	No	String	Microservice version.
hostName	Yes	String	Host information.
endpoints	No	Array of strings	Access address information.
status	No	String	Instance status. Range: <ul style="list-style-type: none"> • UP: The instance is healthy. • DOWN: The instance is unhealthy. • STARTING: The instance is starting. • OUTOFSERVICE: The instance is not providing services. Default Value: UP
properties	No	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.
healthCheck	No	HealthCheck object	Health check information.

Parameter	Mandatory	Type	Description
dataCenterInfo	No	DataCenterInfo object	Data center information.
timestamp	No	String	Time when an instance is created, which is automatically generated.
modTimestamp	No	String	Update time.

Table 7-81 HealthCheck

Parameter	Mandatory	Type	Description
mode	Yes	String	Heartbeat mode. Value: push or pull.
port	No	Integer	Port.
interval	Yes	Integer	Heartbeat interval. Unit: s. If the value is less than 5s, the registration is performed at an interval of 5s.
times	Yes	Integer	Maximum retries.

Table 7-82 DataCenterInfo

Parameter	Mandatory	Type	Description
name	Yes	String	Region name.
region	Yes	String	Region.
availableZone	Yes	String	AZ.

Response

Status code: 200

Table 7-83 Response body parameter

Parameter	Type	Description
instanceId	String	Instance ID.

Status code: 400

Table 7-84 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-85 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Register a microservice instance: host information is **localhost**, heartbeat mode is **push**, heartbeat interval is **30s**, region is **r1**, name is **dc**, and AZ is **az1**.

POST https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/instances

```
{
  "instance": {
    "endpoints": [ "grpc://127.0.1.312:9980", "rest://127.0.0.111:8081" ],
    "hostName": "localhost",
    "status": "UP",
    "properties": {
      "_TAGS": "A, B",
      "attr1": "a",
      "nodeIP": "127.0.0.1"
    },
    "dataCenterInfo": {
      "name": "dc",
      "region": "r1",
      "availableZone": "az1"
    },
    "healthCheck": {
      "mode": "push",
      "interval": 30,
      "times": 3
    }
  }
}
```

Example Response

Status code: 200

Successfully registered.

```
{
  "instanceId" : "8540bb8b693c4ad1a7fb6a756c415244"
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.2 Querying a Microservice Instance Based on service_id

Function

This API is used to query all instances of a microservice based on **service_id** after the instances are registered.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/microservices/{service_id}/instances

Table 7-86 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Parameter	Mandatory	Type	Description
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^.*\$. For details about how to obtain the service ID list, see Querying Information About All Microservices .

Table 7-87 Query parameter

Parameter	Mandatory	Type	Description
tags	No	String	Tag. When there are multiple tags, separate them using commas (.). Regular expression: ^[a-zA-Z][a-zA-Z0-9_-.]{0,63}\$

Request

Table 7-88 Request header parameters

Parameter	Mandatory	Type	Description
X-ConsumerId	No	String	Microservice consumer ID, which must be unique.
Authorization	No	String	This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required. The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine .

Response

Status code: 200

Table 7-89 Response body parameter

Parameter	Type	Description
instances	Array of MicroServiceInstance objects	Instance list.

Table 7-90 MicroServiceInstance

Parameter	Type	Description
instanceId	String	Instance ID, which must be unique. The instance ID is generated by the service center.
serviceId	String	Microservice ID, which must be unique. During instance creation, use the microservice ID in the URL instead of the microservice ID specified here.
version	String	Microservice version.
hostName	String	Host information.
endpoints	Array of strings	Access address information.
status	String	Instance status. Range: <ul style="list-style-type: none"> ● UP: The instance is healthy. ● DOWN: The instance is unhealthy. ● STARTING: The instance is starting. ● OUTFOFSERVICE: The instance is not providing services.
properties	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.
healthCheck	HealthCheck object	Health check information.
dataCenterInfo	DataCenterInfo object	Data center information.
timestamp	String	Time when an instance is created, which is automatically generated.

Parameter	Type	Description
modTimestamp	String	Update time.

Table 7-91 HealthCheck

Parameter	Type	Description
mode	String	Heartbeat mode. Value: push or pull.
port	Integer	Port.
interval	Integer	Heartbeat interval. Unit: s. If the value is less than 5s, the registration is performed at an interval of 5s.
times	Integer	Maximum retries.

Table 7-92 DataCenterInfo

Parameter	Type	Description
name	String	Region name.
region	String	Region.
availableZone	String	AZ.

Status code: 400

Table 7-93 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-94 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.

Parameter	Type	Description
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query instance information about a microservice with specified **service_id**.

```
GET https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/instances
```

Example Response

Status code: 200

Successfully queried.

```
{
  "instances": [
    {
      "instanceId": "8540bb8b693c4ad1a7fb6a756c415244",
      "serviceId": "8aed80ea052ac04a64dfc79c24f2170224d074f5",
      "endpoints": [
        "rest:127.0.0.1:8080"
      ],
      "hostName": "hostNameTest",
      "status": "UP",
      "properties": {
        "engineID": "30c263e5-2eac-4da1-9c72-5abb9ac94550",
        "engineName": "cse-fkln1-HA"
      },
      "healthCheck": {
        "mode": "push",
        "interval": 30,
        "times": 3
      },
      "timestamp": "1650545035",
      "modTimestamp": "1650545035",
      "version": "1.0.0"
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.3 Deregistering a Microservice Instance

Function

This API is used to deregister an instance based on **instance_id**.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

DELETE /v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}

Table 7-95 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice instance ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^[A-Za-z0-9_-]*\$</code> . For details about how to obtain the value, see Querying a Microservice Instance Based on service_id .
instance_id	Yes	String	Microservice instance ID, which must be unique. The value contains 1 to 64 characters. Regular expression: <code>^[A-Za-z0-9_-]*\$</code> . For details about how to obtain the value, see Querying a Microservice Instance Based on service_id .

Request

Table 7-96 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} </p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 400

Table 7-97 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-98 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Deregister an instance with specified **instance_id**.

```
DELETE https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}
```

Example Response

None

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.4 Querying Details About a Microservice Instance

Function

This API is used to query details about an instance based on **service_id** and **instance_id** after the instance is registered.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

```
GET /v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}
```

Table 7-99 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Parameter	Mandatory	Type	Description
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^.*\$. For details about how to obtain the service ID list, see Querying Information About All Microservices .
instance_id	Yes	String	Microservice instance ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^[A-Za-z0-9_-]*\$. For details about how to obtain the value, see Querying a Microservice Instance Based on service_id .

Table 7-100 Query parameter

Parameter	Mandatory	Type	Description
tags	No	String	Tag. When there are multiple tags, separate them using commas (.). Regular expression: ^[a-zA-Z][a-zA-Z0-9_-]{0,63}\$

Request

Table 7-101 Request header parameters

Parameter	Mandatory	Type	Description
X-consumerId	No	String	Microservice consumer ID, which must be unique.

Parameter	Type	Description
status	String	Instance status. Range: <ul style="list-style-type: none"> UP: The instance is healthy. DOWN: The instance is unhealthy. STARTING: The instance is starting. OUTOFSERVICE: The instance is not providing services.
properties	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.
healthCheck	HealthCheck object	Health check information.
dataCenterInfo	DataCenterInfo object	Data center information.
timestamp	String	Time when an instance is created, which is automatically generated.
modTimestamp	String	Update time.

Table 7-104 HealthCheck

Parameter	Type	Description
mode	String	Heartbeat mode. Value: push or pull.
port	Integer	Port.
interval	Integer	Heartbeat interval. Unit: s. If the value is less than 5s, the registration is performed at an interval of 5s.
times	Integer	Maximum retries.

Table 7-105 DataCenterInfo

Parameter	Type	Description
name	String	Region name.
region	String	Region.
availableZone	String	AZ.

Status code: 400

Table 7-106 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-107 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query details about an instance with specified **service_id** and **instance_id**.

GET https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}

Example Response

Status code: 200

Successfully queried.

```
{
  "instance": {
    "instanceId": "4994929d6b8044b29462d4f7daa33c4f",
    "serviceId": "8aed80ea052ac04a64dfc79c24f2170224d074f5",
    "endpoints": [
      "rest:127.0.0.1:8080"
    ],
    "hostName": "hostNameTest",
    "status": "UP",
    "properties": {
      "engineID": "30c263e5-2eac-4da1-9c72-5abb9ac94550",
      "engineName": "cse-fkln1-HA"
    },
    "healthCheck": {
      "mode": "push",
      "interval": 30,
      "times": 3
    },
    "timestamp": "1650545270",
    "modTimestamp": "1650545270",
    "version": "1.0.0"
  }
}
```

```
}  
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.5 Modifying the Extended Information About a Microservice Instance

Function

This API is used to add or update the extended information about a microservice instance based on **instance_id** after the instance is registered.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

PUT /v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}/properties

Table 7-108 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Parameter	Mandatory	Type	Description
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^.*\$. For details about how to obtain the service ID list, see Querying Information About All Microservices .
instance_id	Yes	String	Microservice instance ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^[A-Za-z0-9_-]*\$. For details about how to obtain the value, see Querying a Microservice Instance Based on service_id .

Request

Table 7-109 Request header parameters

Parameter	Mandatory	Type	Description
Authorization	No	String	This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required. The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine .
X-consumerId	No	String	Microservice consumer ID, which must be unique.

Table 7-110 Request body parameter

Parameter	Mandatory	Type	Description
properties	No	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.

Response

Status code: 400

Table 7-111 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-112 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Update the extended information of an instance with specified **instance_id** to **"attr1": "b"**.

```
PUT https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}/properties
{
  "properties": {
    "attr1": "b"
  }
}
```

Example Response

None

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.6 Modifying Status of a Microservice Instance

Function

This API is used to update the status of a microservice instance based on **instance_id** after the instance is registered.

Restrictions

The TESTING state is supported only in version 2.3.X.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

PUT /v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}/status

Table 7-113 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Parameter	Mandatory	Type	Description
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^.*\$. For details about how to obtain the service ID list, see Querying Information About All Microservices .
instance_id	Yes	String	Microservice instance ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^[A-Za-z0-9_-]*\$. For details about how to obtain the value, see Querying a Microservice Instance Based on service_id .

Table 7-114 Query parameter

Parameter	Mandatory	Type	Description
value	Yes	String	Instance status. Range: <ul style="list-style-type: none"> ● UP: online. ● OUTOFSERVICE: off-hook. ● STARTING: starting. ● DOWN: offline. ● TESTING: dialing test.

Request

Table 7-115 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} </p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 400

Table 7-116 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-117 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Update the status of an instance with specified **instance_id** to **UP**.

```
PUT https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}/status?value=UP
```

Example Response

None

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.7 Sending Heartbeat Information

Function

This API is used to send heartbeat information. Service providers need to send heartbeat information to the service center, so that the center can check whether service instances are normal.

Restrictions

None

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

```
PUT /v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}/heartbeat
```

Table 7-118 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
service_id	Yes	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^.*\$. For details about how to obtain the service ID list, see Querying Information About All Microservices .
instance_id	Yes	String	Microservice instance ID, which must be unique. The value contains 1 to 64 characters. Regular expression: ^[A-Za-z0-9_.-]*\$. For details about how to obtain the value, see Querying a Microservice Instance Based on service_id .

Request

Table 7-119 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format:</p> <pre>Authorization:Bearer {Token}</pre> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 400

Table 7-120 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-121 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Send heartbeat information to check whether an instance with specified **instance_id** is healthy.

PUT `https://{endpoint}/v4/{project_id}/registry/microservices/{service_id}/instances/{instance_id}/heartbeat`

Example Response

None

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.8 Querying a Microservice Instance by Filter Criteria

Function

This API is used to query a microservice instance based on microservice field filter criteria after the instance is registered.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/instances

Table 7-122 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Table 7-123 Query parameters

Parameter	Mandatory	Type	Description
appld	Yes	String	Application ID, which must be unique. The value contains 1 to 160 characters. Regular expression: $^{\wedge}[a-zA-Z0-9]^{\wedge}[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]^{\wedge}$
serviceName	Yes	String	Microservice name The value contains 1 to 128 characters. Regular expression: $^{\wedge}[a-zA-Z0-9]^{\wedge}[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]^{\wedge}$
tags	No	String	Tag. When there are multiple tags, separate them using commas (.). Regular expression: $^{\wedge}[a-zA-Z][a-zA-Z0-9_-.]{0,63}^{\wedge}$

Parameter	Mandatory	Type	Description
env	No	String	Environment information about the instance.

Request

Table 7-124 Request header parameters

Parameter	Mandatory	Type	Description
X-ConsumerId	No	String	Microservice consumer ID, which must be unique.
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 200

Table 7-125 Response body parameter

Parameter	Type	Description
instances	Array of MicroServiceInstance objects	Instance list.

Table 7-126 MicroServiceInstance

Parameter	Type	Description
instanceId	String	Instance ID, which must be unique. The instance ID is generated by the service center.
serviceId	String	Microservice ID, which must be unique. During instance creation, use the microservice ID in the URL instead of the microservice ID specified here.
version	String	Microservice version.
hostName	String	Host information.
endpoints	Array of strings	Access address information.
status	String	Instance status. Range: <ul style="list-style-type: none"> • UP: The instance is healthy. • DOWN: The instance is unhealthy. • STARTING: The instance is starting. • OUTOFSERVICE: The instance is not providing services.
properties	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.
healthCheck	HealthCheck object	Health check information.
dataCenterInfo	DataCenterInfo object	Data center information.
timestamp	String	Time when an instance is created, which is automatically generated.
modTimestamp	String	Update time.

Table 7-127 HealthCheck

Parameter	Type	Description
mode	String	Heartbeat mode. Value: push or pull.
port	Integer	Port.
interval	Integer	Heartbeat interval. Unit: s. If the value is less than 5s, the registration is performed at an interval of 5s.

Parameter	Type	Description
times	Integer	Maximum retries.

Table 7-128 DataCenterInfo

Parameter	Type	Description
name	String	Region name.
region	String	Region.
availableZone	String	AZ.

Status code: 400

Table 7-129 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-130 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query the instance of the microservice whose application ID is **default** and microservice name is **test**.

```
GET https://{endpoint}/v4/{project_id}/registry/instances?appld=default&serviceName=test
```

Example Response

Status code: 200

Successfully queried.

```
{
  "instances": [
    {
      "instanceId": "4098483294bb42d8b3c27eee0c166c1c",
      "serviceId": "8aed80ea052ac04a64dfc79c24f2170224d074f5",
      "endpoints": [
        "rest:127.0.0.1:8080"
      ],
      "hostName": "hostNameTest",
      "status": "UP",
      "properties": {
        "engineID": "30c263e5-2eac-4da1-9c72-5abb9ac94550",
        "engineName": "cse-fkln1-HA"
      },
      "healthCheck": {
        "mode": "push",
        "interval": 30,
        "times": 3
      },
      "timestamp": "1650545431",
      "modTimestamp": "1650545442",
      "version": "1.0.0"
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.5.9 Querying Microservice Instances in Batches

Function

This API is used to query microservice instances in batches based on microservice field filter criteria after the instances are registered.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).

- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

POST /v4/{project_id}/registry/instances/action

Table 7-131 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Table 7-132 Query parameter

Parameter	Mandatory	Type	Description
type	Yes	String	Operation type. Currently, only query is supported.

Request

Table 7-133 Request header parameters

Parameter	Mandatory	Type	Description
X-consumerId	No	String	Microservice consumer ID, which must be unique.
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Table 7-134 Request body parameters

Parameter	Mandatory	Type	Description
services	At least one of the two parameters must be specified.	Array of FindService objects	Structure for querying service information.
instances		Array of FindInstance objects	Structure for querying instance information.

Table 7-135 FindService

Parameter	Mandatory	Type	Description
service	Yes	DependencyKey object	Dependency item.
rev	No	String	Version number of the client cache, which determines the difference between the local cache and the microservice in the service center. <ul style="list-style-type: none"> • Input 0 for the first time. • If the input rev is the same as that of the current microservice, notModified is returned. If they are different, updated is returned. • If rev is required in the next request, use the value of rev in updated in the response body.

Table 7-136 DependencyKey

Parameter	Mandatory	Type	Description
environment	Yes	String	Environment information. <p>Range:</p> <ul style="list-style-type: none"> • development • testing • acceptance • production

Parameter	Mandatory	Type	Description
appld	Yes	String	Application ID, which must be unique.
serviceName	Yes	String	Microservice name

Table 7-137 FindInstance

Parameter	Mandatory	Type	Description
instance	No	HeartbeatSet Element object	Request struct of a microservice instance.
rev	No	String	Version number of the client cache, which determines the difference between the local cache and the microservice instance in the service center. <ul style="list-style-type: none"> • Input 0 for the first time. • If the input rev is the same as that of the current microservice instance, notModified is returned. If they are different, updated is returned. • If rev is required in the next request, use the value of rev in updated in the response body.

Table 7-138 HeartbeatSetElement

Parameter	Mandatory	Type	Description
serviceId	No	String	Microservice ID.
instanceId	No	String	Microservice instance ID.

Response

Status code: 200

Table 7-139 Response body parameters

Parameter	Type	Description
services	BatchFindResult object	Batch query result structure.
instances	BatchFindResult object	Batch query result structure.

Table 7-140 BatchFindResult

Parameter	Type	Description
failed	Array of FindFailedResult objects	Query failure result structure.
notModified	Array of integers	Index set corresponding to the request array.
updated	Array of FindResult objects	Query result structure list.

Table 7-141 FindFailedResult

Parameter	Type	Description
indexes	Array of integers	Index set corresponding to the request array.
error	Error object	Error struct.

Table 7-142 Error

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Table 7-143 FindResult

Parameter	Type	Description
index	Integer	Index corresponding to the request array.

Parameter	Type	Description
rev	String	Versions returned by the server. If the versions are the same as the versions cached on the client, the instances parameter is left empty.
instances	Array of MicroServiceInstance objects	Instance list.

Table 7-144 MicroServiceInstance

Parameter	Type	Description
instanceId	String	Instance ID, which must be unique. The instance ID is generated by the service center.
serviceId	String	Microservice ID, which must be unique. During instance creation, use the microservice ID in the URL instead of the microservice ID specified here.
version	String	Microservice version.
hostName	String	Host information.
endpoints	Array of strings	Access address information.
status	String	Instance status. Range: <ul style="list-style-type: none"> ● UP: The instance is healthy. ● DOWN: The instance is unhealthy. ● STARTING: The instance is starting. ● OUTOFSERVICE: The instance is not providing services.
properties	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.
healthCheck	HealthCheck object	Health check information.
dataCenterInfo	DataCenterInfo object	Data center information.
timestamp	String	Time when an instance is created, which is automatically generated.

Parameter	Type	Description
modTimestamp	String	Update time.

Table 7-145 HealthCheck

Parameter	Type	Description
mode	String	Heartbeat mode. Value: push or pull.
port	Integer	Port.
interval	Integer	Heartbeat interval. Unit: s. If the value is less than 5s, the registration is performed at an interval of 5s.
times	Integer	Maximum retries.

Table 7-146 DataCenterInfo

Parameter	Type	Description
name	String	Region name.
region	String	Region.
availableZone	String	AZ.

Status code: 400

Table 7-147 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-148 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.

Parameter	Type	Description
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query all instances of the microservice whose application ID is **default** and microservice name is **test**.

```
POST https://{endpoint}/v4/{project_id}/registry/instances/action?type=query
{
  "services": [
    {
      "service": {
        "environment": "",
        "appld": "default",
        "serviceName": "test"
      },
      "rev": "0"
    }
  ]
}
```

Example Response

Status code: 200

Successfully queried.

```
{
  "services": {
    "updated": [
      {
        "index": 0,
        "rev": "0feb784798bca7b2fb4de8351578c4437b516c4b",
        "instances": [
          {
            "instanceId": "79cdaf47cacf43a5b2b4185527da2255",
            "serviceId": "8aed80ea052ac04a64dfc79c24f2170224d074f5",
            "endpoints": [
              "rest:127.0.0.1:8080"
            ],
            "hostName": "hostNameTest",
            "status": "UP",
            "properties": {
              "engineID": "30c263e5-2eac-4da1-9c72-5abb9ac94550",
              "engineName": "cse-fkln1-HA"
            },
            "healthCheck": {
              "mode": "push",
              "interval": 30,
              "times": 3
            },
            "timestamp": "1650546183",
            "modTimestamp": "1650546183",
            "version": "1.0.0"
          }
        ]
      }
    ]
  }
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.6 Dependency

7.6.1 Querying All Providers of a Microservice

Function

This API is used to query all providers of a microservice based on **consumer_id**. For example, if service A depends on services B and C, you can query the information about services B and C based on service A ID.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v4/{project_id}/registry/microservices/{consumer_id}/providers

Table 7-149 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
consumer_id	Yes	String	Consumer service ID.

Table 7-150 Query parameters

Parameter	Mandatory	Type	Description
noSelf	No	Integer	Whether to return the self-dependency relationship. Range: <ul style="list-style-type: none"> 0: Do not return the self-dependency relationship. 1: Return the self-dependency relationship.
sameDomain	No	Integer	Whether to return the shared-service relationship. Range: <ul style="list-style-type: none"> 0: Do not return the shared-service relationship. 1: Return the shared-service relationship.

Request

Table 7-151 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required. The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine .

Response

Status code: 200

Table 7-152 Response body parameter

Parameter	Type	Description
providers	MicroService object	Microservice information.

Table 7-153 Microservice

Parameter	Type	Description
serviceId	String	Microservice ID, which must be unique. The value contains 1 to 64 characters. Regular expression: $^{\wedge}.*\$$
environment	String	Microservice environment. Value: development, testing, acceptance, or production. You can use the API for uploading schemas in batches to add or modify an existing schema only when the value is development , testing , or acceptance . Default value: development.
appId	String	Application ID, which must be unique. The value contains 1 to 160 characters. Regular expression: $^{\wedge}[a-zA-Z0-9]\$ ^{\wedge}[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]\$$
serviceName	String	Microservice name, which must be unique in an application. The value contains 1 to 128 characters. Regular expression: $^{\wedge}[a-zA-Z0-9]\$ ^{\wedge}[a-zA-Z0-9][a-zA-Z0-9_-.][a-zA-Z0-9]\$$
version	String	Microservice version. The value contains 1 to 64 characters. Regular expression: $^{\wedge}[0-9]\$ ^{\wedge}[0-9]+(\.[0-9]+)\$$
description	String	Microservice description. The value contains a maximum of 256 characters.
level	String	Microservice level. Range: <ul style="list-style-type: none"> ● FRONT ● MIDDLE ● BACK
registerBy	String	Microservice registration mode. Range: <ul style="list-style-type: none"> ● SDK ● PLATFORM ● SIDECAR ● UNKNOWN

Parameter	Type	Description
schemas	Array of strings	Microservice schema content. The value must be 1 to 160 bytes long. Only digits, letters, underscores (_), hyphens (-), and periods (.) are allowed. An array contains a maximum of 100 schemas.
status	String	Microservice status. Range: <ul style="list-style-type: none"> UP: The microservice is online. DOWN: The microservice is offline. Default Value: UP
timestamp	String	Microservice registration time.
modTimestamp	String	Latest modification time (UTC).
framework	Framework object	Development framework.
paths	Array of ServicePath objects	Service path.
properties	Object	Extended attribute. You can customize a key and value.

Table 7-154 Framework

Parameter	Type	Description
name	String	Microservice development framework. Default value: UNKNOWN.
version	String	Version of the microservice development framework.

Table 7-155 ServicePath

Parameter	Type	Description
Path	String	Route address.
Property	Object	Extended attribute. You can customize a key and value. The value must be at least 1 byte long.

Status code: 400

Table 7-156 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-157 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Query the providers of a consumer service with specified **consumer_id**.

```
GET https://{endpoint}/v4/{project_id}/registry/microservices/{consumer_id}/providers
```

Example Response

Status code: 200

Successfully queried. **serviceld** or **schemald** is returned.

```
{
  "providers": [
    {
      "serviceld": "8aed80ea052ac04a64dfc79c24f2170224d074f5",
      "appld": "default",
      "serviceName": "test",
      "version": "1.0.0",
      "description": "this is a test",
      "level": "BACK",
      "status": "UP",
      "properties": {
        "test": "test"
      },
      "timestamp": "1650543950",
      "modTimestamp": "1650544411"
    }
  ]
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.7 Configuration Management

7.7.1 Creating a Configuration

Function

This API is used to create a configuration.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:update	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	cse:namespace:write	-

URI

POST /v1/{project_id}/kie/kv

Table 7-158 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Request

Table 7-159 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token} </p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Table 7-160 Request body parameters

Parameter	Mandatory	Type	Description
key	Yes	String	Configuration key.
value	No	String	Configuration value.
labels	No	Map<String,String>	Configuration labels.
status	No	String	<p>Configuration status.</p> <p>Range:</p> <ul style="list-style-type: none"> enabled: The configuration is available. disabled: The configuration is unavailable.

Parameter	Mandatory	Type	Description
value_type	No	String	Type of the configuration value. Range: <ul style="list-style-type: none"> • text • yaml • json • properties • ini • xml

Response

Status code: 200

Table 7-161 Response body parameter

Parameter	Type	Description
kie	SingleKieInfo	Configuration information.

Table 7-162 SingleKieInfo

Parameter	Type	Description
id	String	Configuration ID.
key	String	Configuration key.
value	String	Configuration value.
value_type	String	Type of the configuration value. Range: <ul style="list-style-type: none"> • text • yaml • json • properties • ini • xml
status	String	Configuration status. Range: <ul style="list-style-type: none"> • enabled: The configuration is available. • disabled: The configuration is unavailable.

Parameter	Type	Description
create_time	String	Time when the configuration is created.
update_time	String	Time when the configuration is updated.
labels	Map<String,String>	Configuration labels.
create_version	Integer	Created version number of the configuration.
update_version	Integer	Updated version number of the configuration.

Status code: 400

Table 7-163 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Status code: 500

Table 7-164 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Example Request

Create a configuration whose label is **"key1": "value1"** and **"key2": "value2"**.

```
POST https://{endpoint}/v1/{project_id}/kie/kv
{
  "key": "String",
  "value": "String",
  "labels": {
    "key1": "value1",
    "key2": "value2",
  },
  "status": "String",
  "value_type": "String"
}
```

Example Response

Status code: 200

Successfully created. The configuration information is returned.

```
{
  "id": "8a9e6a5d-8d65-48fb-a40c-5150c8479da8",
  "key": "string",
  "labels": {
    "key1": "value1",
    "key2": "value2"
  },
  "value": "string",
  "value_type": "text",
  "status": "enabled",
  "create_time": 1623139038,
  "update_time": 1623139038,
  "create_revision": 13,
  "update_revision": 13,
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
409	Conflict
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.7.2 Modifying a Configuration

Function

This API is used to modify a configuration.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:update	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	cse:namespace:write	-

URI

PUT /v1/{project_id}/kie/kv/{kv_id}

Table 7-165 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
kv_id	Yes	String	ID of the configuration to be modified. See Querying the Configuration List .

Request

Table 7-166 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Table 7-167 Request body parameters

Parameter	Mandatory	Type	Description
value	Yes	String	Configuration value.
status	No	String	<p>Configuration status.</p> <p>Range:</p> <ul style="list-style-type: none"> enabled: The configuration is available. disabled: The configuration is unavailable.

Response

Status code: 200

Table 7-168 Response body parameter

Parameter	Type	Description
kie	SingleKieInfo	Configuration information.

Status code: 400

Table 7-169 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Status code: 500

Table 7-170 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Example Request

Modify the value of the configuration whose ID is **8a9e6a5d-8d65-48fb-a40c-5150c8479da8** to **this is a test** and set the configuration status to **enabled**.

```
PUT https://{endpoint}/v1/{project_id}/kie/kv/8a9e6a5d-8d65-48fb-a40c-5150c8479da8
```

```
{
  "value": "this is a test",
  "status": "enabled"
}
```

Example Response

Status code: 200

Successfully modified. The configuration information is returned.

```
{
  "id": "8a9e6a5d-8d65-48fb-a40c-5150c8479da8",
  "key": "string",
  "labels": {
    "key1": "value1",
    "key2": "value2"
  },
  "value": "this is a test",
  "value_type": "text",
  "status": "enabled",
  "create_time": 1623139038,
  "update_time": 1623139038,
  "create_revision": 13,
  "update_revision": 13,
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.7.3 Querying a Configuration

Function

This API is used to query a configuration in the configuration center.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, no identity policy-based permissions are required for calling this API.

URI

GET /v1/{project_id}/kie/kv/{kv_id}

Table 7-171 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
kv_id	Yes	String	ID of the configuration to be queried. For details about how to obtain the ID, see Querying the Configuration List .

Parameter	Type	Description
status	String	Configuration status. Range: <ul style="list-style-type: none"> enabled: The configuration is available. disabled: The configuration is unavailable.
create_time	String	Time when the configuration is created.
update_time	String	Time when the configuration is updated.
labels	Map<String,String>	Configuration labels.
create_version	Integer	Created version number of the configuration.
update_version	Integer	Updated version number of the configuration.

Status code: 400

Table 7-174 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Status code: 404

Table 7-175 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Status code: 500

Table 7-176 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Example Request

Query the configuration whose configuration ID is **8a9e6a5d-8d65-48fb-a40c-5150c847**.

GET https://{endpoint}/v1/{project_id}/kie/kv/8a9e6a5d-8d65-48fb-a40c-5150c8479da8

Example Response

Status code: 200.

Successfully queried.

```
{
  "id": "8a9e6a5d-8d65-48fb-a40c-5150c8479da8",
  "key": "string",
  "labels": {
    "key1": "value1",
    "key2": "value2"
  },
  "value": "string",
  "value_type": "text",
  "status": "enabled",
  "create_time": 1623139038,
  "update_time": 1623139038,
  "create_revision": 13,
  "update_revision": 13
}
```

Status Code

Status Code	Description
200	OK
400	Bad Request
404	Not Found
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.7.4 Querying the Configuration List

Function

This API is used to query the configuration list in the configuration center.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:get	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	-	-

URI

GET /v1/{project_id}/kie/kv

Table 7-177 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Parameter	Mandatory	Type	Description
revision	No	Integer	<p>Configuration version number</p> <p>This parameter is used to determine the difference between the local cache configuration and the configuration in the configuration center.</p> <ul style="list-style-type: none"> • Input 0 for the first time. • If the input revision value is the same as the current revision value, status code 304 is returned, but no body is returned. If they are inconsistent, both revision values are returned. • If revision is required in the next request, use the value of update_revision in the response body.

Response

Status code: 200

Table 7-180 Response body parameters

Parameter	Type	Description
total	Integer	Number of query results.
data	List< SingleKieInfo >	List of queried kie.

Table 7-181 SingleKieInfo

Parameter	Type	Description
id	String	Configuration ID.
key	String	Configuration key.
value	String	Configuration value.

Parameter	Type	Description
value_type	String	Type of the configuration value. Range: <ul style="list-style-type: none"> • text • yaml • json • properties • ini • xml
status	String	Configuration status. Range: <ul style="list-style-type: none"> • enabled: The configuration is available. • disabled: The configuration is unavailable.
create_time	String	Time when the configuration is created.
update_time	String	Time when the configuration is updated.
labels	Map<String,String>	Configuration labels.
create_revision	Integer	Created version number of the configuration.
update_revision	Integer	Updated version number of the configuration.

Status code: 304

None

Status code: 400

Table 7-182 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Status code: 500

Table 7-183 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Example Request

Query the configuration list.

```
GET https://{endpoint}/v1/{project_id}/kie/kv
```

Example Response

Status code: 200

Successfully queried.

```
{
  "total": 1,
  "data": [{
    "id": "8a9e6a5d-8d65-48fb-a40c-5150c8479da8",
    "key": "string",
    "labels": {
      "key1": "value1",
      "key2": "value2"
    },
    "value": "string",
    "value_type": "text",
    "status": "enabled",
    "create_time": 1623139038,
    "update_time": 1623139038,
    "create_revision": 13,
    "update_revision": 13
  }]
}
```

Status Code

Status Code	Description
200	OK
304	Not Modified
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.7.5 Deleting a Configuration

Function

This API is used to delete a configuration.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:update	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	cse:namespace:write	-

URI

DELETE /v1/{project_id}/kie/kv/{kv_id}

Table 7-184 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.
kv_id	Yes	String	ID of the configuration to be deleted. For details about how to obtain the ID, see Querying the Configuration List .

Request

Table 7-185 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Response

Status code: 200

Successfully deleted.

Status code: 404

Table 7-186 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Status code: 400

Table 7-187 Response body parameters

Parameter	Type	Description
error_code	String	Error code.

Parameter	Type	Description
error_message	String	Error message.

Status code: 500

Table 7-188 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_message	String	Error message.

Example Request

Delete the configuration whose configuration ID is **8a9e6a5d-8d65-48fb-a40c-5150c8479da8**.

```
DELETE https://{endpoint}/v1/{project_id}/kie/kv/8a9e6a5d-8d65-48fb-a40c-5150c8479da8
```

Example Response

Status code: 204

Successfully deleted.

Status Code

Status Code	Description
200	No Content
400	Bad Request
404	Not Found
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

7.7.6 Deleting All Configurations

Function

This API is used to delete all configurations.

Authorization Information

Each account has all of the permissions required to call all APIs, but IAM users must have the required permissions specifically assigned.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the permission listed below is required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependency
cse:namespace:update	read	engine	<ul style="list-style-type: none"> • g:ResourceTag/<tag-key> • g:EnterpriseProjectId 	cse:namespace:write	-

URI

DELETE /v1/{project_id}/kie/kv

Table 7-189 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Fixed value: default.

Request

Table 7-190 Request header parameter

Parameter	Mandatory	Type	Description
Authorization	No	String	<p>This parameter is mandatory if security authentication is enabled for an exclusive ServiceComb engine. Otherwise, this parameter is not required.</p> <p>The token of an exclusive ServiceComb engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>

Table 7-191 Request body parameter

Parameter	Mandatory	Type	Description
ids	Yes	List<String>	ID list of the configurations to be deleted. See Querying the Configuration List .

Response

Status code: 204

Successfully deleted.

Status code: 404

Table 7-192 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Status code: 500

Table 7-193 Response body parameters

Parameter	Type	Description
errorCode	String	Error code.
errorMessage	String	Error message.
detail	String	Location details.

Example Request

Delete all configurations.

```
DELETE https://{endpoint}/v1/{project_id}/kie/kv
{
  "ids":[
    "id1",
    "id2"
  ]
}
```

Example Response

Status code: 204

Successfully deleted.

Status Code

Status Code	Description
204	No Content
400	Bad Request
500	Internal Server Error

Error Code

See [ServiceComb Error Codes](#).

8 Permissions and Supported Actions

8.1 Introduction

You can use Identity and Access Management (IAM) for fine-grained permissions management of your CSE resources. If your HUAWEI ID does not need individual IAM users, you can skip this section.

With IAM, you can control access to specific Huawei Cloud resources from principals (IAM users, user groups, agencies, or trust agencies). IAM supports role/policy-based authorization and identity policy-based authorization.

The following table describes the differences between these two authorization models.

Table 8-1 Differences between role/policy-based and identity policy-based authorization

Authorization Model	Core Relationship	Permissions	Authorization Method	Description
Role/Policy	User-permission-authorization scope	<ul style="list-style-type: none"> System-defined roles System-defined policy Custom policies 	Assigning roles or policies to principals	To authorize a user, you need to add it to a user group first and then specify the scope of authorization. It provides a limited number of condition keys and cannot meet the requirements of fine-grained permissions control. This method is suitable for small- and medium-sized enterprises.

Authorization Model	Core Relationship	Permissions	Authorization Method	Description
Identity policy	User-policy	<ul style="list-style-type: none"> System-defined identity policies Custom identity policies 	<ul style="list-style-type: none"> Assigning identity policies to principals Attaching identity policies to principals 	You can authorize a user by attaching an identity policy to it. User-specific authorization and a variety of key conditions allow for more fine-grained permissions control. However, this model can be hard to set up. It requires a certain amount of expertise and is suitable for medium- and large-sized enterprises.

Assume that you want to grant IAM users the permissions needed to create ECSs in CN North-Beijing4 and OBS buckets in CN South-Guangzhou. With role/policy-based authorization, the administrator needs to create two custom policies and assign both to the IAM users. With identity policy-based authorization, the administrator only needs to create one custom policy, configure the condition key **g:RequestedRegion** for the policy, and then attach the policy to the principals or grant the principals the access permissions to the specified regions. Identity policy-based authorization is more flexible than role/policy-based authorization.

Policies/Identity policies and actions in the two authorization scenarios are not interoperable. You are advised to use the identity policy-based authorization model.

If you use IAM users in your account to call an API, the IAM users must be granted the required permissions. The required permissions are determined by the actions supported by the API. Only users with the policies allowing for those actions can call the API successfully.

Assume that an IAM user wants to call an API to query engine information. With policy-based authorization, the IAM user must be granted the permissions allowing for action **cse:engine:get**. With identity policy-based authorization, the IAM user must be granted the permissions allowing for action **cse:engine:get**.

8.2 Actions Supported by Policy-based Authorization

This section describes the actions supported by CSE in policy-based authorization.

Supported Actions

CSE 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 in a custom policy.
- 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.
- IAM projects/Enterprise projects: the authorization scope of a custom policy. A custom policy can be applied to IAM projects or 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. Administrators can check whether an action supports IAM projects or enterprise projects in the action list. For details about the differences between IAM and enterprise management, see [Differences Between IAM and Enterprise Management](#).

CSE supports the following actions in custom policies:

Table 8-2 Actions in custom policies:

Permission	API	Action	Dependencies	IAM Project	Enterprise project
List all microservice engines	GET /v2 / {project_id}/ engine mgr/ engines	cse:engine:list	None	√	√
View engine information	GET /v2 / {project_id}/ engine mgr/ engines / {engine_id}	cse:engine:get	<ul style="list-style-type: none"> • cse:engine:list • elb:loadbalancers:list • elb:listeners:list • elb:loadbalancers:get • elb:listeners:get 	√	√

Permission	API	Action	Dependencies	IAM Project	Enterprise project
Upgrade an engine	PUT /v2/{project_id}/engine_mgr/engines/{engine_id}/upgrade	cse:engine:upgrade	<ul style="list-style-type: none"> cse:engine:list cse:engine:get 	√	√
Delete an engine	DELETE /v2/{project_id}/engine_mgr/engines/{engine_id}	cse:engine:delete	<ul style="list-style-type: none"> cse:engine:list cse:engine:get vpc:ports:get vpc:ports:delete 	√	√
Create an engine	POST /v2/{project_id}/engine_mgr/engines	cse:engine:create	<ul style="list-style-type: none"> cse:engine:get cse:engine:list ecs:cloudServerFlavors:get vpc:vpcs:get vpc:vpcs:list vpc:subnets:get vpc:ports:get vpc:ports:create elb:loadbalancers:list elb:listeners:list elb:loadbalancers:get elb:listeners:get 	√	√

Permission	API	Action	Dependencies	IAM Project	Enterprise project
Change microservice engine specifications	PUT /v2 / {project_id}/ engine mgr/ engines / {engine_id}/ resize	cse:engine:modify	<ul style="list-style-type: none"> cse:engine:list cse:engine:get 	√	√
Update microservice engine configurations	PUT /v2 / {project_id}/ engine mgr/ engines / {engine_id}/ config	cse:engine:modify	<ul style="list-style-type: none"> cse:engine:list cse:engine:get 	√	√
Retry an exclusive servicecomb engine job	PUT /v2 / {project_id}/ engine mgr/ engines / {engine_id}/ actions	cse:engine:modify	<ul style="list-style-type: none"> cse:engine:list cse:engine:get 	√	√
Modify ServiceComb engine configuration management	PUT /v1 / {project_id}/kie /kv/ {kv_id}	cse:config:modify	<ul style="list-style-type: none"> cse:engine:list cse:engine:get cse:config:get 	√	√

Permission	API	Action	Dependencies	IAM Project	Enterprise project
View ServiceComb engine configuration management	GET /v1 / {project_id}/kie /kv/ {kv_id}	cse:config:get	<ul style="list-style-type: none"> cse:engine:list cse:engine:get 	√	√
Modify the governance center of a ServiceComb engine	PUT /v3 / {project_id}/ govern/ governance/ {kind}/ {policy_id}	cse:governance:modify	<ul style="list-style-type: none"> cse:engine:list cse:engine:get cse:config:get cse:config:modify cse:registry:get cse:registry:modify cse:governance:get 	√	√
View the governance center of a ServiceComb engine	GET /v3 / {project_id}/ govern/ governance/ display	cse:governance:get	<ul style="list-style-type: none"> cse:engine:list cse:engine:get cse:config:get cse:registry:get 	√	√
View namespace resources of a Nacos engine	GET /v1 / {project_id}/ nacos/v1/ console / namespaces	cse:namespace:read	cse:engine:get	√	√

Permission	API	Action	Dependencies	IAM Project	Enterprise project
Modify namespace resources of a Nacos engine	PUT /v1 / {project _id}/ nacos/v 1/ console / namesp aces	cse:name space:wri te	<ul style="list-style-type: none"> cse:engine:get cse:namespace:read 	√	√
View service registry management	-	cse:regist ry:get	<ul style="list-style-type: none"> cse:engine:list cse:engine:get cse:config:get 	√	√
Modify service registry and management	-	cse:regist ry:modif y	<ul style="list-style-type: none"> cse:engine:list cse:engine:get cse:config:get 	√	√

8.3 Actions Supported by Identity Policy-based Authorization

IAM provides system-defined identity policies to define common actions supported by cloud services. You can also create custom identity policies using the actions supported by cloud services for more refined access control.

In addition to IAM, the [Organizations](#) service provides [Service Control Policies \(SCPs\)](#) to set access control policies.

SCPs do not actually grant any permissions to an entity. They only set permissions boundaries for the entity. When SCPs are attached to a member account or an organizational unit (OU), they do not directly grant permissions to that member account or OU. Instead, the SCPs just determine what permissions are available for that member account or the member accounts under that OU. The granted permissions can be applied only if they are allowed by the SCPs.

To learn more about how IAM is different from Organizations for access control, see [What Are the Differences in Access Control Between IAM and Organizations?](#)

This section describes the elements used by IAM custom identity policies and Organizations SCPs. The elements include actions, resources, and conditions.

- For details about how to use these elements to create an IAM custom identity policy, see [Creating a Custom Identity Policy](#).
- For details about how to use these elements to create a custom SCP, see [Creating an SCP](#).

Actions

Actions are specific operations that are allowed or denied in an identity policy.

- The **Access Level** column describes how the action is classified (**List**, **Read**, or **Write**). This classification helps you understand the level of access that an action grants when you use it in an identity policy.
- The **Resource Type** column indicates whether the action supports resource-level permissions.
 - You can use a wildcard (*) to indicate all resource types. If this column is empty (-), the action does not support resource-level permissions and you must specify all resources ("*") in your identity policy statements.
 - If this column includes a resource type, you must specify a URN for the Resource element in your identity policy statements.
 - Required resources are marked with asterisks (*) in the table. If you specify a resource in a statement using this action, then it must be of this type.

For details about the resource types defined by CSE, see [Resources](#).

- The **Condition Key** column contains keys that you can specify in the Condition element of an identity policy statement.
 - If the **Resource Type** column has values for an action, the condition key takes effect only for the listed resource types.
 - If the **Resource Type** column is empty (-) for an action, the condition key takes effect for all resources that action supports.
 - If the **Condition Key** column is empty (-) for an action, the action does not support any condition keys.

For details about the condition keys defined by CSE, see [Conditions](#).

- The **Alias** column lists the policy actions that are configured in identity policies. With these actions, you can use APIs for policy-based authorization. For details, see [Policies and Identity Policies](#).

The following table lists the actions that you can define in identity policy statements for CSE.

Table 8-3 Supported actions

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
cse:config:upload	Assigning permissions to upload microservice configurations	write	-	g:EnterpriseProjectId	cse:config:modify
cse:config:download	Assigning permissions to download microservice configurations	write	-	g:EnterpriseProjectId	cse:config:modify
cse:namespace:list	Assigning permissions to view the namespace resource list	list	-	-	cse:namespace:read
cse:namespace:get	Assigning permissions to view namespaces	read	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	cse:namespace:read
cse:namespace:create	Assigning permissions to create a namespace	write	engine	g:ResourceTag/<tag-key>	cse:namespace:write
			-	g:EnterpriseProjectId	
cse:namespace:update	Assigning permissions to modify namespace resources	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	cse:namespace:write
cse:namespace:delete	Assigning permissions to delete a namespace	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	cse:namespace:write

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
cse:policy:list	Assigning permissions to view the governance policy list	list	-	-	cse:governance:get
cse:policy:get	Assigning permissions to view governance policies	read	-	-	-
cse:policy:create	Assigning permissions to create a governance policy	write	-	-	cse:governance:modify
cse:policy:update	Assigning permissions to modify governance policies	write	-	-	cse:governance:modify
cse:policy:delete	Assigning permissions to delete a governance policy	write	-	-	cse:governance:modify
cse:engine:get	Assigning permissions to view engines	read	engine	<ul style="list-style-type: none"> • g:Resource Tag/<tag-key> • g:EnterpriseProjectId 	-
cse:engine:list	Assigning permissions to view the engine list	list	-	-	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
cse:engine:backupRecover	Assigning permissions to back up and restore ServiceComb engine data and change backup policies	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	-
cse:engine:associatePublicips	Assigning permissions to bind or unbind a ServiceComb engine to or from a public network	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	-
cse:engine:update	Assigning permissions to modify the ServiceComb engine configuration and system management	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	-
cse:engine:resize	Assigning permissions to change ServiceComb engine specifications	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	-
cse:engine:create	Assigning permissions to create an engine	write	-	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId g:TagKeys 	-

Action	Description	Access Level	Resource Type (*: required)	Condition Key	Alias
cse:engine:upgrade	Assigning permissions to upgrade engine permissions	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	-
cse:engine:delete	Assigning permissions to deleting an engine	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	-
cse:engine:tagResource	Assigning permissions to add engine tags	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	cse:engine:modify
cse:engine:unTagResource	Assigning permissions to delete engine tags	write	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	cse:engine:modify
cse:engine:listTags	Assigning permissions to view all engine tags of a project	list	-	-	cse:engine:list
cse:engine:listTagsForResource	Assigning permissions to view engine tags	list	engine	<ul style="list-style-type: none"> g:ResourceTag/<tag-key> g:EnterpriseProjectId 	cse:engine:get
cse:engine:listResourcesByTag	Assigning permissions to query the engine list by tag	list	-	g:TagKeys	cse:engine:list

Each API of CSE usually supports one or more actions. [Table 8-4](#) lists the actions and dependencies supported by CSE APIs.

Table 8-4 Actions and dependencies supported by CSE APIs

API	Action	Dependencies
GET /v2/{project_id}/ enginemgr/engines/ {engine_id}	cse:engine:get	-
PUT /v2/{project_id}/ enginemgr/engines/ {engine_id}/actions	cse:engine:update	-
GET /v2/{project_id}/ enginemgr/engines/ {engine_id}/jobs/{job_id}	cse:engine:get	-
GET /v2/{project_id}/ enginemgr/engines	cse:engine:list	-
POST /v3/{project_id}/ accounts/{name}/ password	cse:engine:update	-
POST /v1/ {project_id}/kie/ download	cse:config:download	-
POST /v1/ {project_id}/kie/file	cse:config:upload	-
GET /v1/ {project_id}/kie/kv	cse:namespace:get	-
POST /v1/ {project_id}/kie/kv	cse:namespace:update	-
DELETE /v1/ {project_id}/kie/kv	cse:namespace:update	-
PUT /v1/ {project_id}/kie/kv/ {kv_id}	cse:namespace:update	-
DELETE /v1/ {project_id}/kie/kv/ {kv_id}	cse:namespace:update	-
GET /v1/{project_id}/ nacos/v1/console/ namespaces	cse:namespace:get	-
DELETE /v1/{project_id}/ nacos/v1/console/ namespaces	cse:namespace:delete	-

API	Action	Dependencies
POST /v1/{project_id}/nacos/v1/console/namespaces	cse:namespace:create	-
PUT /v1/{project_id}/nacos/v1/console/namespaces	cse:namespace:update	-
POST /v2/{project_id}/{resource_type}/{resource_id}/tags/create	cse:engine:tagResource	-
POST /v2/{project_id}/enginemgr/engines	cse:engine:create	-
GET /v2/{project_id}/enginemgr/engines/{engine_id}	cse:engine:get	-
DELETE /v2/{project_id}/enginemgr/engines/{engine_id}	cse:engine:delete	-
PUT /v2/{project_id}/enginemgr/engines/{engine_id}/resize	cse:engine:resize	-
PUT /v2/{project_id}/enginemgr/engines/{engine_id}/config	cse:engine:update	-
PUT /v2/{project_id}/enginemgr/engines/{engine_id}/upgrade	cse:engine:upgrade	-
DELETE /v3/{project_id}/accounts/{name}	cse:engine:update	-
PUT /v3/{project_id}/accounts/{name}	cse:engine:update	-
GET /v3/{project_id}/govern/governance/{kind}	cse:policy:list	-
POST /v3/{project_id}/govern/governance/{kind}	cse:policy:create	-
DELETE /v3/{project_id}/govern/governance/{kind}/{policy_id}	cse:policy:delete	-

API	Action	Dependencies
GET /v3/{project_id}/ govern/governance/ {kind}/{policy_id}	cse:policy:get	-
PUT /v3/{project_id}/ govern/governance/ {kind}/{policy_id}	cse:policy:update	-
GET /v3/{project_id}/ govern/governance/ display	cse:policy:list	-
DELETE /v3/{project_id}/ govern/route-rule/ microservices/ {service_name}	cse:policy:delete	-
PUT /v3/{project_id}/ govern/route-rule/ microservices/ {service_name}	cse:policy:update	-
GET /v3/{project_id}/ govern/route-rule/ microservices/ {service_name}	cse:policy:get	-
POST /cseengine/v1/ engines/{engine_id}/ backups/{backup_id}/ recovery	cse:engine:create	-
POST /cseengine/v1/ engines/{engineid}/ backup-strategies	cse:engine:create	-

Resources

A resource type indicates the resources that an identity policy applies to. If you specify a resource type for any action in [Table 8-5](#), the resource URN must be specified in the identity policy statements using that action, and the identity policy applies only to resources of this type. If no resource type is specified, the Resource element is marked with an asterisk (*) and the identity policy applies to all resources. You can also set condition keys in an SCP to define resource types.

The following table lists the resource types that you can define in SCP statements for CSE.

Table 8-5 Resource types supported by CSE

Resource Type	URN
namespace	cse:<region>:<account-id>:namespace:<engine-id>/<namespace-id>
policy	cse:<region>:<account-id>;policy:<namespace-id>/<policy-name>
engine	cse:<region>:<account-id>;engine:<engine-id>

Conditions

CSE does not support service-specific condition keys in policies.

It can only use global condition keys applicable to all services. For details, see [Global Condition Keys](#).

9 Appendixes

9.1 Status Codes

Table 9-1 describes the status codes.

Table 9-1 Status codes

Status Code	Message	Description
200	-	OK
204	No Content	OK
400	Bad Request	Invalid request. The client should not repeat the request without modifications.
401	Unauthorized	The authentication information is incorrect or invalid.
404	Not Found	The requested resource cannot be found. The client should not repeat the request without modifications.
409	Conflict	The resource already exists.
422	Unprocessable Entity	The request was well-formed but was unable to be followed due to semantic errors.
500	Internal Server Error	The server is able to receive the request but it could not understand the request.

9.2 Error Codes

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in [API Gateway Error Codes](#).

Table 9-2 Engine management error codes

Status Codes	Error Code	Error Message	Description	Solution
400	SVCSTG.0050 1134	The engine type is left blank.	Invalid engine type.	The engine type field is the specType field in the request query. Set it to a valid value (for example, CSE2) and try again. For example, to query the specifications supported by CSE, set specType to CSE2 .
400	SVCSTG.0050 1111	Duplicate engine instance name.	Duplicate engine instance name.	Change the engine name.
400	SVCSTG.0050 1112	Insufficient engine instance quota.	Insufficient engine instance quota	Contact technical support to increase the engine instance quota or delete unnecessary engine instances.
400	SVCSTG.0050 1133	The number of engines has reached the upper limit of the site.	The number of engines reaches the upper limit of the site.	Contact technical support.

Status Codes	Error Code	Error Message	Description	Solution
400	SVCSTG.0050 1103	Engine payment is empty or is invalid.	Empty or invalid billing mode.	Input the billing mode parameter of the engine and check whether the user can create such an engine.
400	SVCSTG.0050 1104	Incorrect format of the engine instance specifications.	Incorrect engine instance flavor format.	Invalid flavor. Enter a valid flavor.
400	SVCSTG.0050 1105	Incorrect AZ format.	Incorrect AZ format	Specify a valid AZ in the request parameter. The AZ field is a string array and cannot be empty. The number of AZ name levels ranges from 1 to 3.
400	SVCSTG.0050 1117	The engine in the current state cannot be deleted.	The engine in this state cannot be deleted.	Wait until the engine state changes to Available, Unavailable, or Creation failed, and then try again.
400	SVCSTG.0050 1152	Incorrect task ID format.	Incorrect task ID format.	Use the job ID returned by the APIs for creating and deleting an engine.

Status Codes	Error Code	Error Message	Description	Solution
400	SVCSTG.0050 1153	No task found.	Failed to find the task.	Use the job ID returned by the APIs for creating and deleting an engine.
400	SVCSTG.0050 1149	Abnormal node status.	Abnormal engine node.	Try again later or contact technical support.
400	SVCSTG.0050 1116	Failed to find the engine instance.	Failed to find the engine instance.	Check whether the input engine ID is correct. Use the username and password of the tenant to log in to CSE and check whether the current tenant has an engine with the corresponding ID.

Status Codes	Error Code	Error Message	Description	Solution
400	SVCSTG.0050 1201	The name must contain 3 to 24 characters, including letters, digits, and hyphens (-). It must start with a letter but not end with a hyphen (-). The name cannot be default or the current engine name.	Incorrect format of the peer engine instance name.	The peer engine instance name must contain 3 to 24 characters, including letters, digits, and hyphens (-), and must start with a letter but cannot end with a hyphen (-). The name cannot be default and must be different from the current engine instance name.
400	SVCSTG.0050 1202	An HA engine can be the peer engine.	The peer engine must be an HA engine.	The engine must be an HA engine. Enter the engine flavor again.
400	SVCSTG.0050 1203	The peer engine must be in a single AZ.	The peer engine must be in a single AZ.	The AZs must be single AZs. Enter the AZ list again.
500	SVCSTG.0050 0400	Internal service request parameter error.	Incorrect internal request parameter of the service.	Check the error message. If the parameter is invalid, check whether the input argument is correct. For other errors, contact technical support.

Table 9-3 Dynamic configuration error codes

Status Codes	Error Code	Error Message	Description	Solution
400	SVCSTG.0040 0649	Key/value length exceeds the upper limit.	Too long key or value.	The configuration item contains 1 to 2048 characters, including digits, letters, and special characters (-_[:]). The value can contain 1 to 131072 characters, including digits, letters, and special characters ('~!@#%&*()_ \{} :"<>?'-[] ,./=).
400	SVCSTG.0040 0650	Invalid configuration file.	Invalid configuration file.	The uploaded file is invalid.
400	SVCSTG.0040 0651	The file is empty or in an incorrect format.	The file is empty or in an incorrect format.	The uploaded file is empty or not in JSON format.
400	SVCSTG.0040 0652	Configuration item key/value is null or not a string.	The key or value is empty or is not a string.	The uploaded key or value is null or is not a string.
400	SVCSTG.0040 0653	Invalid label or body.	Invalid label or body.	Enter a valid body or label in the query parameter.
400	SVCSTG.0040 0100	Invalid parameter(s)	Invalid parameter.	Change parameters as prompted.

Status Codes	Error Code	Error Message	Description	Solution
404	SVCSTG.00400106	Record does not exist	The resource does not exist.	Enter valid search criteria.
409	SVCSTG.00400107	Record already exist	The resource already exists.	Do not create the same record.
500	SVCSTG.00300605	Failed to connect the configuration center to ETCD.	Internal Server Error	Contact technical support engineers.
400	SVCSTG.00300401	Invalid token	Unauthorized	Enter a correct token.

9.3 ServiceComb Error Codes

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in [API Gateway Error Codes](#).

Category	Status Code	Error Code	Error Message	Description	Solution
Common error codes	400	400001	Invalid parameter(s)	Invalid parameter.	Change parameters as prompted.
	404	404001	ErrRecordNotExist	The resource does not exist.	Enter valid search criteria.
	409	409001	ErrRecordAlreadyExists	The resource already exists.	Do not create the same record.
	500	500003	Internal server error	Internal server error.	Contact technical support.
Microservice	400	400002	ErrUnhealthy	The service is unhealthy.	Try again later or contact technical support.

Category	Status Code	Error Code	Error Message	Description	Solution
		400010	Micro-service already exists	The service already exists.	Modify the service ID or microservice description in the body of the request for creating a microservice.
		400011	ErrUnavailableBackend	No available backend instance.	Try again later or contact technical support.
		400012	Micro-service does not exist	The service does not exist.	Enter a valid service ID.
		400013	Micro-service has deployed instance(s)	The microservice cannot be deleted because instances have been deployed.	Take the instance offline and then delete the microservice. Alternatively, forcibly delete the microservice by setting the query parameter force to true in the URL.
		400014	Undefined schema id	The schema ID does not exist.	Enter a valid schema ID.
		400015	Not allowed to modify schema	The schema cannot be modified.	The schema has been registered and cannot be modified.
		400016	Schema does not exist	The schema does not exist.	Register the schema first.
		400017	Instance does not exist	Instance does not exist.	Enter a valid instance ID.

Category	Status Code	Error Code	Error Message	Description	Solution
		400018	ErrTagNotExists	The tag does not exist.	This error code is usually generated for a query API, indicating that the tag does not exist. The service performs subsequent processing based on the returned value.
		400019	ErrRuleAlreadyExists	The rule already exists.	The rule is repeatedly created. Generally, this error can be ignored.
		400020	ErrBlackAndWhiteRule	Blacklist and whitelist error.	Modify the parameter value based on the error message.
		400021	ErrModifyRuleNotAllowed	The rule cannot be modified.	You can modify the microservice information only after changing the version number.
		400022	ErrRuleNotExists	The rule does not exist.	This error code is usually generated for a query API, indicating that the rule does not exist. The service performs subsequent processing based on the returned value.

Category	Status Code	Error Code	Error Message	Description	Solution
		400023	Consumer(s) depends on this micro-service	The microservice cannot be deleted because it is the dependent service of other microservices.	You can forcibly delete microservices by setting the query parameter force to true in the URL.
		400024	ErrPermissionDeny	Insufficient permissions.	Use a proper account to perform operations.
		400025	ErrEndpointAlreadyExists	The port already exists.	Check whether the port is occupied by another instance.
		400026	Micro-service version does not exist	The microservice instance does not exist.	Enter a correct version number or range.
		400100	Not enough quota	Insufficient quota.	The quotas of resources such as microservices, instances, or schemas are insufficient. Delete some resources and create again.

Category	Status Code	Error Code	Error Message	Description	Solution
	401	401204	No authorization header	Unauthorized.	<p>This parameter is mandatory if security authentication is enabled for a microservice engine. Otherwise, this parameter is not required.</p> <p>The token of a microservice engine with security authentication enabled is in the following format: Authorization:Bearer {Token}</p> <p>For details about how to obtain the token, see Obtaining the User Token of an Exclusive ServiceComb Engine.</p>
		401201	Request unauthorized	Unauthorized.	Enter a valid authorization.
	403	403001	ErrForbidden	Insufficient permissions	Use a proper account to perform operations.
	500	500011	Registry service is unavailable	The registry service is unavailable.	Contact technical support.
		500101	ErrUnavailableQuota	No quota.	Try again later or contact technical support.

Category	Status Code	Error Code	Error Message	Description	Solution
		500605	NA	Failed to connect to etcd of the configuration center.	Try again later or contact technical support.
Authentication	401	401202	User name or password is wrong	Incorrect account name or password.	Enter the correct account name and password.

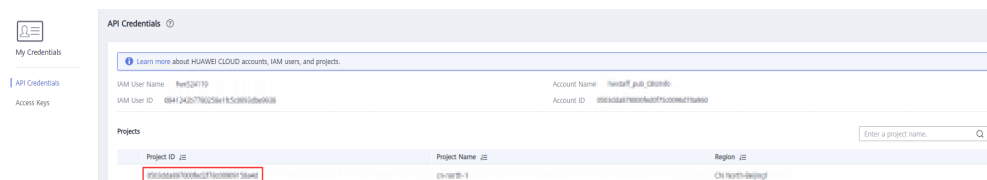
9.4 Obtaining a Project ID

Obtaining a Project ID on the Console

A project ID is required for some URLs when an API is called. To obtain an ID, do as follows:

- Step 1** Log in to CSE.
- Step 2** Move the cursor to the username in the upper right corner and select **My Credentials** from the drop-down list.
- Step 3** On the **Projects** tab, obtain the required project ID in the project list.

Figure 9-1 Viewing a project ID



----End

Obtaining a Project ID by Calling an API

You can also call the API for [querying project information based on the specified criteria](#) to obtain a project ID.

The API for obtaining a project ID is **GET https://{Endpoint}/v3/projects**, where *{Endpoint}* indicates the IAM endpoint. You can obtain the IAM endpoint from [Regions and Endpoints](#). For details about API authentication, see [Authentication](#).

The following is an example response. *id* indicates a project ID.

```
{
  "projects": [
    {
```

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