Tag Management Service

API Reference

Issue 01

Date 2021-11-30

HUAWEI TECHNOLOGIES CO., LTD.

Trademarks and Permissions


and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Contents

1 Before You Start

1.1 Overview

Welcome to *Tag Management Service API Reference*. Tags are used to identify cloud resources. When you have many cloud resources of the same type, you can use tags to classify cloud resources by dimension (for example, use, owner, or environment). Tag Management Service (TMS) is a visualized service for fast and unified cross-region tagging and categorization of cloud services.

This document describes how to use application programming interfaces (APIs) to perform operations on tags, such as creating or deleting predefined tags, and querying or modify predefined tags. For details about all supported operations, see **API Overview**.

If you plan to access TMS through an API, ensure that you are familiar with TMS concepts. For details, see **Service Overview**.

1.2 API Calling

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

1.3 Endpoints

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

1.4 Notes and Constraints

- The number of tags that you can create is determined by your quota. To view or increase the quota, see **Modifying Resource Quotas**.
- For more constraints, see API description.

1.5 Concepts

- Account

  An account is created upon successful registration. 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, which should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- User

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

  You can view the account ID and IAM user ID on the **My Credentials** page of the management console. API authentication requires information such as the account name, username, and password.

- Region

  Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal regions 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**.

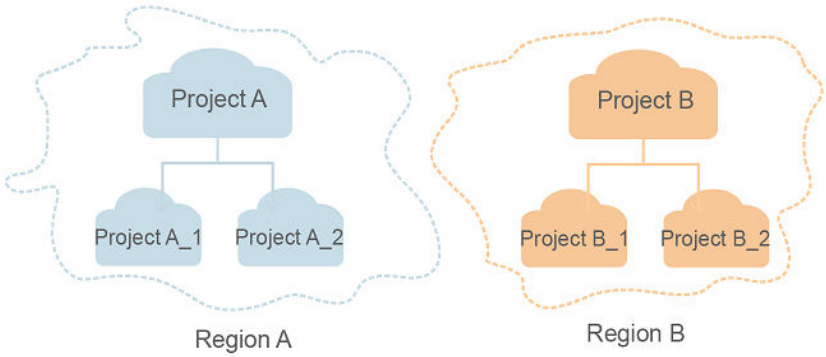
- AZ

  An AZ comprises of one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Computing, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

- Project

  A project corresponds to a region. Default projects are defined to group and physically isolate resources (including computing, storage, and network resources) across regions. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the project. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

Figure 1-1 Project isolation model



To view a project ID, go to the **My Credentials** page.

- Enterprise project

  Enterprise projects group and manage resources across regions. Resources in different 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 enterprise projects and about how to obtain enterprise project IDs, see **Enterprise Management User Guide**.

2 API Overview

You can use TMS APIs to create, delete, query, or modify predefined tags, or query the version information.

Table 2-1 API description

API	Description
Query API versions.	Query the TMS API versions.
Querying Details About an API Version	Query details about a specified TMS API version.
Creating and Deleting Predefined Tags	Create or delete predefined tags. You can add tags to resources using the predefined tags.
Querying the Predefined Tag List	Query the predefined tag list of a specified tenant.
Modifying a predefined tag	Modify predefined tags.
Querying Tag Quotas	Query the tag quota.

3 Calling APIs

3.1 Making an API Request

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

Request URI

A request URI is in the following format:

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

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

Table 3-1 URI parameter description

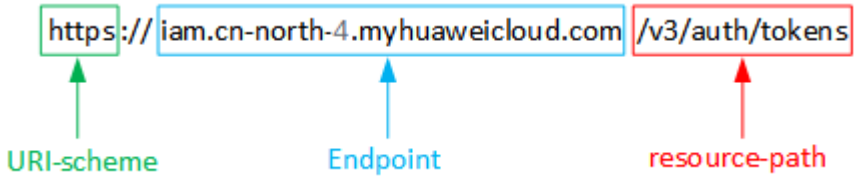
Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from **Regions and Endpoints**. For example, the endpoint of IAM in the **CN North-Beijing4** region is **iam.cn-north-4.myhuaweicloud.com**.
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.

Parameter	Description
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of *Parameter name=Parameter value*. For example, **?limit=10** indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **CN North-Beijing4** region, obtain the endpoint of IAM (**iam.cn-north-4.myhuaweicloud.com**) for this region and the **resource-path** (**/v3/auth/tokens**) in the URI of the API used to **obtain a user token**. Then, construct the URI as follows:

```
https://iam.cn-north-4.myhuaweicloud.com/v3/auth/tokens
```

Figure 3-1 Example URI



NOTE

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

Request Methods

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

Table 3-2 HTTP methods

Method	Description
GET	Requests the server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete specified resources, for example, an object.
HEAD	Same as GET except that the server must return only the response header.

Method	Description
PATCH	Requests the server to update partial content of a specified resource. If the resource does not exist, a new resource will be created.

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

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokens
```

Request Header

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

Common request header fields are as follows.

Table 3-3 Common request header fields

Parameter	Description	Mandatory	Example Value
Host	Specifies the server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of *Hostname:Port number*. If the port number is not specified, the default port is used. The default port number for **https** is **443**.	No This field is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the type (or format) of the message body. The default value **application/json** is recommended. Other values of this field will be provided for specific APIs if any.	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	No	3495

Parameter	Description	Mandatory	Example Value
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in **Obtaining a Project ID**.	No This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cbaa340f9c0f4
X-Auth-Token	Specifies the user token. It is a response to the API for **obtaining a user token** (This is the only API that does not require authentication). After the request is processed, the value of **X-Subject-Token** in the response header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvcNAQcCo...ggg1BBIINPXsidG9rZ

NOTE

In addition to supporting authentication using tokens, APIs support authentication using AK/SK, which uses SDKs to sign a request. During the signature, the **Authorization** (signature authentication) and **X-Sdk-Date** (time when a request is sent) headers are automatically added in the request.

For more details, see "Authentication Using AK/SK" in **Authentication**.

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

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

(Optional) Request Body

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

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

In the case of the API used to **obtain a user token**, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace *username*,

domainname, ******** (login password), and *xxxxxxxxxxxxxxxxx* (project name) with the actual values. Obtain a project name from **Regions and Endpoints**.

NOTE

The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see **Obtaining a User Token**.

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

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

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

3.2 Authentication

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

- Token authentication: Requests are authenticated using tokens.
- AK/SK authentication: Requests are encrypted using AK/SK pairs. AK/SK authentication is recommended because it is more secure than token authentication.

Token Authentication

NOTE

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

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API. You can obtain a token by calling the **Obtaining User Token** API.

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

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

IMS is a project-level service. When you call the API, set **auth.scope** in the request body to **project**.

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

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

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

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

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

In AK/SK authentication, you can use an AK/SK to sign requests 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**.

NOTE

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

3.3 Response

Status Code

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

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

For example, if status code **201** is returned for calling the API used to **obtain a user token**, 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 fields for the API used to **obtain a user token**. The **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

Figure 3-2 Header fields of the response to the request for obtaining a user token

(Optional) Response Body

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

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

```
{
    "token": {
        "expires_at": "2019-02-13T06:52:13.855000Z",
        "methods": [
            "password"
        ],
        "catalog": [
            {
                "endpoints": [
                    {
                        "region_id": "az-01",
.....
```

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

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

4 Getting Started

This section describes how to create predefined tags by invoking the TMS API.

NOTE

The token obtained from IAM is valid for only 24 hours. If you want to use a token for authentication, you can cache it to avoid frequently calling the IAM API.

Involved APIs

If you use a token for authentication, you must obtain the user's token and add **X-Auth-Token** to the request header of the IMS API when making an API call.

- IAM API used to obtain the token
- TMS API used to create predefined tags

Procedure

1. Obtain the token by referring to **Authentication**.
2. Send **POST https://TMS endpoint/v1.0/predefine_tags/action**.

   Add **Content-Type** and **X-Auth-Token** to the request header.

   Specify the following parameters in the request body:

```
{
 "action": "Create", //Operation (mandatory, string)
  "tags" : [
            {
                "key": "ENV1",  //Key (mandatory, string)
                "value": "DEV1" //Value (mandatory, string)
             },
            {
                "key" : "ENV2",
                "value" : "DEV2"
             }
            ]
}
```

   After the request is sent, the status code 204 is returned and the response body is empty.

NOTE

- The response message may be a success or a failure. This document takes the successful response as an example.
- If the request fails, an error code and error information are returned. For details, see **Error Codes**.
- For details about the elements and return values of response messages, see **Change History**.

5 API Description

5.1 Querying Version Information

5.1.1 Query API versions.

Function

This API is used to query the API version list of TMS.

Debugging

You can use **API Explorer** to debug this API.

URI

GET /

Request Parameters

None

Response Parameters

Status code: 200

Table 5-1 Response body parameters

Parameter	Type	Description
versions	Array of **VersionDetail** objects	List of versions

Table 5-2 VersionDetail

Parameter	Type	Description
id	String	Specifies the version ID, for example, v1.0.
links	Array of **Link** objects	API URL.
version	String	If the APIs of this version support microversions, the supported latest microversion is returned. If the microversion is not supported, no information is returned.
status	String	Specifies the version status. Possible values are as follows: CURRENT: widely used version SUPPORTED: earlier version which is still supported DEPRECATED: deprecated version which may be deleted later
updated	String	Specifies the version release time, which is a UTC time. For example, the release time of v1.0 is 2016-12-09T00:00:00Z.
min_version	String	If the APIs of this version support microversions, the supported earliest microversion is returned. If the microversion is not supported, no information is returned.

Table 5-3 Link

Parameter	Type	Description
href	String	API URL.
rel	String	self

Status code: 400

Table 5-4 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-5 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 404

Table 5-6 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-7 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 405

Table 5-8 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-9 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 406

Table 5-10 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-11 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 409

Table 5-12 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-13 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 410

Table 5-14 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-15 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 412

Table 5-16 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-17 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 429

Table 5-18 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-19 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 500

Table 5-20 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-21 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 501

Table 5-22 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-23 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 503

Table 5-24 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-25 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Example Requests

Querying the Tag Management API Version List

```
GET https://{Endpoint}/
```

Example Responses

Status code: 200

OK

```
{
  "versions" : [ {
    "id" : "v1.0",
    "links" : [ {
      "rel" : "self",
      "href" : "https://{Endpoint}/v1.0"
    } ],
    "version" : "",
    "status" : "CURRENT",
    "updated" : "2016-12-09T00:00:00Z",
    "min_version" : ""
  } ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
405	Method Not Allowed
406	Not Acceptable
409	Conflict
410	Gone
412	Precondition Failed
429	Too Many Requests
500	Internal Server Error

Status Code	Description
501	Not Implemented
503	Service Unavailable

Error Codes

See **Error Codes**.

5.1.2 Querying Details About an API Version

Function

This API is used to query details about a specified TMS API version.

Debugging

You can use **API Explorer** to debug this API.

URI

GET /{api_version}

Table 5-26 Path parameters

Parameter	Mandatory	Type	Description
api_version	Yes	String	Specifies the API version.

Request Parameters

None

Response Parameters

Status code: 200

Table 5-27 Response body parameters

Parameter	Type	Description
version	**VersionDetail** object	Version Details

Table 5-28 VersionDetail

Parameter	Type	Description
id	String	Specifies the version ID, for example, v1.0.
links	Array of **Link** objects	API URL.
version	String	If the APIs of this version support microversions, the supported latest microversion is returned. If the microversion is not supported, no information is returned.
status	String	Specifies the version status. Possible values are as follows: CURRENT: widely used version SUPPORTED: earlier version which is still supported DEPRECATED: deprecated version which may be deleted later
updated	String	Specifies the version release time, which is a UTC time. For example, the release time of v1.0 is 2016-12-09T00:00:00Z.
min_version	String	If the APIs of this version support microversions, the supported earliest microversion is returned. If the microversion is not supported, no information is returned.

Table 5-29 Link

Parameter	Type	Description
href	String	API URL.
rel	String	self

Status code: 400

Table 5-30 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-31 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 404

Table 5-32 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-33 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 405

Table 5-34 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-35 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 406

Table 5-36 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-37 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 408

Table 5-38 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-39 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 409

Table 5-40 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-41 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 410

Table 5-42 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-43 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 412

Table 5-44 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-45 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 429

Table 5-46 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-47 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 500

Table 5-48 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-49 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 501

Table 5-50 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-51 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 503

Table 5-52 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-53 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Example Requests

Querying the Version Details of the Tag Management API

```
GET https://{Endpoint}/v1.0
```

Example Responses

Status code: 200

OK

```
{
  "version" : {
    "id" : "v1.0",
    "links" : [ {
      "rel" : "self",
      "href" : "https://{Endpoint}/v1.0"
    } ],
    "version" : "",
    "status" : "CURRENT",
    "updated" : "2016-12-09T00:00:00Z",
    "min_version" : ""
  }
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
404	Not Found
405	Method Not Allowed
406	Not Acceptable
408	Request Timeout
409	Conflict
410	Gone
412	Precondition Failed
429	Too Many Requests
500	Internal Server Error
501	Not Implemented
503	Service Unavailable

Error Codes

See **Error Codes**.

5.2 Operations on Predefined Tags

5.2.1 Creating and Deleting Predefined Tags

Function

Used to create and delete predefined tags. You can add tags to resources using the predefined tags. This API supports idempotency and batch processing.

Debugging

You can use **API Explorer** to debug this API.

URI

POST /v1.0/predefine_tags/action

Request Parameters

Table 5-54 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. Note: TMS is a global service. Therefore, when calling the IAM service to obtain user tokens, set the scope field to domain. The value of X-Subject-Token in the response header is the user token.

Table 5-55 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Operation ID (case sensitive): create, delete
tags	Yes	Array of **PredefineTagRequest** objects	Tag list.

Table 5-56 PredefineTagRequest

Parameter	Mandatory	Type	Description
key	Yes	String	Indicates the tag key. A tag key can contain up to 36 characters. The character set is as follows: A-Z, a-z, 0-9, hyphens (-), underscores (_), and Unicode characters (\u4E00-\u9FFF).
value	Yes	String	Value. The value contains a maximum of 43 characters and can be an empty string. Character set: AZ, a-z, 0-9, '.', '-', '_', UNICODE characters (\u4E00-\u9FFF), ...

Response Parameters

Status code: 400

Table 5-57 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-58 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 401

Table 5-59 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-60 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 403

Table 5-61 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-62 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 404

Table 5-63 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-64 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 405

Table 5-65 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-66 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 406

Table 5-67 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-68 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 409

Table 5-69 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-70 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 410

Table 5-71 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-72 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 412

Table 5-73 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-74 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 429

Table 5-75 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-76 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 500

Table 5-77 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-78 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 501

Table 5-79 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-80 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 503

Table 5-81 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-82 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Example Requests

- Creating Predefined Tags

```
POST https://{Endpoint}/v1.0/predefine_tags/action

{
  "action" : "create",
  "tags" : [ {
    "key" : "ENV",
    "value" : "DEV"
  }, {
    "key" : "ENV",
    "value" : "DEV"
  } ]
}
```

- Deleting Predefined Tags

```
POST https://{Endpoint}/v1.0/predefine_tags/action

{
  "action" : "delete",
  "tags" : [ {
    "key" : "ENV",
    "value" : "DEV"
  }, {
    "key" : "ENV",
    "value" : "DEV"
  } ]
}
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
405	Method Not Allowed
406	Not Acceptable

Status Code	Description
409	Conflict
410	Gone
412	Precondition Failed
429	Too Many Requests
500	Internal Server Error
501	Not Implemented
503	Service Unavailable

Error Codes

See **Error Codes**.

5.2.2 Querying the Predefined Tag List

Function

Used to query the predefined tag list.

Debugging

You can use **API Explorer** to debug this API.

URI

GET /v1.0/predefine_tags

Table 5-83 Query parameters

Parameter	Mandatory	Type	Description
key	No	String	Key. Supports fuzzy search and is case insensitive. If the value contains non-URL-safe characters, it must be URL encoded.
value	No	String	Value. Supports fuzzy search and is case insensitive. If the parameter contains non-URL-safe characters, it must be URL encoded.

Parameter	Mandatory	Type	Description
limit	No	Integer	Specifies the number of records to be queried. The value ranges from 1 to 1000. If no value is specified, the default value 10 is used. If the value is 0, the number of data records to be queried is not limited. Minimum: **1** Maximum: **1000** Default: **10**
marker	No	String	Paging location ID (index). The query starts from the next piece of data of the index specified by marker. Note: You do not need to specify this parameter when querying the data on the first page. When querying the data on subsequent pages, set this parameter to the marker value in the response body for querying the data on the previous page. If the returned tags is an empty list, the last page is queried.

Parameter	Mandatory	Type	Description
order_field	No	String	Sort By: The value can be update_time (update time), key (key), or value (value). The value is case sensitive. You can select only one of the preceding sorting fields and sort data based on the sorting method field order_method. If this parameter is not transferred, the default value update_time is used. For example: If the value of this field is update_time, keys and values are sorted in ascending order. If the field is key, values of update_time are sorted in descending order and values in ascending order. If this field is set to value, the values of update_time are sorted in descending order and keys in ascending order. If this parameter is not transferred, the default value is update_time Default: **update_time**
order_method	No	String	Sorting method of the order_field field. The value can be (case sensitive): asc (ascending order) desc (descending order) Only one of the preceding values can be selected. If this parameter is not transferred, the default value is desc. Default: **desc**

Request Parameters

Table 5-84 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. Note: TMS is a global service. Therefore, when calling the IAM service to obtain user tokens, set the scope field to domain. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-85 Response body parameters

Parameter	Type	Description
marker	String	Paging location ID (index).
total_count	Integer	Total number of queried tags.
tags	Array of **PredefineTag** objects	List of queried tags.

Table 5-86 PredefineTag

Parameter	Type	Description
key	String	\t\n key. \nThe value can contain a maximum of 36 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.
value	String	Value. A tag value can contain a maximum of 43 characters and can be an empty string. Character set: A-Z, a-z, 0-9, '.', '-', '_', UNICODE characters (\u4E00-\u9FFF).
update_time	String	Update time, which must be the UTC time. 2016-12-09T00:00:00Z

Status code: 400

Table 5-87 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-88 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 401

Table 5-89 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-90 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 403

Table 5-91 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-92 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 404

Table 5-93 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-94 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 405

Table 5-95 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-96 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 406

Table 5-97 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-98 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 409

Table 5-99 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-100 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 410

Table 5-101 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-102 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 412

Table 5-103 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-104 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 429

Table 5-105 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-106 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 500

Table 5-107 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-108 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 501

Table 5-109 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-110 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 503

Table 5-111 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-112 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Example Requests

Querying the Predefined Tag List

```
GET https://{Endpoint}/v1.0/predefine_tags?
key=ENV&value=DEV&limit=10&marker=9&order_field=key&order_method=asc
```

Example Responses

Status code: 200

OK

```
{
  "marker" : "12",
  "total_count" : 13,
  "tags" : [ {
    "key" : "ENV1",
    "value" : "DEV1",
    "update_time" : "2017-04-12T14:22:34Z"
  }, {
    "key" : "ENV2",
    "value" : "DEV2",
    "update_time" : "2017-04-12T14:22:34Z"
  } ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
405	Method Not Allowed
406	Not Acceptable
409	Conflict
410	Gone
412	Precondition Failed

Status Code	Description
429	Too Many Requests
500	Internal Server Error
501	Not Implemented
503	Service Unavailable

Error Codes

See **Error Codes**.

5.2.3 Modifying a predefined tag

Function

Modify predefined tags.

Debugging

You can use **API Explorer** to debug this API.

URI

PUT /v1.0/predefine_tags

Request Parameters

Table 5-113 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. Note: TMS is a global service. Therefore, when calling the IAM service to obtain user tokens, set the scope field to domain. The value of X-Subject-Token in the response header is the user token.

Table 5-114 Request body parameters

Parameter	Mandatory	Type	Description
new_tag	Yes	**PredefineTagRequest** object	Modified tag
old_tag	Yes	**PredefineTagRequest** object	Tag before modification

Table 5-115 PredefineTagRequest

Parameter	Mandatory	Type	Description
key	Yes	String	Indicates the tag key. A tag key can contain up to 36 characters. The character set is as follows: A-Z, a-z, 0-9, hyphens (-), underscores (_), and Unicode characters (\u4E00-\u9FFF).
value	Yes	String	Value. The value contains a maximum of 43 characters and can be an empty string. Character set: AZ, a-z, 0-9, '.', '-', '_', UNICODE characters (\u4E00-\u9FFF), ...

Response Parameters

Status code: 400

Table 5-116 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-117 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 401

Table 5-118 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-119 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 403

Table 5-120 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-121 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 404

Table 5-122 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-123 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 405

Table 5-124 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-125 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 406

Table 5-126 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-127 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 409

Table 5-128 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-129 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 410

Table 5-130 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-131 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 412

Table 5-132 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-133 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 429

Table 5-134 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-135 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 500

Table 5-136 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-137 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 501

Table 5-138 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-139 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 503

Table 5-140 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-141 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Example Requests

Modifying a predefined tag

```
PUT https://{Endpoint}/v1.0/predefined_tags

{
  "new_tag" : {
    "key" : "ENV1",
    "value" : "DEV1"
  },
  "old_tag" : {
    "key" : "ENV2",
    "value" : "DEV2"
  }
}
```

Example Responses

None

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
405	Method Not Allowed
406	Not Acceptable
409	Conflict
410	Gone
412	Precondition Failed
429	Too Many Requests
500	Internal Server Error
501	Not Implemented
503	Service Unavailable

Error Codes

See **Error Codes**.

5.3 Quota

5.3.1 Querying Tag Quotas

Function

Queries the tag quota.

Debugging

You can use **API Explorer** to debug this API.

URI

GET /v1.0/tms/quotas

Request Parameters

Table 5-142 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. Note: TMS is a global service. Therefore, when calling the IAM service to obtain user tokens, set the scope field to domain. The value of X-Subject-Token in the response header is the user token.

Response Parameters

Status code: 200

Table 5-143 Response body parameters

Parameter	Type	Description
quotas	Array of **TagQuota** objects	Quotas.

Table 5-144 TagQuota

Parameter	Type	Description
quota_key	String	Quota key
quota_limit	Integer	Quota value
used	Integer	Used
unit	String	Unit

Status code: 400

Table 5-145 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-146 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 401

Table 5-147 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-148 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 403

Table 5-149 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-150 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 404

Table 5-151 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-152 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 405

Table 5-153 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-154 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 406

Table 5-155 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-156 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 409

Table 5-157 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-158 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 410

Table 5-159 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-160 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 412

Table 5-161 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-162 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 429

Table 5-163 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-164 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 500

Table 5-165 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-166 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 501

Table 5-167 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-168 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Status code: 503

Table 5-169 Response body parameters

Parameter	Type	Description
error	**RespErrorMessage** object	Response error information.

Table 5-170 RespErrorMessage

Parameter	Type	Description
error_code	String	Request error code.
error_msg	String	Error message

Example Requests

Querying Tag Quotas

```
GET https://{Endpoint}/v1.0/tms/quotas
```

Example Responses

Status code: 200

OK

```
{
  "quotas" : [ {
    "used" : 4,
    "unit" : "count",
    "quota_key" : "predefine_tag",
    "quota_limit" : 5000
  } ]
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
403	Forbidden
404	Not Found
405	Method Not Allowed
406	Not Acceptable
409	Conflict
410	Gone
412	Precondition Failed
429	Too Many Requests
500	Internal Server Error

Status Code	Description
501	Not Implemented
503	Service Unavailable

Error Codes

See **Error Codes**.

6 Permissions Policies and Supported Actions

6.1 Permissions Policies and Supported Actions

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

By default, new IAM users do not have permissions assigned. You need to add a user to one or more groups, and attach permissions policies or roles to these groups. Users inherit permissions from the groups to which they are added and can perform specified operations on cloud services based on the permissions.

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

NOTE

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

An account has all of the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user wants to query predefined tags using an API, the user must have been granted permissions that allow the **tms:predefineTags:list** action.

Supported Actions

Operations supported by a fine-grained policy 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.
- Related actions: Actions on which a specific action depends to take effect. When assigning permissions for the action to a user, you also need to assign permissions for the related actions.
- IAM or enterprise projects: Type of projects for which an action will take effect. Policies that contain actions supporting both IAM and enterprise projects can be used and take effect in both IAM and Enterprise Management. Policies that only contain actions for IAM projects can be used and only take effect for IAM. Administrators can check whether an action supports IAM projects or enterprise projects in the action list. "√" indicates that the action supports the project and "×" indicates that the action does not support the project. For details about the differences between IAM and enterprise management, see **What Are the Differences Between IAM and Enterprise Management?**

6.2 TMS API Actions

Table 6-1 API actions

Permission	API	Action	IAM Project	Enterprise Project
Querying predefined tags	GET /v1.0/predefine_tags	tms:predefineTags:list	√	x
Creating predefined tags	POST /v1.0/predefine_tags/action	tms:predefineTags:create	√	x
Deleting predefined tags	POST /v1.0/predefine_tags/action	tms:predefineTags:delete	√	x
Modifying predefined tags	PUT /v1.0/predefine_tags/action	tms:predefineTags:update	√	x
Querying resource tags	GET /v1.0/tags	tms:resourceTags:list	√	x
Creating tags	POST /v1.0/{resource_type}/{resource_id}/tags/action	tms:resourceTags:create	√	x
Deleting resource tags	POST /v1.0/{resource_type}/{resource_id}/tags/action	tms:resourceTags:delete	√	x

A Appendix

A.1 Status Codes

- Normal

Returned Value	Description
200 OK	The results of GET and PUT operations are returned as expected.
201 Created	The results of the POST operation are returned as expected.
202 Accepted	The request has been accepted for processing.
204 No Content	Normal response code

- Abnormal

Returned Value	Description
400 Bad Request	The server failed to process the request.
401 Unauthorized	You must enter a username and password to access the requested page.
403 Forbidden	Access to the requested page is denied.
404 Not Found	The server cannot find the requested page.
405 Method Not Allowed	You are not allowed to use the method specified in the request.
406 Not Acceptable	The response generated by the server cannot be accepted by the client.

Returned Value	Description
407 Proxy Authentication Required	You must use the proxy server for authentication so that the request can be processed.
408 Request Timeout	The request timed out.
409 Conflict	The request could not be processed due to a conflict.
500 Internal Server Error	Failed to complete the request because of a service error.
501 Not Implemented	Failed to complete the request because the server does not support the requested function.
502 Bad Gateway	Failed to complete the request because the request is invalid.
503 Service Unavailable	Failed to complete the request. The service is unavailable.
504 Gateway Timeout	A gateway timeout error occurred.

A.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**.

For more service error codes, see **API Error Center**.

Status Code	Error Codes	Error Message	Description	Solution
400	TMS.0002	Bad request.	Invalid request from the client.	Enter valid parameters.
400	TMS.0007	Limit is invalid.	**Limit** is invalid.	Enter a valid **Limit** value.
400	TMS.0008	Marker is invalid.	**Marker** is invalid.	Enter a valid **Marker** value.
400	TMS.0009	Key is invalid.	**Key** is invalid.	Enter a valid **Key** value.
400	TMS.0010	Value is invalid.	**Value** is invalid.	Enter a valid **Value** value.
400	TMS.0011	Action is invalid.	**Action** is invalid.	Enter a valid **Action** value.

Status Code	Error Codes	Error Message	Description	Solution
400	TMS.0012	Tags is empty.	**Tags** is left blank.	Specify **Tags**.
400	TMS.0013	Empty element in tags.	**Tags** is invalid.	Enter a valid **Tags** value.
400	TMS.0016	Values is too much.	The maximum number of values for **Values** has been exceeded.	Enter no more than 10 values.
400	TMS.0017	Offset is invalid.	**Offset** is invalid.	Enter a valid **Offset** value.
400	TMS.1001	The number of predefine tag exceeds the upper limit.	The number of predefined tags exceeds the quota.	Enter no more than 500 predefined tags.
400	TMS.1002	Old_tag cannot be found.	**Old_tag** cannot be found.	Specify **Old_tag**.
400	TMS.1003	New_tag already exists.	**New_tag** already exists.	Enter another value for **New-tag**.
400	TMS.1004	Old_tag is empty.	**Old_tag** is left blank.	Specify **Old_tag**.
400	TMS.1005	Invalid key in old_tag.	The key in **Old_tag** is invalid.	Enter a valid key in **Old_tag**.
400	TMS.1006	Invalid value in old_tag.	The value in **Old_tag** is invalid.	Enter a valid value in **Old_tag**.
400	TMS.1007	New_tag is empty.	**New_tag** is left blank.	Specify **New_tag**.
400	TMS.1008	Invalid key in new_tag.	The key in **New_tag** is invalid.	Enter a valid key in **New_tag**.
400	TMS.1009	Invalid value in new_tag.	The value in **New_tag** is invalid.	Enter a valid value in **New_tag**.

Status Code	Error Codes	Error Message	Description	Solution
400	TMS.1010	Order_field is invalid.	**Order_field** is invalid.	Enter a valid **Order_field** value.
400	TMS.1011	Order_method is invalid.	**Order_method** is invalid.	Enter a valid **Order_method** value.
401	TMS.0003	Unauthorized user.	Authentication fails or the valid authentication information is not provided.	Check whether the username or password for obtaining the token is correct.
403	TMS.0004	Permission error.	The authentication information is incorrect or the service invoker does not have sufficient permissions.	Check whether the username, password, or the user permissions for obtaining the token are correct.
403	TMS.0006	The request is too much, try again later.	The numbers of requests are too many.	Reduce the number of concurrent requests or try again later.
404	TMS.0005	Requested resources not found.	The requested resource cannot be found.	Enter a valid resource ID.
409	TMS.0014	Conflict	Internal conflicts.	Contact technical support.
500	TMS.0001	System error.	System error.	Contact technical support.
504	TMS.0018	Query Time Out.	Query timed out.	Try again later.

A.3 Obtaining a Project ID

Scenarios

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. Two methods are available:

- **Obtain the Project ID by Calling an API**
- **Obtain the Project ID from the Console**

Obtain the Project ID by Calling an API

You can obtain the project ID by calling the API used to **query for projects based on specified criteria**.

The API used to obtain a project ID is GET https://{Endpoint}/v3/projects. {Endpoint} is the IAM endpoint and can be obtained from **Regions and Endpoints**. For details about API authentication, see **Authentication**.

The following is an example response. The value of **id** is the project ID.

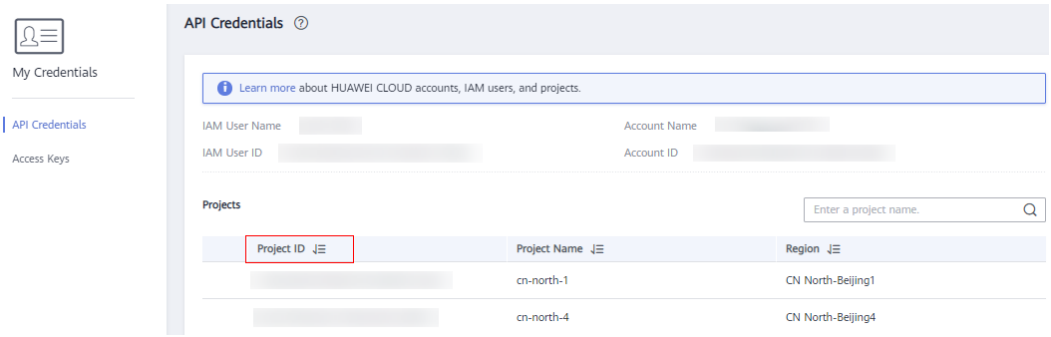
```
{
    "projects": [
        {
            "domain_id": "65382450e8f64ac0870cd180d14e684b",
            "is_domain": false,
            "parent_id": "65382450e8f64ac0870cd180d14e684b",
            "name": "project_name",
            "description": "",
            "links": {
                "next": 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"
    }
}
```

Obtain a Project ID from the Console

To obtain a project ID from the console, perform the following operations:

1. Log in to the management console.
2. Click the username and select **My Credentials** from the drop-down list.
   On the **API Credentials** page, view the project ID in the project list.

Figure A-1 Viewing the project ID



A.4 Obtaining the Domain-Level Token

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

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


B Change History

Release On	Description
2021-11-30	This issue is the fourth official release, which incorporates the following change: Added **Querying Tag Quotas**.
2018-09-30	This issue is the third official release, which incorporates the following changes: Added APIs for querying version information.
2018-03-30	This issue is the second official release, which incorporates the following changes: Optimized the descriptions of error codes.
2017-10-23	This issue is the first official release.

