Tag Management Service

API Reference

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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 **Tag Management Service**.

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..

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).

  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. 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.

- Enterprise project

  Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated.

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

2 API Overview

Table 2-1 TMS APIs

API	Description
Querying the API Version	API for querying TMS API versions
Querying Details About an API Version	API for querying details about a specified TMS API version
Creating Predefined Tags	API for creating or deleting predefined tags. You can use predefined tags to tag resources.
Deleting Predefined Tags	API for deleting predefined tags. You can delete predefined tags created.
Query a Predefined Tag List	API for querying predefined tags of a specified user
Modifying Predefined Tags	API for modifying a predefined tag
Querying Services Supported by TMS	API for querying cloud services supported by TMS

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 region **Dublin** is **iam.myhuaweicloud.eu**.
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 **Dublin** region, obtain the endpoint of IAM (**iam.myhuaweicloud.eu**) 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.myhuaweicloud.eu/v3/auth/tokens
```

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.
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.myhuaweicloud.eu/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
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

Parameter	Description	Mandatory	Example Value
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.myhuaweicloud.eu/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 (for example, JSON or XML) 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 *xxxxxxxxxxxxxxxxxx* (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.myhuaweicloud.eu/v3/auth/tokens
Content-Type: application/json
```

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

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 a 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**.

TMS is a global service. When you call the API, set **auth.scope** in the request body to **domain**. For details about how to obtain the user token, see **Obtaining a User Token**.

```
{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",   // IAM user name
                    "password": "********",  // IAM user password
                    "domain": {
                        "name": "domainname"  // Name of the account to which the IAM user belongs
                    }
                }
            }
        },
        "scope": {
            "domain": {
                "name": "xxxxxxxx"    // Project name
            }
        }
    }
}
```

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.eu-west-101.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, which is 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**.

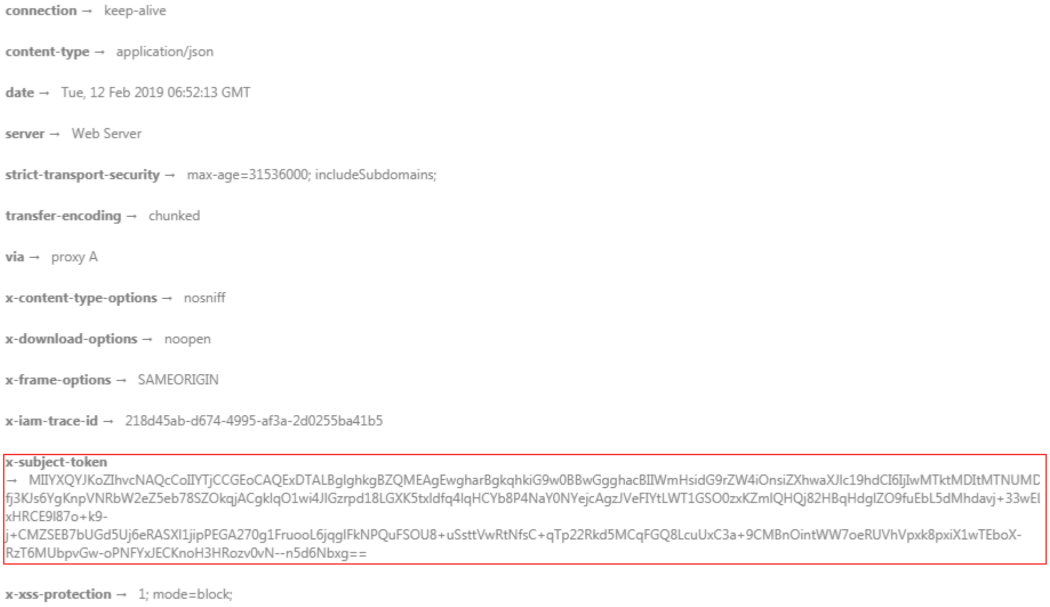
For example, if status code **201** is returned for calling the API used to **obtain a user token**, the request is successful.

Response Header

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

Figure 3-1 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 3-1 Header fields of the response to the request for obtaining a user token



```
connection → keep-alive

content-type → application/json

date → Tue, 12 Feb 2019 06:52:13 GMT

server → Web Server

strict-transport-security → max-age=31536000; includeSubdomains;

transfer-encoding → chunked

via → proxy A

x-content-type-options → nosniff

x-download-options → noopen

x-frame-options → SAMEORIGIN

x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5

x-subject-token
→ MIIYXQYJKoZIhvcNAQcCoIIYTjCCGEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjIwMTktMDItMTNUMD
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JIGzrpd18LGXK5txldfq4lqHCYb8P4NaY0NYejcAgzJVeFIYtLWT1GSO0zxKZmIQHQj82HBqHdglZO9fuEbL5dMhdavj+33wEl
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jqglFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==

x-xss-protection → 1; mode=block;
```

(Optional) Response Body

The body of a response is often returned in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to **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.

- The IAM API used to obtain the token
- The 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 **Creating or Deleting Predefined Tags**.

5 API Description

5.1 API Version Querying

5.1.1 Querying API Versions

Function

Querying API versions

Calling Method

For details, see **Calling APIs**.

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	Specifies the 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	Specifies the 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 API versions

```
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.

Calling Method

For details, see **Calling APIs**.

URI

GET /{api_version}

Table 5-26 Path Parameters

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

Request Parameters

Table 5-27 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. TMS is a global service. When calling the Identity and Access Management (IAM) API to obtain a user token, 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 5-28 Response body parameters

Parameter	Type	Description
version	**VersionDetail** object	Specifies the version details.

Table 5-29 VersionDetail

Parameter	Type	Description
id	String	Specifies the version ID, for example, v1.0.
links	Array of **Link** objects	Specifies the 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 5-30 Link

Parameter	Type	Description
href	String	Specifies the API URL.
rel	String	self

Status code: 400

Table 5-31 Response body parameters

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

Table 5-32 RespErrorMessage

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

Status code: 404

Table 5-33 Response body parameters

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

Table 5-34 RespErrorMessage

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

Status code: 405

Table 5-35 Response body parameters

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

Table 5-36 RespErrorMessage

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

Status code: 406

Table 5-37 Response body parameters

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

Table 5-38 RespErrorMessage

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

Status code: 408

Table 5-39 Response body parameters

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

Table 5-40 RespErrorMessage

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

Status code: 409

Table 5-41 Response body parameters

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

Table 5-42 RespErrorMessage

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

Status code: 410

Table 5-43 Response body parameters

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

Table 5-44 RespErrorMessage

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

Status code: 412

Table 5-45 Response body parameters

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

Table 5-46 RespErrorMessage

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

Status code: 429

Table 5-47 Response body parameters

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

Table 5-48 RespErrorMessage

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

Status code: 500

Table 5-49 Response body parameters

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

Table 5-50 RespErrorMessage

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

Status code: 501

Table 5-51 Response body parameters

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

Table 5-52 RespErrorMessage

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

Status code: 503

Table 5-53 Response body parameters

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

Table 5-54 RespErrorMessage

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

Example Requests

Querying details about a TMS API version

```
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 Predefined Tags

5.2.1 Creating Predefined Tags

Function

This API is used to create predefined tags. This API supports idempotency and batch data processing.

Calling Method

For details, see **Calling APIs**.

URI

POST /v1.0/predefine_tags/action

Request Parameters

Table 5-55 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. TMS is a global service. When calling the Identity and Access Management (IAM) API to obtain a user token, set the **scope** field to **domain**. The value of **X-Subject-Token** in the response header is the user token.

Table 5-56 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Specifies the operation (case sensitive). The value is **create**.
tags	Yes	Array of **PredefineTagRequest** objects	Tag list.

Table 5-57 PredefineTagRequest

Parameter	Mandatory	Type	Description
key	Yes	String	Specifies the tag key. The value can contain up to 36 characters including letters, digits, hyphens (-), and underscores (_).
value	Yes	String	Specifies the tag value.The value can contain up to 43 characters including letters, digits, periods (.), hyphens (-), and underscores (_). It can be an empty string.

Response Parameters

Status code: 400

Table 5-58 Response body parameters

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

Table 5-59 RespErrorMessage

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

Status code: 401

Table 5-60 Response body parameters

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

Table 5-61 RespErrorMessage

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

Status code: 403

Table 5-62 Response body parameters

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

Table 5-63 RespErrorMessage

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

Status code: 404

Table 5-64 Response body parameters

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

Table 5-65 RespErrorMessage

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

Status code: 405

Table 5-66 Response body parameters

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

Table 5-67 RespErrorMessage

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

Status code: 406

Table 5-68 Response body parameters

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

Table 5-69 RespErrorMessage

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

Status code: 409

Table 5-70 Response body parameters

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

Table 5-71 RespErrorMessage

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

Status code: 410

Table 5-72 Response body parameters

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

Table 5-73 RespErrorMessage

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

Status code: 412

Table 5-74 Response body parameters

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

Table 5-75 RespErrorMessage

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

Status code: 429

Table 5-76 Response body parameters

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

Table 5-77 RespErrorMessage

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

Status code: 500

Table 5-78 Response body parameters

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

Table 5-79 RespErrorMessage

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

Status code: 501

Table 5-80 Response body parameters

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

Table 5-81 RespErrorMessage

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

Status code: 503

Table 5-82 Response body parameters

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

Table 5-83 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" : "ENV1",
    "value" : "DEV1"
  }, {
    "key" : "ENV2",
    "value" : "DEV2"
  } ]
}
```

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
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**.

5.2.2 Deleting predefined tags

Function

This API is used to deletes predefined tags. This API supports idempotency and batch data processing.

Calling Method

For details, see **Calling APIs**.

URI

POST /v1.0/predefine_tags/action

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.

Table 5-85 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Specifies the operation (case sensitive). The value is **delete**.

Parameter	Mandatory	Type	Description
tags	Yes	Array of **PredefineTagRequest** objects	Tag list.

Table 5-86 PredefineTagRequest

Parameter	Mandatory	Type	Description
key	Yes	String	Specifies the tag key. The value can contain up to 36 characters including letters, digits, hyphens (-), and underscores (_).
value	Yes	String	Specifies the tag value.The value can contain up to 43 characters including letters, digits, periods (.), hyphens (-), and underscores (_). It can be an empty string.

Response Parameters

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

Deleting predefined tags

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

{
  "action" : "delete",
  "tags" : [ {
    "key" : "ENV1",
    "value" : "DEV1"
  }, {
    "key" : "ENV2",
    "value" : "DEV2"
  } ]
}
```

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
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**.

5.2.3 Querying Predefined Tags

Function

This API is used to query predefined tags.

Calling Method

For details, see **Calling APIs**.

URI

GET /v1.0/predefine_tags

Table 5-113 Query Parameters

Parameter	Mandatory	Type	Description
key	No	String	Specifies the tag key. Fuzzy search is supported. **Key** is case insensitive. If the key contains non-URL-safe characters, it must be URL encoded.
value	No	String	Specifies the tag value. Fuzzy search is supported. **Value** is case insensitive. If the value contains non-URL-safe characters, it must be URL encoded.
limit	No	Integer	Specifies the number of records to be queried, which is **10** by default. The maximum value is **1000** and the minimum value is **1**. If the value is **0**, the number of records to be queried is not limited. Minimum: **1** Maximum: **1000** Default: **10**
marker	No	String	Specifies the paging location marker (index position). 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 you query the data on the first page. When you query the data on subsequent pages, set this parameter to the **marker** value returned in the response body for the previous query. If the returned **tags** is empty, the last page is queried.

Parameter	Mandatory	Type	Description
order_field	No	String	Specifies the sorting field. The value can be **update_time**, **key**, or **value**. The value is case sensitive. You can sort tags based on the value of **order_method**. If this value is not specified, the default value is **update_time**. For example: If **order_field** is set to **update_time**, values of **key** and **value** are sorted in ascending order. If **order_field** is set to **key**, values of **update_time** are sorted in descending order and **value** in ascending order. If **order_field** is set to **value**, values of **update_time** are sorted in descending order and **value** in ascending order. If **order_field** is not specified, the default value **update_time** is used, and values of **key** and **value** are sorted in ascending order. Default: **update_time**
order_method	No	String	Specifies the sorting method of **order_field**. The value can be **asc** or **desc**. The value is case sensitive. If this parameter is not specified, the default value is **desc**. Default: **desc**

Request Parameters

Table 5-114 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. TMS is a global service. When calling the Identity and Access Management (IAM) API to obtain a user token, 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 5-115 Response body parameters

Parameter	Type	Description
marker	String	Specifies the paging location marker (index position).
total_count	Integer	Total number of queried tags.
tags	Array of **PredefineTag** objects	List of queried tags.

Table 5-116 PredefineTag

Parameter	Type	Description
key	String	Specifies the tag key. The value can contain up to 36 characters including letters, digits, hyphens (-), and underscores (_).
value	String	Specifies the tag value.The value can contain up to 43 characters including letters, digits, periods (.), hyphens (-), and underscores (_). It can be an empty string.
update_time	String	Update time, which must be the UTC time. 2016-12-09T00:00:00Z

Status code: 400

Table 5-117 Response body parameters

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

Table 5-118 RespErrorMessage

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

Status code: 401

Table 5-119 Response body parameters

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

Table 5-120 RespErrorMessage

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

Status code: 403

Table 5-121 Response body parameters

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

Table 5-122 RespErrorMessage

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

Status code: 404

Table 5-123 Response body parameters

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

Table 5-124 RespErrorMessage

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

Status code: 405

Table 5-125 Response body parameters

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

Table 5-126 RespErrorMessage

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

Status code: 406

Table 5-127 Response body parameters

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

Table 5-128 RespErrorMessage

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

Status code: 409

Table 5-129 Response body parameters

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

Table 5-130 RespErrorMessage

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

Status code: 410

Table 5-131 Response body parameters

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

Table 5-132 RespErrorMessage

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

Status code: 412

Table 5-133 Response body parameters

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

Table 5-134 RespErrorMessage

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

Status code: 429

Table 5-135 Response body parameters

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

Table 5-136 RespErrorMessage

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

Status code: 500

Table 5-137 Response body parameters

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

Table 5-138 RespErrorMessage

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

Status code: 501

Table 5-139 Response body parameters

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

Table 5-140 RespErrorMessage

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

Status code: 503

Table 5-141 Response body parameters

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

Table 5-142 RespErrorMessage

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

Example Requests

Querying predefined tags

```
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**.

5.2.4 Modifying a predefined tag

Function

Modify predefined tags.

Calling Method

For details, see **Calling APIs**.

URI

PUT /v1.0/predefine_tags

Request Parameters

Table 5-143 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. TMS is a global service. When calling the Identity and Access Management (IAM) API to obtain a user token, set the **scope** field to **domain**. The value of **X-Subject-Token** in the response header is the user token.

Table 5-144 Request body parameters

Parameter	Mandatory	Type	Description
new_tag	Yes	**PredefineTagRequest** object	Specifies the modified tag.
old_tag	Yes	**PredefineTagRequest** object	Specifies the tag before modification.

Table 5-145 PredefineTagRequest

Parameter	Mandatory	Type	Description
key	Yes	String	Specifies the tag key. The value can contain up to 36 characters including letters, digits, hyphens (-), and underscores (_).
value	Yes	String	Specifies the tag value.The value can contain up to 43 characters including letters, digits, periods (.), hyphens (-), and underscores (_). It can be an empty string.

Response Parameters

Status code: 400

Table 5-146 Response body parameters

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

Table 5-147 RespErrorMessage

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

Status code: 401

Table 5-148 Response body parameters

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

Table 5-149 RespErrorMessage

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

Status code: 403

Table 5-150 Response body parameters

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

Table 5-151 RespErrorMessage

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

Status code: 404

Table 5-152 Response body parameters

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

Table 5-153 RespErrorMessage

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

Status code: 405

Table 5-154 Response body parameters

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

Table 5-155 RespErrorMessage

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

Status code: 406

Table 5-156 Response body parameters

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

Table 5-157 RespErrorMessage

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

Status code: 409

Table 5-158 Response body parameters

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

Table 5-159 RespErrorMessage

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

Status code: 410

Table 5-160 Response body parameters

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

Table 5-161 RespErrorMessage

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

Status code: 412

Table 5-162 Response body parameters

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

Table 5-163 RespErrorMessage

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

Status code: 429

Table 5-164 Response body parameters

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

Table 5-165 RespErrorMessage

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

Status code: 500

Table 5-166 Response body parameters

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

Table 5-167 RespErrorMessage

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

Status code: 501

Table 5-168 Response body parameters

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

Table 5-169 RespErrorMessage

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

Status code: 503

Table 5-170 Response body parameters

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

Table 5-171 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
204	No Content
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 Services Supported by Tag Management Service

5.3.1 Querying Services Supported by TMS

Function

This API is used to query services supported by TMS.

Calling Method

For details, see **Calling APIs**.

URI

GET /v1.0/tms/providers

Table 5-172 Query Parameters

Parameter	Mandatory	Type	Description
locale	No	String	Specifies the display language. Default: **zh-cn**
limit	No	Integer	Specifies the number of records to be queried, which is **10** by default. The maximum value is **200** and the minimum value is **1**.
offset	No	Integer	Specifies the index position, which starts from the next data record specified by **offset**. The value must be a number and cannot be a negative number. The default value is **0**.
provider	No	String	Specifies the cloud service name.

Request Parameters

Table 5-173 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. TMS is a global service. When calling the Identity and Access Management (IAM) API to obtain a user token, 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 5-174 Response body parameters

Parameter	Type	Description
providers	Array of **ProviderResponseBody** objects	Specifies cloud services.
total_count	Integer	Specifies the total number of cloud services supported by TMS.

Table 5-175 ProviderResponseBody

Parameter	Type	Description
provider	String	Specifies the cloud service name.
provider_i18n_display_name	String	Specifies the display name of the resource. You can configure the language by setting the **locale** parameter.
resource_types	Array of **ResourceTypeBody** objects	Specifies the resource type list.

Table 5-176 ResourceTypeBody

Parameter	Type	Description
resource_type	String	Specifies the resource type.
resource_type_i18n_display_name	String	Specifies the display name of the resource type. You can configure the language by setting the **locale** parameter.
regions	Array of strings	Specifies supported regions.
global	Boolean	Specifies whether the resource is a global resource.

Status code: 400

Table 5-177 Response body parameters

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

Table 5-178 RespErrorMessage

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

Status code: 401

Table 5-179 Response body parameters

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

Table 5-180 RespErrorMessage

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

Status code: 402

Table 5-181 Response body parameters

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

Table 5-182 RespErrorMessage

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

Status code: 403

Table 5-183 Response body parameters

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

Table 5-184 RespErrorMessage

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

Status code: 404

Table 5-185 Response body parameters

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

Table 5-186 RespErrorMessage

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

Status code: 405

Table 5-187 Response body parameters

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

Table 5-188 RespErrorMessage

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

Status code: 406

Table 5-189 Response body parameters

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

Table 5-190 RespErrorMessage

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

Status code: 407

Table 5-191 Response body parameters

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

Table 5-192 RespErrorMessage

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

Status code: 408

Table 5-193 Response body parameters

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

Table 5-194 RespErrorMessage

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

Status code: 409

Table 5-195 Response body parameters

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

Table 5-196 RespErrorMessage

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

Status code: 500

Table 5-197 Response body parameters

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

Table 5-198 RespErrorMessage

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

Status code: 501

Table 5-199 Response body parameters

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

Table 5-200 RespErrorMessage

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

Status code: 502

Table 5-201 Response body parameters

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

Table 5-202 RespErrorMessage

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

Status code: 503

Table 5-203 Response body parameters

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

Table 5-204 RespErrorMessage

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

Status code: 504

Table 5-205 Response body parameters

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

Table 5-206 RespErrorMessage

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

Example Requests

None

Example Responses

Status code: 200

OK

```
{
  "providers" : [ {
    "provider" : "evs",
    "provider_i18n_display_name" : "Elastic Volume Service",
    "resource_types" : {
      "resource_type_i18n_display_name" : "EVS-Disk",
      "global" : false,
      "resource_type" : "disk",
   "regions" : [ "regionId1" ]
  }
 } ],
 "total_count" : 1
}
```

Status Codes

Status Code	Description
200	OK
400	Bad Request
401	Unauthorized
402	Payment Required
403	Forbidden
404	Not Found
405	Method Not Allowed
406	Not Acceptable
407	Proxy Authentication Required
408	Request Timeout
409	Conflict
500	Internal Server Error
501	Not Implemented
502	Bad Gateway
503	Service Unavailable
504	Gateway Timeout

Error Codes

See **Error Codes**.

6 Permissions Policies and Supported Actions

6.1 Permissions Policies and Supported Actions

You can use Identity and Access Management (IAM) for fine-grained permissions management of your TMS resources. If your does not need individual IAM users, you can skip 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.

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions 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.
- 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 or enterprise projects: Type of projects for which an action will take effect. 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 projects, 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	Supported	Not supported
Creating predefined tags	POST /v1.0/predefine_tags/action	tms:predefineTags:create	Supported	Not supported
Deleting predefined tags	POST /v1.0/predefine_tags/action	tms:predefineTags:delete	Supported	Not supported
Modifying a predefined tag	PUT /v1.0/predefine_tags	tms:predefineTags:update	Supported	Not supported
Querying services supported by TMS	GET /v1.0/tms/providers	Included in the **Tenant Guest** permissions.	Not supported	Not supported

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

Status Code	Error Codes	Error Message	Description	Solution
400	TMS.0002	Bad request.	Invalid request data.	Check request parameters.
400	TMS.0007	Limit is invalid.	Invalid limit.	Specify a valid limit.
400	TMS.0008	Marker is invalid.	Invalid marker.	Specify a valid marker.
400	TMS.0009	Key is invalid.	Invalid key.	Specify a valid key.
400	TMS.0010	Value is invalid.	Invalid value.	Specify a valid value.
400	TMS.0011	Action is invalid.	Invalid action.	Specify a valid action.
400	TMS.0012	Tags is empty.	tags is left blank.	Specify a valid tags.

Status Code	Error Codes	Error Message	Description	Solution
400	TMS.0013	Empty element in tags.	Elements in tags are empty.	Specify a valid tags.
400	TMS.0016	Values is too much.	The maximum number of characters for value has been reached.	Specify a valid value.
400	TMS.0017	Offset is invalid.	Invalid offset.	Specify a valid tags.
400	TMS.1001	The number of predefine tag exceeds the upper limit.	The maximum number of predefined tags has been reached.	Delete unnecessary predefined tags.
400	TMS.1002	Old_tag cannot be found.	The old tag does not exist.	Check the old tag.
400	TMS.1003	New_tag already exists.	The new tag already exists.	Check the new tag.
400	TMS.1004	Old_tag is empty.	The old tag is left blank.	Check the old tag.
400	TMS.1005	Invalid key in old_tag.	Invalid key in the old tag.	Specify a valid key for the old tag.
400	TMS.1006	Invalid value in old_tag.	Invalid value in the old tag.	Specify a valid value for the old tag.
400	TMS.1007	New_tag is empty.	The new tag is left blank.	Check the new tag.
400	TMS.1008	Invalid key in new_tag.	Invalid key in the new tag.	Specify a valid key for the new tag.
400	TMS.1009	Invalid value in new_tag.	Invalid value in the new tag.	Specify a valid value for the new tag.
400	TMS.1010	Order_field is invalid.	Invalid sortField.	Specify a valid sortField.
400	TMS.1011	Order_method is invalid.	Invalid orderMethod.	Specify a valid orderMethod.

Status Code	Error Codes	Error Message	Description	Solution
401	TMS.0003	Unauthorized user.	Unauthorized request.	Check the authentication token.
403	TMS.0004	Permission error.	Insufficient permissions.	Check your permissions.
403	TMS.0006	The request is too much, try again later.	Too many requests.	Try again later.
404	TMS.0005	Requested resources not found.	Failed to find the resource.	Contact the service support personnel to check whether the API has been registered.
409	TMS.0014	Conflict	Internal conflict.	Contact service support personnel.
500	TMS.0001	System error.	System error.	Contact service support personnel.
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 a project ID by calling the API used to **query 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.

A.4 Obtaining the Domain-Level Token

```
POST https://iam.eu-west-101.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
2022-09-30	This issue is the first official release.