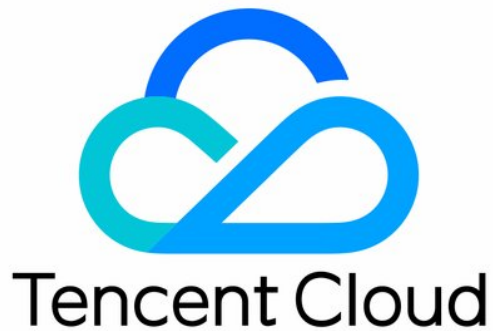


Tag

API Documentation

Product Documentation



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Last updated : 2024-03-20 15:31:05

Release 4

Release time: 2023-12-18 16:23:36

Release updates:

Improvement to existing documentation.

Modified APIs:

- [DescribeResourceTagsByResourceIds](#)
 - New input parameters:Category
- [DescribeTagKeys](#)
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- [DescribeTagValues](#)
 - New input parameters:Category
- [GetTagKeys](#)
 - New input parameters:Category
- [GetTagValues](#)
 - New input parameters:Category
- [GetTags](#)
 - New input parameters:Category

Modified data structures:

- [Tag](#)
 - New members:Category
- [TagResource](#)
 - New members:Category
- [TagWithDelete](#)
 - New members:Category

Release 3

Release time: 2023-04-25 10:49:51

Release updates:

Improvement to existing documentation.

New APIs:

- [DescribeProjects](#)

New data structures:

- [Project](#)

Release 2

Release time: 2022-04-20 11:48:08

Release updates:

Improvement to existing documentation.

New APIs:

- [CreateTags](#)
- [DeleteTags](#)
- [GetResources](#)
- [GetTagKeys](#)
- [GetTagValues](#)
- [GetTags](#)
- [TagResources](#)
- [UntagResources](#)

New data structures:

- [FailedResource](#)
- [ResourceTagMapping](#)

Existing Release

Release time: 2020-08-06 19:35:01

Existing APIs/data structures are as follows:

Improvement to existing documentation.

Existing APIs:

- [AddResourceTag](#)
- [AttachResourcesTag](#)
- [CreateTag](#)
- [DeleteResourceTag](#)
- [DeleteTag](#)
- [DescribeResourceTags](#)
- [DescribeResourceTagsByResourceIds](#)
- [DescribeResourceTagsByResourceIdsSeq](#)
- [DescribeResourceTagsByTagKeys](#)
- [DescribeResourcesByTags](#)
- [DescribeResourcesByTagsUnion](#)
- [DescribeTagKeys](#)
- [DescribeTagValues](#)
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Existing data structures:

- [ResourceIdTag](#)
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- [TagFilter](#)
- [TagKeyObject](#)
- [TagResource](#)
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Introduction

Last updated : 2024-03-20 15:31:02

As the number of Tencent Cloud user resources increase, resource management becomes more difficult. To facilitate the management, Tencent Cloud has launched the Tag service. Users can use tags to categorize and manage existing Tencent Cloud resources and pre-set tags for resource planning. Tags are words and phrases functioning as metadata to identify and organize Tencent Cloud resources. The quantity limit of tags vary with resources, but most resources can have up to 50 tags.

Note:

- APIs of Tag and Cloud Access Management (CAM) stated in this section are of the latest 3.0 version. New tag-related APIs will be updated in this section. It is highly recommended that you use API 3.0.

API Category

Last updated : 2024-03-20 15:31:02

Write APIs

API Name	Feature	Frequency Limit (maximum requests per second)
AddResourceTag	Associating Resources and Tags	20
AttachResourcesTag	Associates tag with resources in batches	20
CreateTag	Creating Tags	20
CreateTags	Batch creates tags	20
DeleteResourceTag	Unassociating Resources and Tags	20
DeleteTag	Deleting Tags	20
DeleteTags	Batch deletes tags	20
DetachResourcesTag	Unbinds tag from resources in batches	20
ModifyResourceTags	Batch Modifying Tags Associated with a Resource	20
ModifyResourcesTagValue	Modifies tag value associated with resources in batches	20
UnTagResources	Unbinds tag from resources	20
UpdateResourceTagValue	Modifying Resource Tag Values	20
TagResources	Binds tag to resources	20

Read APIs

API Name	Feature	Frequency Limit (maximum requests per second)

DescribeResourceTags	Queries tags associated with resource	20
DescribeResourceTagsByResourceIds	Batch queries tags associated with resource	100
DescribeResourceTagsByResourceIdsSeq	Views tags associated with resource in sequence	20
DescribeResourceTagsByTagKeys	Gets resource tags based on tag keys	20
DescribeResourcesByTags	Queries resources by tags	100
DescribeResourcesByTagsUnion	Queries resource list by tags	20
DescribeTagKeys	Querying Tag Keys	20
DescribeTagValues	Querying Tag Values	20
DescribeTagValuesSeq	Queries tag values in sequence	20
DescribeTags	Querying Tag Lists	60
DescribeTagsSeq	Queries tag lists in sequence	20
GetResources	Queries resource tag list	20
GetTagKeys	Queries tag key list	20
GetTagValues	Queries tag value list	20
GetTags	Gets tag list	20

Project APIs

API Name	Feature	Frequency Limit (maximum requests per second)
DescribeProjects	Gets project lists	20

Making API Requests

Request Structure

Last updated : 2024-03-20 15:31:02

1. Service Address

The API supports access from either a nearby region (at tag.tencentcloudapi.com) or a specified region (at tag.ap-guangzhou.tencentcloudapi.com for Guangzhou, for example).

We recommend using the domain name to access the nearest server. When you call an API, the request is automatically resolved to a server in the region **nearest** to the location where the API is initiated. For example, when you initiate an API request in Guangzhou, this domain name is automatically resolved to a Guangzhou server, the result is the same as that of specifying the region in the domain like "tag.ap-guangzhou.tencentcloudapi.com".

Note: For latency-sensitive businesses, we recommend that you specify the region in the domain name.

Tencent Cloud currently supports the following regions:

Hosted region	Domain name
Local access region (recommended, only for non-financial availability zones)	tag.tencentcloudapi.com
South China (Guangzhou)	tag.ap-guangzhou.tencentcloudapi.com
East China (Shanghai)	tag.ap-shanghai.tencentcloudapi.com
North China (Beijing)	tag.ap-beijing.tencentcloudapi.com
Southwest China (Chengdu)	tag.ap-chengdu.tencentcloudapi.com
Southwest China (Chongqing)	tag.ap-chongqing.tencentcloudapi.com
Hong Kong, Macao, Taiwan (Hong Kong, China)	tag.ap-hongkong.tencentcloudapi.com
Southeast Asia (Singapore)	tag.ap-singapore.tencentcloudapi.com
Southeast Asia (Bangkok)	tag.ap-bangkok.tencentcloudapi.com

South Asia (Mumbai)	tag.ap-mumbai.tencentcloudapi.com
Northeast Asia (Seoul)	tag.ap-seoul.tencentcloudapi.com
Northeast Asia (Tokyo)	tag.ap-tokyo.tencentcloudapi.com
U.S. East Coast (Virginia)	tag.na-ashburn.tencentcloudapi.com
U.S. West Coast (Silicon Valley)	tag.na-siliconvalley.tencentcloudapi.com
North America (Toronto)	tag.na-toronto.tencentcloudapi.com
Europe (Frankfurt)	tag.eu-frankfurt.tencentcloudapi.com

2. Communications Protocol

All the Tencent Cloud APIs communicate via HTTPS, providing highly secure communication tunnels.

3. Request Methods

Supported HTTP request methods:

- POST (recommended)
- GET

The Content-Type types supported by POST requests:

- application/json (recommended). The TC3-HMAC-SHA256 signature algorithm must be used.
- application/x-www-form-urlencoded. The HmacSHA1 or HmacSHA256 signature algorithm must be used.
- multipart/form-data (only supported by certain APIs). You must use TC3-HMAC-SHA256 to calculate the signature.

The size of a GET request packet is up to 32 KB. The size of a POST request is up to 1 MB when the HmacSHA1 or HmacSHA256 signature algorithm is used, and up to 10 MB when TC3-HMAC-SHA256 is used.

4. Character Encoding

Only UTF-8 encoding is used.

Common Params

Last updated : 2024-03-20 15:31:03

Common parameters are used for all APIs authenticating requestors. Common parameters must be included in all API requests, and they will not be described in individual API documents.

The exact contents of the common parameters will vary depending on the version of the signature method you use.

Common parameters for Signature Algorithm v3

When the TC3-HMAC-SHA256 algorithm is used, the common parameters should be uniformly placed in the HTTP request header, as shown below:

Parameter Name	Type	Required	Description
X-TC-Action	String	Yes	The name of the API for the desired operation. For the specific value, see description of common parameter <code>Action</code> in the input parameters in related API documentation. For example, the API for querying the CVM instance list is <code>DescribeInstances</code> .
X-TC-Region	String	Yes	Region parameter, which is used to identify the region to which the data you work with belongs. For values supported for an API, see the description of parameter <code>Region</code> in the input parameters in related API documentation. This parameter is not required for some APIs (which will be indicated in related documentation), and will not take effect even it is passed.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp that records the time when the API request is sent. For example, 1529223702. Note: If the difference between the UNIX timestamp and server time is greater than 5 minutes, a signature expiration error may occur.
X-TC-Version	String	Yes	API version of the action. For the valid values, see the description of the common parameter <code>Version</code> in the API documentation. For example, the version is 2017-03-12.
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_request/Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc96317 Here: - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is the UTC time, and this value must match the value of X-TC-Timestamp (a co

			parameter) in UTC time format; service is the name of the product/service generally a domain name prefix. For example, a domain name cvm.tencent refers to the CVM product and the value would be cvm; - SignedHeaders: The headers that contains the authentication information type and host are the required headers; - Signature: Signature digest.
X-TC-Token	String	No	The token used for a temporary certificate. It must be used with a temporary key to obtain the temporary key and token by calling a CAM API. No token is required for a long-term key.

Assuming you want to query the list of Cloud Virtual Machine instances in the Guangzhou region, the request structure in the form of request URL, request header and request body may be as follows:

Example of an HTTP GET request structure:

```
https://cvm.tencentcloudapi.com/?Limit=10&Offset=0

Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/2018-10-09/cvm/tc3_request, SignedHeaders=content-type;host, Signature=5da7a33f6993f0614b047e5df4582db9e9bf4672ba50567dba16c6ccf174c474
Content-Type: application/x-www-form-urlencoded
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1539084154
X-TC-Region: ap-guangzhou
```

The following example shows you how to structure an HTTP POST (application/json) request:

```
https://cvm.tencentcloudapi.com/

Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request, SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b13162d9279b0855cfba6789a8edb4c
Content-Type: application/json
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou

{"Offset":0,"Limit":10}
```

Example of an HTTP POST (multipart/form-data) request structure (only supported by specific APIs):

```
https://cvm.tencentcloudapi.com/
```

```
Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request,
SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b1316
2d9279b0855cfba6789a8edb4c
```

```
Content-Type: multipart/form-data; boundary=58731222010402
```

```
Host: cvm.tencentcloudapi.com
```

```
X-TC-Action: DescribeInstances
```

```
X-TC-Version: 2017-03-12
```

```
X-TC-Timestamp: 1527672334
```

```
X-TC-Region: ap-guangzhou
```

```
--58731222010402
```

```
Content-Disposition: form-data; name="Offset"
```

```
0
```

```
--58731222010402
```

```
Content-Disposition: form-data; name="Limit"
```

```
10
```

```
--58731222010402--
```

Common parameters for Signature Algorithm v1

To adopt the HmacSHA1 and HmacSHA256 signature methods, common parameters must be put into the request string, as shown below:

Parameter Name	Type	Required	Description
Action	String	Yes	The name of the API for the desired operation. For the specific value, see the description of common parameter <code>Action</code> in the input parameters in related API documentation. For example, the API for querying the CVM instance list is <code>DescribeInstances</code> .
Region	String	Yes	Region parameter, which is used to identify the region to which the data you want to work with belongs. For values supported for an API, see the description of common parameter <code>Region</code> in the input parameters in related API documentation. Note: This parameter is not required for some APIs (which will be indicated in related API documentation), and will not take effect even if it is passed.

Timestamp	Integer	Yes	The current UNIX timestamp that records the time when the API request was initiated, for example, 1529223702. If the difference between the value and the current system time is too large, a signature expiration error may occur.
Nonce	Integer	Yes	A random positive integer used along with <code>Timestamp</code> to prevent replay attacks.
SecretId	String	Yes	The identifying SecretId obtained on the Cloud API Key page. A SecretId corresponds to a unique SecretKey which is used to generate the request signature (Signature).
Signature	String	Yes	Request signature used to verify the validity of this request. This is calculated based on the actual input parameters. For more information about how this is calculated, see the API authentication documentation.
Version	String	Yes	API version of the action. For the valid values, see the description of the common input parameter <code>Version</code> in the API documentation. For example, the version of CVM is 2017-03-12.
SignatureMethod	String	No	Signature method. Currently, only HmacSHA256 and HmacSHA1 are supported. The HmacSHA256 algorithm is used to verify the signature only when this parameter is specified as HmacSHA256. In other cases, the signature is verified with HmacSHA1.
Token	String	No	The token used for a temporary certificate. It must be used with a temporary key. You can obtain the temporary key and token by calling a CAM API. No token is required for a long-term key.

Assuming you want to query the list of Cloud Virtual Machine instances in the Guangzhou region, the request structure in the form of request URL, request header and request body may be as follows:

Example of an HTTP GET request structure:

```
https://cvm.tencentcloudapi.com/?Action=DescribeInstances&Version=2017-03-12&SignatureMethod=HmacSHA256&Timestamp=1527672334&Signature=37ac2f4fde00b0ac9bd9eadeb459b1bb224158d66e7ae5fcadb70b2d181d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

```
Host: cvm.tencentcloudapi.com
Content-Type: application/x-www-form-urlencoded
```

Example of an HTTP POST request structure:

```
https://cvm.tencentcloudapi.com/
```

```
Host: cvm.tencentcloudapi.com
```

```
Content-Type: application/x-www-form-urlencoded
```

```
Action=DescribeInstances&Version=2017-03-12&SignatureMethod=HmacSHA256&Timestamp=1527672334&Signature=37ac2f4fde00b0ac9bd9eadeb459b1bbec224158d66e7ae5fcadb70b2d181d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```


Signature v3

Last updated : 2024-03-20 15:31:04

TencentCloud API authenticates every single request, i.e., the request must be signed using the security credentials in the designated steps. Each request has to contain the signature information (Signature) in the common request parameters and be sent in the specified way and format.

Applying for Security Credentials

The security credential used in this document is a key, which includes a SecretId and a SecretKey. Each user can have up to two pairs of keys.

- SecretId: Used to identify the API caller, which is just like a username.
- SecretKey: Used to authenticate the API caller, which is just like a password.
- **You must keep your security credentials private and avoid disclosure; otherwise, your assets may be compromised. If they are disclosed, please disable them as soon as possible.**

You can apply for the security credentials through the following steps:

1. Log in to the [Tencent Cloud Console](#).
2. Go to the [TencentCloud API Key](#) console page.
3. On the [TencentCloud API Key](#) page, click **Create** to create a SecretId/SecretKey pair.

Using the Resources for Developers

TencentCloud API comes with SDKs for seven commonly used programming languages, including [Python](#), [Java](#), [PHP](#), [Go](#), [NodeJS](#) and [.NET](#). In addition, it provides [API Explorer](#) which enables online call, signature verification, and SDK code generation. If you have any troubles calculating a signature, consult these resources.

TC3-HMAC-SHA256 Signature Algorithm

Compatible with the previous HmacSHA1 and HmacSHA256 signature algorithms, the TC3-HMAC-SHA256 signature algorithm is more secure and supports larger requests and JSON format with better performance. We recommend using TC3-HMAC-SHA256 to calculate the signature.

TencentCloud API supports both GET and POST requests. For the GET method, only the Content-Type: application/x-www-form-urlencoded protocol format is supported. For the POST method, two protocol formats,

Content-Type: application/json and Content-Type: multipart/form-data, are supported. The JSON format is supported by default for all business APIs, and the multipart format is supported only for specific business APIs. In this case, the API cannot be called in JSON format. See the specific business API documentation for more information. The POST method is recommended, as there is no difference in the results of both the methods, but the GET method only supports request packets up to 32 KB.

The following uses querying the list of CVM instances in the Guangzhou region as an example to describe the steps of signature splicing. We chose this API because:

1. CVM is activated by default, and this API is often used;
2. It is read-only and does not change the status of existing resources;
3. It covers many types of parameters, which allows it to be used to demonstrate how to use arrays containing data structures.

In the example, we try to choose common parameters and API parameters that are prone to mistakes. When you actually call an API, please use parameters based on the actual conditions. The parameters vary by API. Do not copy the parameters and values in this example.

Assuming that your SecretId and SecretKey are `AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****` and `Gu5t9xGARNpq86cd98joQYCN3*****`, respectively, if you want to view the status of the instance in the Guangzhou region whose CVM instance name is "unnamed" and have only one data entry returned, then the request may be:

```
curl -X POST https://cvm.tencentcloudapi.com \
-H "Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****
*/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e4
1437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff" \
-H "Content-Type: application/json; charset=utf-8" \
-H "Host: cvm.tencentcloudapi.com" \
-H "X-TC-Action: DescribeInstances" \
-H "X-TC-Timestamp: 1551113065" \
-H "X-TC-Version: 2017-03-12" \
-H "X-TC-Region: ap-guangzhou" \
-d '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-name"}]}'
```

The signature calculation process is explained in detail below.

1. Concatenating the CanonicalRequest String

Concatenate the canonical request string (CanonicalRequest) in the following pseudocode format:

```
CanonicalRequest =
HTTPRequestMethod + '\n' +
CanonicalURI + '\n' +
```

```
CanonicalQueryString + '\n' +
CanonicalHeaders + '\n' +
SignedHeaders + '\n' +
HashedRequestPayload
```

Field Name	Explanation
HTTPRequestMethod	HTTP request method (GET or POST). This example uses <code>POST</code> .
CanonicalURI	URI parameter. Slash ("/") is used for API 3.0.
CanonicalQueryString	The query string in the URL of the originating HTTP request. This is always an empty string "" for POST requests, and is the string after the question mark (?) for GET requests. For example: <code>Limit=10&Offset=0</code>. Note: <code>CanonicalQueryString</code> must be URL-encoded, referencing RFC3986, the UTF8 character set. We recommend using the programming language library. All special characters must be encoded and capitalized.
CanonicalHeaders	Header information for signature calculation, including at least two headers of <code>host</code> and <code>content-type</code>. Custom headers can be added to participate in the signature process to improve the uniqueness and security of the request. Concatenation rules: - Both the key and value of the header should be converted to lowercase with the leading and trailing spaces removed, so they are concatenated in the format of <code>key:value\n</code> format; - If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase). The calculation result in this example is <code>content-type:application/json; charset=utf-8\nhost:cvm.tencentcloudapi.com\n</code>. Note: <code>content-type</code> must match the actually sent content. In some programming languages, a charset value would be added even if it is not specified. In this case, the request sent is different from the one signed, and the server will return an error indicating signature verification failed.
SignedHeaders	Header information for signature calculation, indicating which headers of the request participate in the signature process (they must each individually correspond to the headers in CanonicalHeaders). <code>Content-type</code> and <code>host</code> are required headers. Concatenation rules: - Both the key and value of the header should be converted to lowercase; - If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase) and separated by semicolons (;). The value in this example is <code>content-type;host</code>
HashedRequestPayload	Hash value of the request payload (i.e., the body, such as <code>{"Limit": 1, "Filter</code>

`[{"Values": ["unnamed"], "Name": "instance-name"}]` in this example
 The pseudocode for calculation is
 Lowercase(HexEncode(Hash.SHA256(RequestPayload))) by SHA256 hashing the payload of the HTTP request, performing hexadecimal encoding, and finally converting the encoded string to lowercase letters. For GET requests, `RequestPayload` is always an empty string. The calculation result in this example is
`99d58dfbc6745f6747f36bfca17dee5e6881dc0428a0a36f96199342bc5b4907`

According to the rules above, the `CanonicalRequest` string obtained in the example is as follows:

POST

/

content-type:application/json; charset=utf-8

host:cvm.tencentcloudapi.com

content-type;host

`99d58dfbc6745f6747f36bfca17dee5e6881dc0428a0a36f96199342bc5b4907`

2. Concatenating the String to Be Signed

The string to sign is concatenated as follows:

```
StringToSign =
Algorithm + \n +
RequestTimestamp + \n +
CredentialScope + \n +
HashedCanonicalRequest
```

Field Name	Explanation
Algorithm	Signature algorithm, which is currently always <code>TC3-HMAC-SHA256</code> .
RequestTimestamp	Request timestamp, i.e., the value of the common parameter <code>X-TC-Timestamp</code> in request header, which is the UNIX timestamp of the current time in seconds, such as <code>1551113065</code> in this example.
CredentialScope	Scope of the credential in the format of <code>Date/service/tc3_request</code> , including date, requested service and termination string (tc3_request). Date is a date in UTC time, whose value should match the UTC date converted by the common parameter X-TC-Timestamp ; <code>service</code> is the product name, which should be the domain name of the product called. The calculation result in this example is <code>2018-05-25/cvm/tc3_request</code> .

HashedCanonicalRequest

Hash value of the CanonicalRequest string concatenated in the steps above. The pseudocode for calculation is Lowercase(HexEncode(Hash.SHA256(CanonicalRequest))). The calculation result in this example is

```
2815843035062fffd6f2a44ea8a34818b0dc46f024b8b3786976a3ad
```

Note:

1. Date has to be calculated from the timestamp "X-TC-Timestamp" and the time zone is UTC+0. If you add the system's local time zone information (such as UTC+8), calls can succeed both day and night but will definitely fail at 00:00. For example, if the timestamp is 1551113065 and the time in UTC+8 is 2019-02-26 00:44:25, the UTC+0 date in the calculated Date value should be 2019-02-25 instead of 2019-02-26.
2. Timestamp must be the same as your current system time, and your system time and standard time must be synced; if the difference between Timestamp and your current system time is larger than five minutes, the request will fail. If your system time is out of sync with the standard time for a while, the request will fail and return a signature expiration error.

According to the preceding rules, the string to be signed obtained in the example is as follows:

```
TC3-HMAC-SHA256
1551113065
2019-02-25/cvm/tc3_request
2815843035062fffd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a
```

3. Calculating the Signature

1. Calculate the derived signature key with the following pseudocode:

```
SecretKey = "Gu5t9xGARNpq86cd98joQYCN3*****"
SecretDate = HMAC_SHA256("TC3" + SecretKey, Date)
SecretService = HMAC_SHA256(SecretDate, Service)
SecretSigning = HMAC_SHA256(SecretService, "tc3_request")
```

Field Name	Explanation
SecretKey	The original SecretKey, i.e., <code>Gu5t9xGARNpq86cd98joQYCN3*****</code> .
Date	The Date field information in <code>Credential</code> , such as <code>2019-02-25</code> in this example.

Service	Value in the Service field in <code>Credential</code> , such as <code>cvm</code> in this example.
---------	---

2. Calculate the signature with the following pseudocode:

```
Signature = HexEncode(HMAC_SHA256(SecretSigning, StringToSign))
```

4. Concatenating the Authorization

The Authorization is concatenated as follows:

```
Authorization =
Algorithm + ' ' +
'Credential=' + SecretId + '/' + CredentialScope + ', ' +
'SignedHeaders=' + SignedHeaders + ', ' +
'Signature=' + Signature
```

Field Name	Explanation
Algorithm	Signature algorithm, which is always <code>TC3-HMAC-SHA256</code> .
SecretId	The SecretId in the key pair, i.e., <code>AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****</code> .
CredentialScope	Credential scope (see above). The calculation result in this example is <code>2019-02-25/cvm/tc3_request</code> .
SignedHeaders	Header information for signature calculation (see above), such as <code>content-type;host</code> in this example.
Signature	Signature value. The calculation result in this example is <code>c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff</code> .

According to the rules above, the value obtained in the example is:

```
TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****/2019-02-25/cvm/tc
3_request, SignedHeaders=content-type;host, Signature=c492e8e41437e97a620b728c301
bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
```

The following example shows a finished authorization header:

```
POST https://cvm.tencentcloudapi.com/
Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****/20
19-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e41437
e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
```

```
Content-Type: application/json; charset=utf-8
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1551113065
X-TC-Region: ap-guangzhou

{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-name"}]}
```

5. Signature Demo

When calling API 3.0, you are recommended to use the corresponding Tencent Cloud SDK 3.0 which encapsulates the signature process, enabling you to focus on only the specific APIs provided by the product when developing. See [SDK Center](#) for more information. Currently, the following programming languages are supported:

- [Python](#)
- [Java](#)
- [PHP](#)
- [Go](#)
- [NodeJS](#)
- [.NET](#)

To further explain the signing process, we will use a programming language to implement the process described above. The request domain name, API and parameter values in the sample are used here. This goal of this example is only to provide additional clarification for the signature process, please see the SDK for actual usage.

The final output URL might be: `https://cvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceId=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****&Signature=EliP9YW3pW28FpsEdkXt%2F%2BWcGel%3D&Timestamp=1465185768&Version=2017-03-12.`

Note: The key in the example is fictitious, and the timestamp is not the current time of the system, so if this URL is opened in the browser or called using commands such as curl, an authentication error will be returned: Signature expired. In order to get a URL that can work properly, you need to replace the SecretId and SecretKey in the example with your real credentials and use the current time of the system as the Timestamp.

Note: In the example below, even if you use the same programming language, the order of the parameters in the URL may be different for each execution. However, the order does not matter, as long as all the parameters are included in the URL and the signature is calculated correctly.

Note: The following code is only applicable to API 3.0. It cannot be directly used in other signature processes. Even with an older API, signature calculation errors may occur due to the differences in details. Please refer to the corresponding documentation.

Java

```
import java.nio.charset.Charset;
import java.nio.charset.StandardCharsets;
import java.security.MessageDigest;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.TimeZone;
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.xml.bind.DatatypeConverter;

public class TencentCloudAPITC3Demo {
    private final static Charset UTF8 = StandardCharsets.UTF_8;
    private final static String SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****";
    private final static String SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*****";
    private final static String CT_JSON = "application/json; charset=utf-8";

    public static byte[] hmac256(byte[] key, String msg) throws Exception {
        Mac mac = Mac.getInstance("HmacSHA256");
        SecretKeySpec secretKeySpec = new SecretKeySpec(key, mac.getAlgorithm());
        mac.init(secretKeySpec);
        return mac.doFinal(msg.getBytes(UTF8));
    }

    public static String sha256Hex(String s) throws Exception {
        MessageDigest md = MessageDigest.getInstance("SHA-256");
        byte[] d = md.digest(s.getBytes(UTF8));
        return DatatypeConverter.printHexBinary(d).toLowerCase();
    }

    public static void main(String[] args) throws Exception {
        String service = "cvm";
        String host = "cvm.tencentcloudapi.com";
        String region = "ap-guangzhou";
        String action = "DescribeInstances";
        String version = "2017-03-12";
        String algorithm = "TC3-HMAC-SHA256";
        String timestamp = "1551113065";
        //String timestamp = String.valueOf(System.currentTimeMillis() / 1000);
        SimpleDateFormat sdf = new SimpleDateFormat("yyyy-MM-dd");
        // Pay attention to the time zone; otherwise, errors may occur
        sdf.setTimeZone(TimeZone.getTimeZone("UTC"));
        String date = sdf.format(new Date(Long.valueOf(timestamp + "000")));

        // ***** Step 1: Concatenate the CanonicalRequest string *****
    }
```



```

String httpRequestMethod = "POST";
String canonicalUri = "/";
String canonicalQueryString = "";
String canonicalHeaders = "content-type:application/json; charset=utf-8\n" + "host:" + host + "\n";
String signedHeaders = "content-type;host";

String payload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"unnamed\"], \"Name\": \"instance-name\"}] }";
String hashedRequestPayload = sha256Hex(payload);
String canonicalRequest = httpRequestMethod + "\n" + canonicalUri + "\n" + canonicalQueryString + "\n"
+ canonicalHeaders + "\n" + signedHeaders + "\n" + hashedRequestPayload;
System.out.println(canonicalRequest);

// ***** Step 2: Concatenate the string to sign *****
String credentialScope = date + "/" + service + "/" + "tc3_request";
String hashedCanonicalRequest = sha256Hex(canonicalRequest);
String stringToSign = algorithm + "\n" + timestamp + "\n" + credentialScope + "\n" + hashedCanonicalRequest;
System.out.println(stringToSign);

// ***** Step 3: Calculate the signature *****
byte[] secretDate = hmac256(("TC3" + SECRET_KEY).getBytes(UTF8), date);
byte[] secretService = hmac256(secretDate, service);
byte[] secretSigning = hmac256(secretService, "tc3_request");
String signature = DatatypeConverter.printHexBinary(hmac256(secretSigning, stringToSign)).toLowerCase();
System.out.println(signature);

// ***** Step 4: Concatenate the Authorization *****
String authorization = algorithm + " " + "Credential=" + SECRET_ID + "/" + credentialScope + ", "
+ "SignedHeaders=" + signedHeaders + ", " + "Signature=" + signature;
System.out.println(authorization);

TreeMap<String, String> headers = new TreeMap<String, String>();
headers.put("Authorization", authorization);
headers.put("Content-Type", CT_JSON);
headers.put("Host", host);
headers.put("X-TC-Action", action);
headers.put("X-TC-Timestamp", timestamp);
headers.put("X-TC-Version", version);
headers.put("X-TC-Region", region);

StringBuilder sb = new StringBuilder();
sb.append("curl -X POST https://").append(host)

```

```
.append(" -H \"Authorization: ").append(authorization).append("\")
.append(" -H \"Content-Type: application/json; charset=utf-8\")
.append(" -H \"Host: ").append(host).append("\")
.append(" -H \"X-TC-Action: ").append(action).append("\")
.append(" -H \"X-TC-Timestamp: ").append(timestamp).append("\")
.append(" -H \"X-TC-Version: ").append(version).append("\")
.append(" -H \"X-TC-Region: ").append(region).append("\")
.append(" -d ").append(payload).append("");
System.out.println(sb.toString());
}
}
```

Python

```
# -*- coding: utf-8 -*-
import hashlib, hmac, json, os, sys, time
from datetime import datetime

# Key Parameters
secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3*****"

service = "cvm"
host = "cvm.tencentcloudapi.com"
endpoint = "https://" + host
region = "ap-guangzhou"
action = "DescribeInstances"
version = "2017-03-12"
algorithm = "TC3-HMAC-SHA256"
#timestamp = int(time.time())
timestamp = 1551113065
date = datetime.utcfromtimestamp(timestamp).strftime("%Y-%m-%d")
params = {"Limit": 1, "Filters": [{"Name": "instance-name", "Values": ["unnamed"]}]}

# ***** Step 1: Concatenate the CanonicalRequest string *****
http_request_method = "POST"
canonical_uri = "/"
canonical_querystring = ""
ct = "application/json; charset=utf-8"
payload = json.dumps(params)
canonical_headers = "content-type:%s\nhost:%s\n" % (ct, host)
signed_headers = "content-type;host"
hashed_request_payload = hashlib.sha256(payload.encode("utf-8")).hexdigest()
canonical_request = (http_request_method + "\n" +
canonical_uri + "\n" +
```

```

canonical_querystring + "\n" +
canonical_headers + "\n" +
signed_headers + "\n" +
hashed_request_payload)
print(canonical_request)

# ***** Step 2: Concatenate the string to sign *****
credential_scope = date + "/" + service + "/" + "tc3_request"
hashed_canonical_request = hashlib.sha256(canonical_request.encode("utf-8")).hexdigest()
string_to_sign = (algorithm + "\n" +
str(timestamp) + "\n" +
credential_scope + "\n" +
hashed_canonical_request)
print(string_to_sign)

# ***** Step 3: Calculate the Signature *****
# Function for computing signature digest
def sign(key, msg):
return hmac.new(key, msg.encode("utf-8"), hashlib.sha256).digest()
secret_date = sign(("TC3" + secret_key).encode("utf-8"), date)
secret_service = sign(secret_date, service)
secret_signing = sign(secret_service, "tc3_request")
signature = hmac.new(secret_signing, string_to_sign.encode("utf-8"), hashlib.sha256).hexdigest()
print(signature)

# ***** Step 4: Concatenate the Authorization *****
authorization = (algorithm + " " +
"Credential=" + secret_id + "/" + credential_scope + ", " +
"SignedHeaders=" + signed_headers + ", " +
"Signature=" + signature)
print(authorization)

print('curl -X POST ' + endpoint
+ ' -H "Authorization: ' + authorization + '" '
+ ' -H "Content-Type: application/json; charset=utf-8" '
+ ' -H "Host: ' + host + '" '
+ ' -H "X-TC-Action: ' + action + '" '
+ ' -H "X-TC-Timestamp: ' + str(timestamp) + '" '
+ ' -H "X-TC-Version: ' + version + '" '
+ ' -H "X-TC-Region: ' + region + '" '
+ " -d '" + payload + "'")

```

Golang

```
package main

import (
    "crypto/hmac"
    "crypto/sha256"
    "encoding/hex"
    "fmt"
    "time"
)

func sha256hex(s string) string {
    b := sha256.Sum256([]byte(s))
    return hex.EncodeToString(b[:])
}

func hmacsha256(s, key string) string {
    hashed := hmac.New(sha256.New, []byte(key))
    hashed.Write([]byte(s))
    return string(hashed.Sum(nil))
}

func main() {
    secretId := "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"
    secretKey := "Gu5t9xGARNpq86cd98joQYCN3*****"
    host := "cvm.tencentcloudapi.com"
    algorithm := "TC3-HMAC-SHA256"
    service := "cvm"
    version := "2017-03-12"
    action := "DescribeInstances"
    region := "ap-guangzhou"
    //var timestamp int64 = time.Now().Unix()
    var timestamp int64 = 1551113065

    // step 1: build canonical request string
    httpRequestMethod := "POST"
    canonicalURI := "/"
    canonicalQueryString := ""
    canonicalHeaders := "content-type:application/json; charset=utf-8\n" + "host:" +
        host + "\n"
    signedHeaders := "content-type;host"
    payload := `{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-na
me"}]}`
    hashedRequestPayload := sha256hex(payload)
    canonicalRequest := fmt.Sprintf("%s\n%s\n%s\n%s\n%s\n%s",
        httpRequestMethod,
        canonicalURI,
```

```

canonicalQueryString,
canonicalHeaders,
signedHeaders,
hashedRequestPayload)
fmt.Println(canonicalRequest)

// step 2: build string to sign
date := time.Unix(timestamp, 0).UTC().Format("2006-01-02")
credentialScope := fmt.Sprintf("%s/%s/tc3_request", date, service)
hashedCanonicalRequest := sha256hex(canonicalRequest)
string2sign := fmt.Sprintf("%s\n%d\n%s\n%s",
algorithm,
timestamp,
credentialScope,
hashedCanonicalRequest)
fmt.Println(string2sign)

// step 3: sign string
secretDate := hmacsha256(date, "TC3"+secretKey)
secretService := hmacsha256(service, secretDate)
secretSigning := hmacsha256("tc3_request", secretService)
signature := hex.EncodeToString([]byte(hmacsha256(string2sign, secretSigning)))
fmt.Println(signature)

// step 4: build authorization
authorization := fmt.Sprintf("%s Credential=%s/%s, SignedHeaders=%s, Signature=%s",
algorithm,
secretId,
credentialScope,
signedHeaders,
signature)
fmt.Println(authorization)

curl := fmt.Sprintf(`curl -X POST https://%s\
-H "Authorization: %s"\
-H "Content-Type: application/json; charset=utf-8"\
-H "Host: %s" -H "X-TC-Action: %s"\
-H "X-TC-Timestamp: %d"\
-H "X-TC-Version: %s"\
-H "X-TC-Region: %s"\
-d '%s'`, host, authorization, host, action, timestamp, version, region, payload)
fmt.Println(curl)
}

```

PHP

```
<?php
$secretId = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****";
$secretKey = "Gu5t9xGARNpq86cd98joQYCN3*****";
$host = "cvm.tencentcloudapi.com";
$service = "cvm";
$version = "2017-03-12";
$action = "DescribeInstances";
$region = "ap-guangzhou";
// $timestamp = time();
$timestamp = 1551113065;
$algorithm = "TC3-HMAC-SHA256";

// step 1: build canonical request string
$httpRequestMethod = "POST";
$canonicalUri = "/";
$canonicalQueryString = "";
$canonicalHeaders = "content-type:application/json; charset=utf-8\n"."host:". $host. "\n";
$signedHeaders = "content-type;host";
$payload = '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-name"}]}';
$hashedRequestPayload = hash("SHA256", $payload);
$canonicalRequest = $httpRequestMethod. "\n"
.$canonicalUri. "\n"
.$canonicalQueryString. "\n"
.$canonicalHeaders. "\n"
.$signedHeaders. "\n"
.$hashedRequestPayload;
echo $canonicalRequest.PHP_EOL;

// step 2: build string to sign
$date = gmdate("Y-m-d", $timestamp);
$credentialScope = $date. "/" . $service. "/tc3_request";
$hashedCanonicalRequest = hash("SHA256", $canonicalRequest);
$stringToSign = $algorithm. "\n"
.$timestamp. "\n"
.$credentialScope. "\n"
.$hashedCanonicalRequest;
echo $stringToSign.PHP_EOL;

// step 3: sign string
$secretDate = hash_hmac("SHA256", $date, "TC3". $secretKey, true);
$secretService = hash_hmac("SHA256", $service, $secretDate, true);
$secretSigning = hash_hmac("SHA256", "tc3_request", $secretService, true);
$signature = hash_hmac("SHA256", $stringToSign, $secretSigning);
echo $signature.PHP_EOL;
```

```
// step 4: build authorization
$authorization = $algorithm
." Credential=".$secretId."/".$credentialScope
.", SignedHeaders=content-type;host, Signature=".$signature;
echo $authorization.PHP_EOL;

$curl = "curl -X POST https://" . $host
.' -H "Authorization: ' . $authorization . '"'
.' -H "Content-Type: application/json; charset=utf-8"'
.' -H "Host: ' . $host . '"'
.' -H "X-TC-Action: ' . $action . '"'
.' -H "X-TC-Timestamp: ' . $timestamp . '"'
.' -H "X-TC-Version: ' . $version . '"'
.' -H "X-TC-Region: ' . $region . '"'
." -d '" . $payload . '"';
echo $curl.PHP_EOL;
```

Ruby

```
# -*- coding: UTF-8 -*-
# require ruby>=2.3.0
require 'digest'
require 'json'
require 'time'
require 'openssl'

# Key Parameters
secret_id = 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****'
secret_key = 'Gu5t9xGARNpq86cd98joQYCN3*****'

service = 'cvm'
host = 'cvm.tencentcloudapi.com'
endpoint = 'https://' + host
region = 'ap-guangzhou'
action = 'DescribeInstances'
version = '2017-03-12'
algorithm = 'TC3-HMAC-SHA256'
# timestamp = Time.now.to_i
timestamp = 1551113065
date = Time.at(timestamp).utc.strftime('%Y-%m-%d')

# ***** Step 1: Concatenate the CanonicalRequest string *****
http_request_method = 'POST'
canonical_uri = '/'
canonical_querystring = ''
```

```

canonical_headers = "content-type:application/json; charset=utf-8\nhost:#{host}
\n"
signed_headers = 'content-type;host'
# params = { 'Limit' => 1, 'Filters' => [{ 'Name' => 'instance-name', 'Values' =>
['unnamed'] }] }
# payload = JSON.generate(params, { 'ascii_only' => true, 'space' => ' ' })
# json will generate in random order, to get specified result in example, we hard
-code it here.
payload = '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-nam
e"}]}'
hashed_request_payload = Digest::SHA256.hexdigest(payload)
canonical_request = [
http_request_method,
canonical_uri,
canonical_querystring,
canonical_headers,
signed_headers,
hashed_request_payload,
].join("\n")

puts canonical_request

# ***** Step 2: Concatenate the string to sign *****
credential_scope = date + '/' + service + '/' + 'tc3_request'
hashed_request_payload = Digest::SHA256.hexdigest(canonical_request)
string_to_sign = [
algorithm,
timestamp.to_s,
credential_scope,
hashed_request_payload,
].join("\n")
puts string_to_sign

# ***** Step 3: Calculate the Signature *****
digest = OpenSSL::Digest.new('sha256')
secret_date = OpenSSL::HMAC.digest(digest, 'TC3' + secret_key, date)
secret_service = OpenSSL::HMAC.digest(digest, secret_date, service)
secret_signing = OpenSSL::HMAC.digest(digest, secret_service, 'tc3_request')
signature = OpenSSL::HMAC.hexdigest(digest, secret_signing, string_to_sign)
puts signature

# ***** Step 4: Concatenate the Authorization *****
authorization = "#{algorithm} Credential=#{secret_id}/#{credential_scope}, Signed
Headers=#{signed_headers}, Signature=#{signature}"
puts authorization

puts 'curl -X POST ' + endpoint \

```



```
+ ' -H "Authorization: ' + authorization + ' ' \
+ ' -H "Content-Type: application/json; charset=utf-8" ' \
+ ' -H "Host: ' + host + ' ' \
+ ' -H "X-TC-Action: ' + action + ' ' \
+ ' -H "X-TC-Timestamp: ' + timestamp.to_s + ' ' \
+ ' -H "X-TC-Version: ' + version + ' ' \
+ ' -H "X-TC-Region: ' + region + ' ' \
+ " -d '" + payload + ' "'
```

DotNet

```
using System;
using System.Collections.Generic;
using System.Security.Cryptography;
using System.Text;

public class Application
{
    public static string SHA256Hex(string s)
    {
        using (SHA256 algo = SHA256.Create())
        {
            byte[] hashbytes = algo.ComputeHash(Encoding.UTF8.GetBytes(s));
            StringBuilder builder = new StringBuilder();
            for (int i = 0; i < hashbytes.Length; ++i)
            {
                builder.Append(hashbytes[i].ToString("x2"));
            }
            return builder.ToString();
        }
    }

    public static byte[] HmacSHA256(byte[] key, byte[] msg)
    {
        using (HMACSHA256 mac = new HMACSHA256(key))
        {
            return mac.ComputeHash(msg);
        }
    }

    public static Dictionary<String, String> BuildHeaders(string secretid,
        string secretkey, string service, string endpoint, string region,
        string action, string version, DateTime date, string requestPayload)
    {
        string datestr = date.ToString("yyyy-MM-dd");
        DateTime startTime = new DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc);
        long requestTimestamp = (long)Math.Round((date - startTime).TotalMilliseconds, Mi
```

```

dpointRounding.AwayFromZero) / 1000;
// ***** Step 1: Concatenate the CanonicalRequest string *****
string algorithm = "TC3-HMAC-SHA256";
string httpRequestMethod = "POST";
string canonicalUri = "/";
string canonicalQueryString = "";
string contentType = "application/json";
string canonicalHeaders = "content-type:" + contentType + "; charset=utf-8\n" +
"host:" + endpoint + "\n";
string signedHeaders = "content-type;host";
string hashedRequestPayload = SHA256Hex(requestPayload);
string canonicalRequest = httpRequestMethod + "\n"
+ canonicalUri + "\n"
+ canonicalQueryString + "\n"
+ canonicalHeaders + "\n"
+ signedHeaders + "\n"
+ hashedRequestPayload;
Console.WriteLine(canonicalRequest);
Console.WriteLine("-----");

// ***** Step 2: Concatenate the string to sign *****
string credentialScope = datestr + "/" + service + "/" + "tc3_request";
string hashedCanonicalRequest = SHA256Hex(canonicalRequest);
string stringToSign = algorithm + "\n" + requestTimestamp.ToString() + "\n" + cre
dentialScope + "\n" + hashedCanonicalRequest;
Console.WriteLine(stringToSign);
Console.WriteLine("-----");

// ***** Step 3: Calculate the signature *****
byte[] tc3SecretKey = Encoding.UTF8.GetBytes("TC3" + secretkey);
byte[] secretDate = HmacSHA256(tc3SecretKey, Encoding.UTF8.GetBytes(datestr));
byte[] secretService = HmacSHA256(secretDate, Encoding.UTF8.GetBytes(service));
byte[] secretSigning = HmacSHA256(secretService, Encoding.UTF8.GetBytes("tc3_requ
est"));
byte[] signatureBytes = HmacSHA256(secretSigning, Encoding.UTF8.GetBytes(stringTo
Sign));
string signature = BitConverter.ToString(signatureBytes).Replace("-", "").ToLower
();
Console.WriteLine(signature);
Console.WriteLine("-----");

// ***** Step 4: Concatenate the Authorization *****
string authorization = algorithm + " "
+ "Credential=" + secretid + "/" + credentialScope + ", "
+ "SignedHeaders=" + signedHeaders + ", "
+ "Signature=" + signature;
Console.WriteLine(authorization);

```

```
Console.WriteLine("-----");

Dictionary<string, string> headers = new Dictionary<string, string>();
headers.Add("Authorization", authorization);
headers.Add("Host", endpoint);
headers.Add("Content-Type", contentType + "; charset=utf-8");
headers.Add("X-TC-Timestamp", requestTimestamp.ToString());
headers.Add("X-TC-Version", version);
headers.Add("X-TC-Action", action);
headers.Add("X-TC-Region", region);
return headers;
}

public static void Main(string[] args)
{
    // SecretID and SecretKey
    string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****";
    string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*****";

    string service = "cvm";
    string endpoint = "cvm.tencentcloudapi.com";
    string region = "ap-guangzhou";
    string action = "DescribeInstances";
    string version = "2017-03-12";

    // The timestamp `2019-02-26 00:44:25` used here is only for reference. In a project, use the following parameter:
    // DateTime date = DateTime.UtcNow;
    // Enter the correct time zone. We recommend using UTC timestamp to avoid errors.
    DateTime date = new DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc).AddSeconds(1551113065);
    string requestPayload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"\\u672a\\u547d\\u540d\"], \"Name\": \"instance-name\"}]}";

    Dictionary<string, string> headers = BuildHeaders(SECRET_ID, SECRET_KEY, service, endpoint, region, action, version, date, requestPayload);

    Console.WriteLine("POST https://cvm.tencentcloudapi.com");
    foreach (KeyValuePair<string, string> kv in headers)
    {
        Console.WriteLine(kv.Key + ": " + kv.Value);
    }
    Console.WriteLine();
    Console.WriteLine(requestPayload);
}
```

NodeJS

```
const crypto = require('crypto');

function sha256(message, secret = '', encoding) {
  const hmac = crypto.createHmac('sha256', secret)
  return hmac.update(message).digest(encoding)
}

function getHash(message, encoding = 'hex') {
  const hash = crypto.createHash('sha256')
  return hash.update(message).digest(encoding)
}

function getDate(timestamp) {
  const date = new Date(timestamp * 1000)
  const year = date.getUTCFullYear()
  const month = ('0' + (date.getUTCMonth() + 1)).slice(-2)
  const day = ('0' + date.getUTCDate()).slice(-2)
  return `${year}-${month}-${day}`
}

function main(){

const SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"
const SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*****"

const endpoint = "cvm.tencentcloudapi.com"
const service = "cvm"
const region = "ap-guangzhou"
const action = "DescribeInstances"
const version = "2017-03-12"
//const timestamp = getTime()
const timestamp = 1551113065
const date = getDate(timestamp)

// ***** Step 1: Concatenate the CanonicalRequest string *****
const signedHeaders = "content-type;host"

const payload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"unnamed\"], \"Name\": \"instance-name\"}]}"

const hashedRequestPayload = getHash(payload);
const httpRequestMethod = "POST"
const canonicalUri = "/"
const canonicalQueryString = ""
const canonicalHeaders = "content-type:application/json; charset=utf-8\n" + "host:" + endpoint + "\n"

const canonicalRequest = httpRequestMethod + "\n"
```

```

+ canonicalUri + "\n"
+ canonicalQueryString + "\n"
+ canonicalHeaders + "\n"
+ signedHeaders + "\n"
+ hashedRequestPayload
console.log(canonicalRequest)
console.log("-----")

// ***** Step 2: Concatenate the string to sign *****
const algorithm = "TC3-HMAC-SHA256"
const hashedCanonicalRequest = getHash(canonicalRequest);
const credentialScope = date + "/" + service + "/" + "tc3_request"
const stringToSign = algorithm + "\n" +
timestamp + "\n" +
credentialScope + "\n" +
hashedCanonicalRequest
console.log(stringToSign)
console.log("-----")

// ***** Step 3: Calculate the signature *****
const kDate = sha256(date, 'TC3' + SECRET_KEY)
const kService = sha256(service, kDate)
const kSigning = sha256('tc3_request', kService)
const signature = sha256(stringToSign, kSigning, 'hex')
console.log(signature)
console.log("-----")

// ***** Step 4: Concatenate the Authorization *****
const authorization = algorithm + " " +
"Credential=" + SECRET_ID + "/" + credentialScope + ", " +
"SignedHeaders=" + signedHeaders + ", " +
"Signature=" + signature
console.log(authorization)
console.log("-----")

const Call_Information = 'curl -X POST ' + "https://" + endpoint
+ ' -H "Authorization: ' + authorization + '"'
+ ' -H "Content-Type: application/json; charset=utf-8"'
+ ' -H "Host: ' + endpoint + '"'
+ ' -H "X-TC-Action: ' + action + '"'
+ ' -H "X-TC-Timestamp: ' + timestamp.toString() + '"'
+ ' -H "X-TC-Version: ' + version + '"'
+ ' -H "X-TC-Region: ' + region + '"'
+ " -d '" + payload + '"'
console.log(Call_Information)
}
main()

```

C++

```
#include <iostream>
#include <iomanip>
#include <sstream>
#include <string>
#include <stdio.h>
#include <time.h>
#include <openssl/sha.h>
#include <openssl/hmac.h>

using namespace std;

string get_data(int64_t &timestamp)
{
    string utcDate;
    char buff[20] = {0};
    // time_t timenow;
    struct tm sttime;
    sttime = *gmtime(&timestamp);
    strftime(buff, sizeof(buff), "%Y-%m-%d", &sttime);
    utcDate = string(buff);
    return utcDate;
}

string int2str(int64_t n)
{
    std::stringstream ss;
    ss << n;
    return ss.str();
}

string sha256Hex(const string &str)
{
    char buf[3];
    unsigned char hash[SHA256_DIGEST_LENGTH];
    SHA256_CTX sha256;
    SHA256_Init(&sha256);
    SHA256_Update(&sha256, str.c_str(), str.size());
    SHA256_Final(hash, &sha256);
    std::string NewString = "";
    for(int i = 0; i < SHA256_DIGEST_LENGTH; i++)
    {
        sprintf(buf, sizeof(buf), "%02x", hash[i]);
        NewString = NewString + buf;
    }
    return NewString;
}
```

```
}  
  
string HmacSha256(const string &key, const string &input)  
{  
    unsigned char hash[32];  
  
    HMAC_CTX *h;  
    #if OPENSSSL_VERSION_NUMBER < 0x10100000L  
    HMAC_CTX hmac;  
    HMAC_CTX_init(&hmac);  
    h = &hmac;  
    #else  
    h = HMAC_CTX_new();  
    #endif  
  
    HMAC_Init_ex(h, &key[0], key.length(), EVP_sha256(), NULL);  
    HMAC_Update(h, ( unsigned char* )&input[0], input.length());  
    unsigned int len = 32;  
    HMAC_Final(h, hash, &len);  
  
    #if OPENSSSL_VERSION_NUMBER < 0x10100000L  
    HMAC_CTX_cleanup(h);  
    #else  
    HMAC_CTX_free(h);  
    #endif  
  
    std::stringstream ss;  
    ss << std::setfill('0');  
    for (int i = 0; i < len; i++)  
    {  
        ss << hash[i];  
    }  
  
    return (ss.str());  
}  
  
string HexEncode(const string &input)  
{  
    static const char* const lut = "0123456789abcdef";  
    size_t len = input.length();  
  
    string output;  
    output.reserve(2 * len);  
    for (size_t i = 0; i < len; ++i)  
    {  
        const unsigned char c = input[i];  
        output.push_back(lut[c >> 4]);  
        output.push_back(lut[c & 15]);  
    }  
}
```

```

return output;
}

int main()
{
string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****";
string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*****";

string service = "cvm";
string host = "cvm.tencentcloudapi.com";
string region = "ap-guangzhou";
string action = "DescribeInstances";
string version = "2017-03-12";
int64_t timestamp = 1551113065;
string date = get_data(timestamp);

// ***** Step 1: Concatenate the CanonicalRequest string *****
string httpRequestMethod = "POST";
string canonicalUri = "/";
string canonicalQueryString = "";
string canonicalHeaders = "content-type:application/json; charset=utf-8\nhost:" +
host + "\n";
string signedHeaders = "content-type;host";
string payload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"unnamed\"], \"Name\": \"instance-name\"}] }";
string hashedRequestPayload = sha256Hex(payload);
string canonicalRequest = httpRequestMethod + "\n" + canonicalUri + "\n" + canonicalQueryString + "\n"
+ canonicalHeaders + "\n" + signedHeaders + "\n" + hashedRequestPayload;
cout << canonicalRequest << endl;
cout << "-----" << endl;

// ***** Step 2: Concatenate the string to sign *****
string algorithm = "TC3-HMAC-SHA256";
string RequestTimestamp = int2str(timestamp);
string credentialScope = date + "/" + service + "/" + "tc3_request";
string hashedCanonicalRequest = sha256Hex(canonicalRequest);
string stringToSign = algorithm + "\n" + RequestTimestamp + "\n" + credentialScope + "\n" + hashedCanonicalRequest;
cout << stringToSign << endl;
cout << "-----" << endl;

// ***** Step 3: Calculate the signature *****
string kKey = "TC3" + SECRET_KEY;
string kDate = HmacSha256(kKey, date);
string kService = HmacSha256(kDate, service);
string kSigning = HmacSha256(kService, "tc3_request");

```



```

string signature = HexEncode(HmacSha256(kSigning, stringToSign));
cout << signature << endl;
cout << "-----" << endl;

// ***** Step 4: Concatenate the Authorization *****
string authorization = algorithm + " " + "Credential=" + SECRET_ID + "/" + creden
tialScope + ", "
+ "SignedHeaders=" + signedHeaders + ", " + "Signature=" + signature;
cout << authorization << endl;
cout << "-----" << endl;

string headers = "curl -X POST https://" + host + "\n"
+ " -H \"Authorization: \" + authorization + "\n"
+ " -H \"Content-Type: application/json; charset=utf-8\" + "\n"
+ " -H \"Host: \" + host + "\n"
+ " -H \"X-TC-Action: \" + action + "\n"
+ " -H \"X-TC-Timestamp: \" + RequestTimestamp + "\n"
+ " -H \"X-TC-Version: \" + version + "\n"
+ " -H \"X-TC-Region: \" + region + "\n"
+ " -d '" + payload;
cout << headers << endl;
return 0;
};

```

Signature Failure

The following situational error codes for signature failure may occur. Please resolve the errors accordingly.

Error Code	Description
AuthFailure.SignatureExpire	Signature expired. Timestamp and server time cannot differ by more than five minutes.
AuthFailure.SecretIdNotFound	The key does not exist. Please go to the console to check whether it is disabled or you copied fewer or more characters.
AuthFailure.SignatureFailure	Signature error. It is possible that the signature was calculated incorrectly, the signature does not match the content actually sent, or the SecretKey is incorrect.
AuthFailure.TokenFailure	Temporary certificate token error.
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type).

Signature

Last updated : 2024-03-20 15:31:05

Tencent Cloud API authenticates each access request, i.e. each request needs to include authentication information (Signature) in the common parameters to verify the identity of the requester.

The Signature is generated by the security credentials which include SecretId and SecretKey. If you don't have the security credentials yet, go to the [TencentCloud API Key](#) page to apply for them; otherwise, you cannot invoke the TencentCloud API.

1. Applying for Security Credentials

Before using the TencentCloud API for the first time, go to the [TencentCloud API Key](#) page to apply for security credentials.

Security credentials consist of SecretId and SecretKey:

- SecretId is used to identify the API requester.
- SecretKey is used to encrypt the signature string and verify it on the server.
- **You must keep your security credentials private and avoid disclosure.**

You can apply for the security credentials through the following steps:

1. Log in to the [Tencent Cloud Console](#).
2. Go to the [TencentCloud API Key](#) page.
3. On the [API Key Management](#) page, click **Create Key** to create a SecretId/SecretKey pair.

Note: Each account can have up to two pairs of SecretId/SecretKey.

2. Generating a Signature

With the SecretId and SecretKey, a signature can be generated. The following describes how to generate a signature:

Assume that the SecretId and SecretKey are:

- SecretId: AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****
- SecretKey: Gu5t9xGARNpq86cd98joQYCN3*****

Note: This is just an example. For actual operations, please use your own SecretId and SecretKey.

Take the Cloud Virtual Machine's request to view the instance list (DescribeInstances) as an example. When you invoke this API, the request parameters may be as follows:

Parameter name	Description	Parameter value
Action	Method name	DescribeInstances
SecretId	Key ID	AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****
Timestamp	Current timestamp	1465185768
Nonce	Random positive integer	11886
Region	Region where the instance is located	ap-guangzhou
InstanceIds.0	ID of the instance to query	ins-09dx96dg
Offset	Offset	0
Limit	Allowed maximum output	20
Version	API version number	2017-03-12

2.1. Sorting Parameters

First, sort all the request parameters in an ascending lexicographical order (ASCII code) by their names. Notes: (1) Parameters are sorted by their names instead of their values; (2) The parameters are sorted based on ASCII code, not in an alphabetical order or by values. For example, InstanceIds.2 should be arranged after InstanceIds.12. You can complete the sorting process using a sorting function in a programming language, such as the ksort function in PHP. The parameters in the example are sorted as follows:

```
{
  'Action' : 'DescribeInstances',
  'InstanceIds.0' : 'ins-09dx96dg',
  'Limit' : 20,
  'Nonce' : 11886,
  'Offset' : 0,
  'Region' : 'ap-guangzhou',
  'SecretId' : 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****',
  'Timestamp' : 1465185768,
  'Version' : '2017-03-12',
}
```

When developing in another programming language, you can sort these sample parameters and it will work as long as you obtain the same results.

2.2. Concatenating a Request String

This step generates a request string.

Format the request parameters sorted in the previous step into the form of "parameter name"="parameter value". For example, for the Action parameter, its parameter name is "Action" and its parameter value is "DescribeInstances", so it will become Action=DescribeInstances after formatted.

Note: The "parameter value" is the original value but not the value after URL encoding.

Then, concatenate the formatted parameters with "&". The resulting request string is as follows:

```
Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0
&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****&Timestamp=1465
185768&Version=2017-03-12
```

2.3. Concatenating the Signature Original String

This step generates a signature original string.

The signature original string consists of the following parameters:

1. HTTP method: POST and GET modes are supported, and GET is used here for the request. Please note that the method name should be in all capital letters.
2. Request server: the domain name of the request to view the list of instances (DescribeInstances) is cvm.tencentcloudapi.com. The actual request domain name varies by the module to which the API belongs. For more information, see the instructions of the specific API.
3. Request path: The request path in the current version of TencentCloud API is fixed to /.
4. Request string: the request string generated in the previous step.

The concatenation rule of the signature original string is: Request method + request host + request path + ? + request string

The concatenation result of the example is:

```
GETcvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&L
imit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WF
kmLPx3*****&Timestamp=1465185768&Version=2017-03-12
```

2.4. Generating a Signature String

This step generates a signature string.

First, use the HMAC-SHA1 algorithm to sign the **signature original string** obtained in the previous step, and then

encode the generated signature using Base64 to obtain the final signature.

The specific code is as follows with the PHP language being used as an example:

```
$secretKey = 'Gu5t9xGARNpq86cd98joQYCN3*****';  
$srcStr = 'GETcvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****&Timestamp=1465185768&Version=2017-03-12';  
$signStr = base64_encode(hash_hmac('sha1', $srcStr, $secretKey, true));  
echo $signStr;
```

The final signature is:

```
zmmjn35mikh6pM3V7sUEuX4wyYM=
```

When developing in another programming language, you can sign and verify the original in the example above and it works as long as you get the same results.

3. Encoding a Signature String

The generated signature string cannot be directly used as a request parameter and must be URL encoded.

For example, if the signature string generated in the previous step is zmmjn35mikh6pM3V7sUEuX4wyYM=, the final signature string request parameter (Signature) is zmmjn35mikh6pM3V7sUEuX4wyYM%3D, which will be used to generate the final request URL.

Note: If your request method is GET, or the request method is POST and the Content-Type is application/x-www-form-urlencoded, then all the request parameter values need to be URL encoded (except the parameter key and the symbol of =) when sending the request. Non-ASCII characters need to be encoded with UTF-8 before URL encoding.

Note: The network libraries of some programming languages automatically URL encode all parameters, in which case there is no need to URL encode the signature string; otherwise, two rounds of URL encoding will cause the signature to fail.

Note: Other parameter values also need to be encoded using [RFC 3986](#). Use %XY in percent-encoding for special characters such as Chinese characters, where "X" and "Y" are hexadecimal characters (0-9 and uppercase A-F), and using lowercase will cause an error.

4. Signature Failure

The following situational error codes for signature failure may occur. Please resolve the errors accordingly.

Error code	Error description
AuthFailure.SignatureExpire	The signature is expired
AuthFailure.SecretIdNotFound	The key does not exist
AuthFailure.SignatureFailure	Signature error
AuthFailure.TokenFailure	Token error
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type)

5. Signature Demo

When calling API 3.0, you are recommended to use the corresponding Tencent Cloud SDK 3.0 which encapsulates the signature process, enabling you to focus on only the specific APIs provided by the product when developing. See [SDK Center](#) for more information. Currently, the following programming languages are supported:

- [Python](#)
- [Java](#)
- [PHP](#)
- [Go](#)
- [NodeJS](#)
- [.NET](#)

To further explain the signing process, we will use a programming language to implement the process described above. The request domain name, API and parameter values in the sample are used here. This goal of this example is only to provide additional clarification for the signature process, please see the SDK for actual usage.

The final output URL might be: `https://cvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****&Signature=zmmjn35mikh6pM3V7sUEuX4wyYM%3D&Timestamp=1465185768&Version=2017-03-12` .

Note: The key in the example is fictitious, and the timestamp is not the current time of the system, so if this URL is opened in the browser or called using commands such as curl, an authentication error will be returned: Signature expired. In order to get a URL that can work properly, you need to replace the SecretId and SecretKey in the example with your real credentials and use the current time of the system as the Timestamp.

Note: In the example below, even if you use the same programming language, the order of the parameters in the URL may be different for each execution. However, the order does not matter, as long as all the parameters are included in the URL and the signature is calculated correctly.

Note: The following code is only applicable to API 3.0. It cannot be directly used in other signature processes. Even with an older API, signature calculation errors may occur due to the differences in details. Please refer to the corresponding documentation.

Java

```
import java.io.UnsupportedEncodingException;
import java.net.URLEncoder;
import java.util.Random;
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.xml.bind.DatatypeConverter;

public class TencentCloudAPIDemo {
    private final static String CHARSET = "UTF-8";

    public static String sign(String s, String key, String method) throws Exception {
        Mac mac = Mac.getInstance(method);
        SecretKeySpec secretKeySpec = new SecretKeySpec(key.getBytes(CHARSET), mac.getAlgorithm());
        mac.init(secretKeySpec);
        byte[] hash = mac.doFinal(s.getBytes(CHARSET));
        return DatatypeConverter.printBase64Binary(hash);
    }

    public static String getStringToSign(TreeMap<String, Object> params) {
        StringBuilder s2s = new StringBuilder("GETcvm.tencentcloudapi.com/?");
        // When signing, the parameters need to be sorted in lexicographical order. TreeMap
        // is used here to guarantee the correct order.
        for (String k : params.keySet()) {
            s2s.append(k).append("=").append(params.get(k).toString()).append("&");
        }
        return s2s.toString().substring(0, s2s.length() - 1);
    }

    public static String getUrl(TreeMap<String, Object> params) throws UnsupportedEncodingException {
        StringBuilder url = new StringBuilder("https://cvm.tencentcloudapi.com/?");
        // There is no requirement for the order of the parameters in the actual request
        // URL.
        for (String k : params.keySet()) {
```

```
// The request string needs to be URL encoded. As the Key is all in English letters, only the value is URL encoded here.
url.append(k).append("=").append(URLEncoder.encode(params.get(k).toString(), CHARSET)).append("&");
}
return url.toString().substring(0, url.length() - 1);
}

public static void main(String[] args) throws Exception {
    TreeMap<String, Object> params = new TreeMap<String, Object>(); // TreeMap enables automatic sorting
    // A random number should be used when actually calling, for example: params.put("Nonce", new Random().nextInt(Integer.MAX_VALUE));
    params.put("Nonce", 11886); // Common parameter
    // The current time of the system should be used when actually calling, for example: params.put("Timestamp", System.currentTimeMillis() / 1000);
    params.put("Timestamp", 1465185768); // Common parameter
    params.put("SecretId", "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"); // Common parameter
    params.put("Action", "DescribeInstances"); // Common parameter
    params.put("Version", "2017-03-12"); // Common parameter
    params.put("Region", "ap-guangzhou"); // Common parameter
    params.put("Limit", 20); // Business parameter
    params.put("Offset", 0); // Business parameter
    params.put("InstanceIds.0", "ins-09dx96dg"); // Business parameter
    params.put("Signature", sign(getStringToSign(params), "Gu5t9xGARNpq86cd98joQYCN3*****", "HmacSHA1")); // Common parameter
    System.out.println(getUrl(params));
}
}
```

Python

Note: If running in a Python 2 environment, the following requests dependency package must be installed first: `pip install requests`.

```
# -*- coding: utf8 -*-
import base64
import hashlib
import hmac
import time

import requests

secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3*****"
```



```

def get_string_to_sign(method, endpoint, params):
    s = method + endpoint + "/"
    query_str = "&".join("%s=%s" % (k, params[k]) for k in sorted(params))
    return s + query_str

def sign_str(key, s, method):
    hmac_str = hmac.new(key.encode("utf8"), s.encode("utf8"), method).digest()
    return base64.b64encode(hmac_str)

if __name__ == '__main__':
    endpoint = "cvm.tencentcloudapi.com"
    data = {
        'Action' : 'DescribeInstances',
        'InstanceIds.0' : 'ins-09dx96dg',
        'Limit' : 20,
        'Nonce' : 11886,
        'Offset' : 0,
        'Region' : 'ap-guangzhou',
        'SecretId' : secret_id,
        'Timestamp' : 1465185768, # int(time.time())
        'Version': '2017-03-12'
    }
    s = get_string_to_sign("GET", endpoint, data)
    data["Signature"] = sign_str(secret_key, s, hashlib.sha1)
    print(data["Signature"])
    # An actual invocation would occur here, which may incur fees after success
    # resp = requests.get("https://" + endpoint, params=data)
    # print(resp.url)

```

Golang

```

package main

import (
    "bytes"
    "crypto/hmac"
    "crypto/sha1"
    "encoding/base64"
    "fmt"
    "sort"
)

func main() {
    secretId := "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"
    secretKey := "Gu5t9xGARNpq86cd98joQYCN3*****"

```

```

params := map[string]string{
    "Nonce": "11886",
    "Timestamp": "1465185768",
    "Region": "ap-guangzhou",
    "SecretId": secretId,
    "Version": "2017-03-12",
    "Action": "DescribeInstances",
    "InstanceIds.0": "ins-09dx96dg",
    "Limit": "20",
    "Offset": "0",
}

var buf bytes.Buffer
buf.WriteString("GET")
buf.WriteString("cvm.tencentcloudapi.com")
buf.WriteString("/")
buf.WriteString("?")

// sort keys by ascii asc order
keys := make([]string, 0, len(params))
for k, _ := range params {
    keys = append(keys, k)
}
sort.Strings(keys)

for i := range keys {
    k := keys[i]
    buf.WriteString(k)
    buf.WriteString("=")
    buf.WriteString(params[k])
    buf.WriteString("&")
}
buf.Truncate(buf.Len() - 1)

hashed := hmac.New(sha1.New, []byte(secretKey))
hashed.Write(buf.Bytes())

fmt.Println(base64.StdEncoding.EncodeToString(hashed.Sum(nil)))
}

```

PHP

```

<?php
$secretId = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****";
$secretKey = "Gu5t9xGARNpq86cd98joQYCN3*****";
$params["Nonce"] = 11886; //rand();

```

```

$params["Timestamp"] = 1465185768;//time();
$params["Region"] = "ap-guangzhou";
$params["SecretId"] = $secretId;
$params["Version"] = "2017-03-12";
$params["Action"] = "DescribeInstances";
$params["InstanceIds.0"] = "ins-09dx96dg";
$params["Limit"] = 20;
$params["Offset"] = 0;

ksort($params);

$signStr = "GETcvm.tencentcloudapi.com/?";
foreach ( $params as $key => $value ) {
    $signStr = $signStr . $key . "=" . $value . "&";
}
$signStr = substr($signStr, 0, -1);

$signature = base64_encode(hash_hmac("sha1", $signStr, $secretKey, true));
echo $signature.PHP_EOL;
// need to install and enable curl extension in php.ini
// $params["Signature"] = $signature;
// $url = "https://cvm.tencentcloudapi.com/?".http_build_query($params);
// echo $url.PHP_EOL;
// $ch = curl_init();
// curl_setopt($ch, CURLOPT_URL, $url);
// $output = curl_exec($ch);
// curl_close($ch);
// echo json_decode($output);

```

Ruby

```

# -*- coding: UTF-8 -*-
# require ruby>=2.3.0
require 'time'
require 'openssl'
require 'base64'

secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3*****"

method = 'GET'
endpoint = 'cvm.tencentcloudapi.com'
data = {
  'Action' => 'DescribeInstances',
  'InstanceIds.0' => 'ins-09dx96dg',
  'Limit' => 20,

```

```

'Nonce' => 11886,
'Offset' => 0,
'Region' => 'ap-guangzhou',
'SecretId' => secret_id,
'Timestamp' => 1465185768, # Time.now.to_i
'Version' => '2017-03-12',
}
sign = method + endpoint + '/'?
params = []
data.sort.each do |item|
  params << "#{item[0]}=#{item[1]}"
end
sign += params.join('&')
digest = OpenSSL::Digest.new('sha1')
data['Signature'] = Base64.encode64(OpenSSL::HMAC.digest(digest, secret_key, sign))
puts data['Signature']

# require 'net/http'
# uri = URI('https://' + endpoint)
# uri.query = URI.encode_www_form(data)
# p uri
# res = Net::HTTP.get_response(uri)
# puts res.body

```

DotNet

```

using System;
using System.Collections.Generic;
using System.Net;
using System.Security.Cryptography;
using System.Text;

public class Application {
  public static string Sign(string signKey, string secret)
  {
    string signRet = string.Empty;
    using (HMACSHA1 mac = new HMACSHA1(Encoding.UTF8.GetBytes(signKey)))
    {
      byte[] hash = mac.ComputeHash(Encoding.UTF8.GetBytes(secret));
      signRet = Convert.ToBase64String(hash);
    }
    return signRet;
  }

  public static string MakeSignPlainText(SortedDictionary<string, string> requestParams, string requestMethod, string requestHost, string requestPath)

```

```
{
    string retStr = "";
    retStr += requestMethod;
    retStr += requestHost;
    retStr += requestPath;
    retStr += "?";
    string v = "";
    foreach (string key in requestParams.Keys)
    {
        v += string.Format("{0}={1}&", key, requestParams[key]);
    }
    retStr += v.TrimEnd('&');
    return retStr;
}

public static void Main(string[] args)
{
    string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****";
    string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*****";

    string endpoint = "cvm.tencentcloudapi.com";
    string region = "ap-guangzhou";
    string action = "DescribeInstances";
    string version = "2017-03-12";
    double RequestTimestamp = 1465185768;
    // long timestamp = ToTimestamp() / 1000;
    // string requestTimestamp = timestamp.ToString();
    Dictionary<string, string> param = new Dictionary<string, string>();
    param.Add("Limit", "20");
    param.Add("Offset", "0");
    param.Add("InstanceIds.0", "ins-09dx96dg");
    param.Add("Action", action);
    param.Add("Nonce", "11886");
    // param.Add("Nonce", Math.Abs(new Random().Next()).ToString());

    param.Add("Timestamp", RequestTimestamp.ToString());
    param.Add("Version", version);

    param.Add("SecretId", SECRET_ID);
    param.Add("Region", region);
    SortedDictionary<string, string> headers = new SortedDictionary<string, string>(p
aram, StringComparer.Ordinal);
    string sigInParam = MakeSignPlainText(headers, "GET", endpoint, "/");
    Console.WriteLine(sigInParam);
    string sigOutParam = Sign(SECRET_KEY, sigInParam);
```

```

Console.WriteLine("GET https://cvm.tencentcloudapi.com");
foreach (KeyValuePair<string, string> kv in headers)
{
    Console.WriteLine(kv.Key + ": " + kv.Value);
}
Console.WriteLine("Signature" + ": " + WebUtility.UrlEncode(sigOutParam));
Console.WriteLine();

string result = "https://cvm.tencentcloudapi.com/?";
foreach (KeyValuePair<string, string> kv in headers)
{
    result += WebUtility.UrlEncode(kv.Key) + "=" + WebUtility.UrlEncode(kv.Value) +
"&";
}
result += WebUtility.UrlEncode("Signature") + "=" + WebUtility.UrlEncode(sigOutPa
ram);
Console.WriteLine("GET " + result);
}
}

```

NodeJS

```

const crypto = require('crypto');

function get_req_url(params, endpoint){
    params['Signature'] = escape(params['Signature']);
    const url_strParam = sort_params(params)
    return "https://" + endpoint + "/"? + url_strParam.slice(1);
}

function formatSignString(reqMethod, endpoint, path, strParam){
    let strSign = reqMethod + endpoint + path + "?" + strParam.slice(1);
    return strSign;
}

function sha1(secretKey, strsign){
    let signMethodMap = {'HmacSHA1': "sha1"};
    let hmac = crypto.createHmac(signMethodMap['HmacSHA1'], secretKey || "");
    return hmac.update(Buffer.from(strsign, 'utf8')).digest('base64')
}

function sort_params(params) {
    let strParam = "";
    let keys = Object.keys(params);
    keys.sort();
    for (let k in keys) {
        //k = k.replace(/_/g, '.');
    }
}

```

```
strParam += ("&" + keys[k] + "=" + params[keys[k]]);
}
return strParam
}

function main(){
const SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"
const SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*****"

const endpoint = "cvm.tencentcloudapi.com"
const Region = "ap-guangzhou"
const Version = "2017-03-12"
const Action = "DescribeInstances"
const Timestamp = 1465185768
// const Timestamp = Math.round(Date.now() / 1000)
const Nonce = 11886
//const nonce = Math.round(Math.random() * 65535)

let params = {};
params['Action'] = Action;
params['InstanceIds.0'] = 'ins-09dx96dg';
params['Limit'] = 20;
params['Offset'] = 0;
params['Nonce'] = Nonce;
params['Region'] = Region;
params['SecretId'] = SECRET_ID;
params['Timestamp'] = Timestamp;
params['Version'] = Version;

strParam = sort_params(params)

const reqMethod = "GET";
const path = "/";
strSign = formatSignString(reqMethod, endpoint, path, strParam)
console.log(strSign)
console.log("-----")

params['Signature'] = sha1(SECRET_KEY, strSign)
console.log(params['Signature'])
console.log("-----")

const req_url = get_req_url(params, endpoint)
console.log(params['Signature'])
console.log("-----")
console.log(req_url)
}
main()
```


Responses

Last updated : 2024-03-20 15:31:05

Response for Successful Requests

For example, when calling CAM API (version: 2017-03-12) to view the status of instances (DescribeInstancesStatus), if the request has succeeded, you may see the response as shown below:

```
{
  "Response": {
    "TotalCount": 0,
    "InstanceStatusSet": [],
    "RequestId": "b5b41468-520d-4192-b42f-595cc34b6c1c"
  }
}
```

- The API will return `Response` , which contains `RequestId` , as long as it processes the request. It does not matter if the request is successful or not.
- RequestId is the unique ID of an API request. Contact us with this ID when an exception occurs.
- Except for the fixed fields, all fields are action-specified. For the definitions of action-specified fields, see the corresponding API documentation. In this example, `TotalCount` and `InstanceStatusSet` are the fields specified by the API `DescribeInstancesStatus` . `0` `TotalCount` means that the requester owns 0 CVM instance so the `InstanceStatusSet` is empty.

Response for Failed Requests

If the request has failed, you may see the response as shown below:

```
{
  "Response": {
    "Error": {
      "Code": "AuthFailure.SignatureFailure",
      "Message": "The provided credentials could not be validated. Please ensure your signature is correct."
    },
    "RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
  }
}
```

- The presence of the `Error` field indicates that the request has failed. A response for a failed request will include `Error`, `Code` and `Message` fields.
- `Code` is the code of the error that helps you identify the cause and solution. There are two types of error codes so you may find the code in either common error codes or API-specified error codes.
- `Message` explains the cause of the error. Note that the returned messages are subject to service updates. The information the messages provide may not be up-to-date and should not be the only source of reference.
- `RequestId` is the unique ID of an API request. Contact us with this ID when an exception occurs.

Common Error Codes

If there is an `Error` field in the response, it means that the API call failed. The `Code` field in `Error` indicates the error code. The following table lists the common error codes that all actions can return.

Error Code	Description
<code>AuthFailure.InvalidSecretId</code>	Invalid key (not a TencentCloud API key type).
<code>AuthFailure.MFAFailure</code>	MFA failed.
<code>AuthFailure.SecretIdNotFound</code>	The key does not exist.
<code>AuthFailure.SignatureExpire</code>	Signature expired.
<code>AuthFailure.SignatureFailure</code>	Signature error.
<code>AuthFailure.TokenFailure</code>	Token error.
<code>AuthFailure.UnauthorizedOperation</code>	The request does not have CAM authorization.
<code>DryRunOperation</code>	DryRun Operation. It means that the request would have succeeded, but the <code>DryRun</code> parameter was used.
<code>FailedOperation</code>	Operation failed.
<code>InternalError</code>	Internal error.
<code>InvalidAction</code>	The API does not exist.
<code>InvalidParameter</code>	Incorrect parameter.
<code>InvalidParameterValue</code>	Invalid parameter value.
<code>LimitExceeded</code>	Quota limit exceeded.
<code>MissingParameter</code>	A parameter is missing.

NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	Resource is in use.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	Resource is unavailable.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	HTTPS request method error. Only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

Write APIs

CreateTags

Last updated : 2024-03-20 15:31:08

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to create multiple tag key-value pairs.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: CreateTags.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
Tags.N	No	Array of Tag	Tag list. Value range of N: 0–9

3. Output Parameters

Parameter	Type	Description
-----------	------	-------------

Name		
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Creating tags

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: CreateTags
<Common request parameters>

{
  "Tags": [
    {
      "TagKey": "09221",
      "TagValue": "092211"
    },
    {
      "TagKey": "09221",
      "TagValue": "092212"
    }
  ]
}
```

Output Example

```
{
  "Response": {
    "RequestId": "eb60900d-8e00-4bfd-bb92-64a*****"
  }
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

- [Tencent Cloud SDK 3.0 for Python](#)
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- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
InvalidParameter	Incorrect parameter.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameter.Tag	<code>Tag</code> parameter error.
InvalidParameterValue.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueEmpty	The tag value cannot be empty.

InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
LimitExceeded.TagKey	The number of created tag keys reaches the limit of 1,000.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.
ResourceInUse.TagDuplicate	Tag already exists.

DeleteTags

Last updated : 2024-03-20 15:31:07

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to delete tag keys and tag values in batches.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: DeleteTags.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
Tags.N	Yes	Array of Tag	Tag list. Value range of N: 0–9

3. Output Parameters

Parameter Name	Type	Description

RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.
-----------	--------	---

4. Example

Example1 Deleting tags

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DeleteTags
<Common request parameters>

{
  "Tags": [
    {
      "TagKey": "09221",
      "TagValue": "092211"
    },
    {
      "TagKey": "09221",
      "TagValue": "092212"
    }
  ]
}
```

Output Example

```
{
  "Response": {
    "RequestId": "131fd253-b2de-4190-a1c1-13ce*****"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
FailedOperation.TagAttachedQuota	A quota has already been allocated to tags.
FailedOperation.TagAttachedResource	Tags associated with resources cannot be deleted.
InvalidParameter	Incorrect parameter.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueEmpty	The tag value cannot be empty.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.

ResourceNotFound.TagNotExist	Tag does not exist.
------------------------------	---------------------

UnTagResources

Last updated : 2024-03-20 15:31:06

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to unbind a tag uniformly from multiple specified resources of multiple Tencent Cloud services.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: UnTagResources.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
ResourceList.N	Yes	Array of String	Six-segment resource description list. Tencent Cloud uses a six-segment to describe a resource. For more information, see CAM > Overview > A Six-Segment Resource Information . For example: ResourceList.1 = qcs::\${ServiceType}:\${Region}:uin/\${Account}:\${ResourcePrefix}/\${ResourceValue} Value range of N: 0–9
TagKeys.N	Yes	Array of String	Tag key. Value range: 0–9

3. Output Parameters

Parameter Name	Type	Description
FailedResources	Array of FailedResource	Information of failed resources. When tag unbinding succeeds, the returned <code>FailedResources</code> will be empty. When tag unbinding partially or completely fails, the returned <code>FailedResources</code> will display the details of failed resources.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Unbinding tag from resource

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: UnTagResources
<Common request parameters>

{
  "ResourceList": [
    "qcs::cvm:ap-beijing:uin/10000055****:instance/****",
    "qcs::cvm:ap-beijing:uin/10000055****:instance/****"
  ],
  "TagKeys": [
    "RWFGaltFlR",
    "LbDKGjeagV"
  ]
}
```

Output Example

```
{
  "Response": {
    "FailedResources": [],
    "RequestId": "cbc7b26c-3fff-4a3c-82f0-c6ebc2ff31e3"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Java](#)
- [Tencent Cloud SDK 3.0 for PHP](#)
- [Tencent Cloud SDK 3.0 for Go](#)
- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
AuthFailure.UnauthorizedOperation	CAM authentication failed.
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
FailedOperation.ResourceTagProcessing	The resource tag is being processed.

InvalidParameter	Incorrect parameter.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameter.Tag	<code>Tag</code> parameter error.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyDuplicate	There are duplicate <code>TagKeys</code> in <code>TagList</code> .
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
LimitExceeded.ResourceNumPerRequest	The number of resources requested at a time reaches the upper limit.
LimitExceeded.TagNumPerRequest	The number of tags in a single request exceeds the limit.

TagResources

Last updated : 2024-03-20 15:31:06

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to create and bind a tag uniformly to multiple specified resources of multiple Tencent Cloud services.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: TagResources.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
ResourceList.N	Yes	Array of String	Cloud resource to be bound, represented in the standard six-segment resource format. For the correct format, see Resource Description Method . Value range of N: 0-9.
Tags.N	Yes	Array of Tag	Tag key and value. If multiple tags are specified, all such tags will be created and bound to the specified resources. For each resource, each tag key can have only one value. If you try to add an existing tag key, the corresponding tag value will be updated to the new value.

Non-existent tags will be automatically created.
Value range of N: 0-9

3. Output Parameters

Parameter Name	Type	Description
FailedResources	Array of FailedResource	Information of failed resources. When tag creating and binding succeeds, the returned <code>FailedResources</code> will be empty. When tag creating and binding partially or completely fails, the returned <code>FailedResources</code> will display the details of failed resources.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Binding tags to resources

This example shows you how to bind tags to resources

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: TagResources
<Common request parameters>

{
  "ResourceList": [
    "qcs::cvm:ap-beijing:uin/10000055****:instance/ins-****",
    "qcs::cvm:ap-shanghai:uin/10000055****:volme/volme-****"
  ],
  "Tags": [
    {
      "TagKey": "11",
      "TagValue": "11"
    }
  ]
}
```

```
},  
{  
  "TagKey": "22",  
  "TagValue": "22"  
}  
]  
}
```

Output Example

```
{  
  "Response": {  
    "FailedResources": [],  
    "RequestId": "a4c9f540-b04e-47c4-a267-4a398b70d2f5"  
  }  
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
AuthFailure.UnauthorizedOperation	CAM authentication failed.
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
FailedOperation.ResourceTagProcessing	The resource tag is being processed.
InvalidParameter	Incorrect parameter.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameter.Tag	<code>Tag</code> parameter error.
InvalidParameter.UnsupportedService	The current business does not support tag operations.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyDuplicate	There are duplicate <code>TagKeys</code> in <code>TagList</code> .
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueEmpty	The tag value cannot be empty.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
LimitExceeded.ResourceNumPerRequest	The number of resources requested at a time reaches the upper limit.
LimitExceeded.TagNumPerRequest	The number of tags in a single request exceeds the limit.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.

UpdateResourceTagValue

Last updated : 2024-03-20 15:31:05

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to modify the values of tags associated with a resource (the tag key does not change).

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: UpdateResourceTagValue.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
TagKey	Yes	String	Tag key associated with the resource.
TagValue	Yes	String	Modified tag value.
Resource	Yes	String	Six-segment resource description

3. Output Parameters

--	--	--

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Modifying resource tag values

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: UpdateResourceTagValue
<Common request parameters>

{
  "TagKey": "testTagKey",
  "Resource": "qcs::cvm:ap-beijing:uin/1234567:instance/ins-123",
  "TagValue": "testTagValue"
}
```

Output Example

```
{
  "Response": {
    "RequestId": "3c140219-cfe9-470e-b241-907877d6fb03"
  }
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

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- [Tencent Cloud SDK 3.0 for Java](#)
- [Tencent Cloud SDK 3.0 for PHP](#)
- [Tencent Cloud SDK 3.0 for Go](#)
- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.
ResourceNotFound.AttachedTagKeyNotFound	The tag key associated with the resource doesn't exist.

ModifyResourceTags

Last updated : 2024-03-20 15:31:07

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to modify all tags associated with a resource.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: ModifyResourceTags.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
Resource	Yes	String	Six-segment resource description
ReplaceTags.N	No	Array of Tag	The tags to be added or modified. If the resource described by <code>Resource</code> is not associated with the input tag keys, an association will be added. If the tag keys are already associated, the values corresponding to the associated tag keys will be modified to the input values. This API must contain either <code>ReplaceTags</code> or <code>DeleteTag</code> , and these two parameters cannot include the same tag keys.

			This parameter can be omitted, but it cannot be an empty array.
DeleteTags.N	No	Array of TagKeyObject	The tags to be disassociated. This API must contain either <code>ReplaceTags</code> or <code>DeleteTag</code> , and these two parameters cannot include the same tag keys. This parameter can be omitted, but it cannot be an empty array.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Replacing tags associated with a resource with input tags

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: ModifyResourceTags
<Common request parameters>

{
  "ReplaceTags": [
    {
      "TagKey": "testTagKey2",
      "TagValue": "testTagValue2"
    },
    {
      "TagKey": "testTagKey1",
      "TagValue": "testTagValue1"
    }
  ],
  "Resource": "qcs::cvm:ap-beijing:uin/1234567:instance/ins-123"
}
```


Output Example

```
{
  "Response": {
    "RequestId": "3c140219-cfe9-470e-b241-907877d6fb03"
  }
}
```

Example2 Unassociating multiple tags from a resource

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: ModifyResourceTags
<Common request parameters>

{
  "DeleteTags": [
    {
      "TagKey": "testTagKey2"
    },
    {
      "TagKey": "testTagKey1"
    }
  ],
  "Resource": "qcs::cvm:ap-beijing:uin/1234567:instance/ins-123"
}
```

Output Example

```
{
  "Response": {
    "RequestId": "3c140219-cfe9-470e-b241-907877d6fb03"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameter.Tag	<code>Tag</code> parameter error.
InvalidParameterValue.DeleteTagsParamError	<code>DeleteTags</code> cannot contain the elements in <code>ReplaceTags</code> or <code>AddTags</code> .
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.

InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
LimitExceeded.Quota	The quota limit is reached.
LimitExceeded.ResourceAttachedTags	The number of tags associated with the resource exceeds the limit.
LimitExceeded.TagKey	The number of created tag keys reaches the limit of 1,000.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.

DeleteTag

Last updated : 2024-03-20 15:31:07

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to delete a tag key and tag value pair.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: DeleteTag.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
TagKey	Yes	String	The tag key to be deleted.
TagValue	Yes	String	The tag value to be deleted.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the

	request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.
--	--

4. Example

Example1 Deleting a tag

Input Example

```
https://tag.tencentcloudapi.com/?Action=DeleteTag
&TagKey=testTagKey
&TagValue=testTagValue
&<Common request parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "3c140219-cfe9-470e-b241-907877d6fb03"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
FailedOperation.TagAttachedQuota	A quota has already been allocated to tags.
FailedOperation.TagAttachedResource	Tags associated with resources cannot be deleted.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyDuplicate	There are duplicate <code>TagKeys</code> in <code>TagList</code> .
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueEmpty	The tag value cannot be empty.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
ResourceNotFound.TagNonExist	Tag does not exist.

DeleteResourceTag

Last updated : 2024-03-20 15:31:08

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to unassociate tags and resources.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: DeleteResourceTag.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
TagKey	Yes	String	Tag key.
Resource	Yes	String	Six-segment resource description

3. Output Parameters

Parameter Name	Type	Description

RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.
-----------	--------	---

4. Example

Example1 Unbinding a tag from resources

Input Example

```
https://tag.tencentcloudapi.com/?Action=DeleteResourceTag
&TagKey=testTagKey
&Resource=qcs::cvm:ap-beijing:uin/1234567:instance/ins-123
&<Common request parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "3c140219-cfe9-470e-b241-907877d6fb03"
  }
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

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- [Tencent Cloud SDK 3.0 for PHP](#)
- [Tencent Cloud SDK 3.0 for Go](#)
- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
ResourceNotFound.AttachedTagKeyNotFound	The tag key associated with the resource doesn't exist.

CreateTag

Last updated : 2024-03-20 15:31:08

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to create a tag key and tag value pair.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: CreateTag.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
TagKey	Yes	String	Tag key.
TagValue	Yes	String	Tag value.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the

	request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.
--	--

4. Example

Example1 Creating a tag

Input Example

```
https://tag.tencentcloudapi.com/?Action=CreateTag
&TagKey=testTagKey
&TagValue=testTagValue
&<Common request parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "3c140219-cfe9-470e-b241-907877d6fb03"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Java](#)
- [Tencent Cloud SDK 3.0 for PHP](#)
- [Tencent Cloud SDK 3.0 for Go](#)
- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyDuplicate	There are duplicate <code>TagKeys</code> in <code>TagList</code> .
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueEmpty	The tag value cannot be empty.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
LimitExceeded.TagKey	The number of created tag keys reaches the limit of 1,000.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.
ResourceInUse.TagDuplicate	Tag already exists.

AddResourceTag

Last updated : 2024-03-20 15:31:09

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to associate resources with tags.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: AddResourceTag.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
TagKey	Yes	String	The tag key that needs to be bound. For the requirements, refer to: https://www.tencentcloud.com/document/product/651/13354?from_cn_redirect=1
TagValue	Yes	String	The tag value that needs to be bound. For the requirements, refer to: https://www.tencentcloud.com/document/product/651/13354?from_cn_redirect=1
Resource	Yes	String	Resource to be associated, represented in the standard six-segment resource format. For the correct format, see https://www.tencentcloud.com/document/product/651/89122?from_cn_redirect=1

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Associating resources with a tag

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: AddResourceTag
<Common request parameters>

{
  "TagKey": "testTagKey",
  "Resource": "qcs::cvm:ap-beijing:uin/1234567:instance/ins-123",
  "TagValue": "testTagValue"
}
```

Output Example

```
{
  "Response": {
    "RequestId": "3c140219-cfe9-470e-b241-907877d6fb03"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
LimitExceeded.ResourceAttachedTags	The number of tags associated with the resource exceeds the limit.

LimitExceeded.TagKey	The number of created tag keys reaches the limit of 1,000.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.
ResourceInUse.TagKeyAttached	The corresponding tag key has already been associated with the resource.

ModifyResourcesTagValue

Last updated : 2024-03-20 15:31:06

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to modify the tag value corresponding to a tag key associated with multiple resources.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: ModifyResourcesTagValue.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
ServiceType	Yes	String	Resource service name (the third segment in the six-segment resource description)
ResourceIds.N	Yes	Array of String	Resource ID array, which can contain up to 50 resources
TagKey	Yes	String	Tag key
TagValue	Yes	String	Tag value

ResourceRegion	No	String	Resource region. If resources have the region attribute, this field is required; otherwise, it is optional.
ResourcePrefix	No	String	Resource prefix (the part before "/" in the last segment in the six-segment resource description), which is optional for COS buckets but required for other Tencent Cloud resources.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Modifying tag value corresponding to tag key associated with multiple CVM instances in Guangzhou

Input Example

```
https://tag.tencentcloudapi.com/?Action=ModifyResourcesTagValue
&ServiceType=cvm
&ResourceRegion=ap-guangzhou
&TagKey=t1
&TagValue=v1
&ResourcePrefix=instance
&ResourceIds.0=ins-001
&ResourceIds.1=ins-002
&<Common request parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "cc9a1529-edd3-4cf1-b2d1-4cd0ee2708cb"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for PHP](#)
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- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
AuthFailure.UnauthorizedOperation	CAM authentication failed.
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
FailedOperation.ResourceAppIdNotSame	The <code>appId</code> of resources in one single request must be the same.
InvalidParameter	Incorrect parameter.
InvalidParameterValue.RegionInvalid	Region error.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.ResourceIdInvalid	Resource ID error.
InvalidParameterValue.ResourcePrefixInvalid	Resource prefix error.

InvalidParameterValue.ServiceTypeInvalid	Service type error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
InvalidParameterValue.UinInvalid	<code>Uin</code> parameter is invalid.
LimitExceeded.Quota	The quota limit is reached.
LimitExceeded.ResourceNumPerRequest	The number of resources requested at a time reaches the upper limit.
ResourceNotFound.AttachedTagKeyNotFound	The tag key associated with the resource doesn't exist.
ResourceNotFound.TagNonExist	Tag does not exist.

DetachResourcesTag

Last updated : 2024-03-20 15:31:07

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to unbind a tag from multiple resources.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: DetachResourcesTag.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
ServiceType	Yes	String	Resource service name (the third segment in the six-segment resource description)
ResourceIds.N	Yes	Array of String	Resource ID array, which can contain up to 50 resources
TagKey	Yes	String	Tag key to be unbound
ResourceRegion	No	String	Resource region. If resources have the region attribute, this field is required; otherwise, it is optional.

ResourcePrefix	No	String	Resource prefix (the part before "/" in the last segment in the six-segment resource description), which is optional for COS buckets but required for other Tencent Cloud resources.
----------------	----	--------	--

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Unbinding a tag from multiple CVM instances in Guangzhou

Input Example

```
https://tag.tencentcloudapi.com/?Action=DetachResourcesTag
&ServiceType=cvm
&ResourceRegion=ap-guangzhou
&TagKey=t1
&ResourcePrefix=instance
&ResourceIds.0=ins-001
&ResourceIds.1=ins-002
&<Common request parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "7bf7fd57-4d48-4a5a-957a-80b390dea667"
  }
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Go](#)
- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
AuthFailure.UnauthorizedOperation	CAM authentication failed.
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
FailedOperation.ResourceAppIdNotSame	The <code>appId</code> of resources in one single request must be the same.
InvalidParameter	Incorrect parameter.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.RegionInvalid	Region error.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.ResourceIdInvalid	Resource ID error.
InvalidParameterValue.ResourcePrefixInvalid	Resource prefix error.

InvalidParameterValue.ServiceTypeInvalid	Service type error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.UinInvalid	<code>Uin</code> parameter is invalid.
LimitExceeded.ResourceNumPerRequest	The number of resources requested at a time reaches the upper limit.
ResourceNotFound.AttachedTagKeyNotFound	The tag key associated with the resource doesn't exist.

AttachResourcesTag

Last updated : 2024-03-20 15:31:08

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to associate a tag with multiple resources.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: AttachResourcesTag.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
ServiceType	Yes	String	Service short name, which is the third segment of the six-segment resource format. For more information on the format, see https://www.tencentcloud.com/document/product/651/89122?from_cn_redirect=1
ResourceIds.N	Yes	Array of String	Resource ID array, which can contain up to 50 resources
TagKey	Yes	String	The tag key that needs to be bound. For the requirements, refer to: https://www.tencentcloud.com/document/product/651/13354?

			from_cn_redirect=1
TagValue	Yes	String	The tag value that needs to be bound. For the requirements, refer to: https://www.tencentcloud.com/document/product/651/13354?from_cn_redirect=1
ResourceRegion	No	String	Region of the resource. This parameter can be left blank if region is not involved. The region must correspond to resources specified by ResourceIds.N. Once the region is specified, all resources specified by ResourceIds.N must locate in this region. Example: ap-beijing.
ResourcePrefix	No	String	Resource prefix (the part before "/" in the last segment in the six-segment resource description), which is optional for COS buckets but required for other Tencent Cloud resources.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Associating a tag with multiple CVM instances in Guangzhou

Input Example

```
https://tag.tencentcloudapi.com/?Action=AttachResourcesTag
&ServiceType=cvm
&ResourceRegion=ap-guangzhou
&TagKey=t1
&TagValue=v1
&ResourcePrefix=instance
&ResourceIds.0=ins-001
&ResourceIds.1=ins-002
&<Common request parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "7bf7fd57-4d48-4a5a-957a-80b390dea117"
  }
}
```

5. Developer Resources

SDK

TencentCloud API 3.0 integrates SDKs that support various programming languages to make it easier for you to call APIs.

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- [Tencent Cloud SDK 3.0 for Java](#)
- [Tencent Cloud SDK 3.0 for PHP](#)
- [Tencent Cloud SDK 3.0 for Go](#)
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- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
AuthFailure.UnauthorizedOperation	CAM authentication failed.
FailedOperation	The operation failed.
FailedOperation.PolicyEnforcedInvalid	
FailedOperation.ResourceAppIdNotSame	The <code>appId</code> of resources in one single request must be the same.

InvalidParameter	Incorrect parameter.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.RegionInvalid	Region error.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.ResourceIdInvalid	Resource ID error.
InvalidParameterValue.ResourcePrefixInvalid	Resource prefix error.
InvalidParameterValue.ServiceTypeInvalid	Service type error.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.UinInvalid	<code>Uin</code> parameter is invalid.
LimitExceeded.Quota	The quota limit is reached.
LimitExceeded.ResourceAttachedTags	The number of tags associated with the resource exceeds the limit.
LimitExceeded.ResourceNumPerRequest	The number of resources requested at a time reaches the upper limit.
OperationDenied	Operation denied.
ResourceInUse.TagKeyAttached	The corresponding tag key has already been associated with the resource.
ResourceNotFound.TagNonExist	Tag does not exist.

Read APIs

GetResources

Last updated : 2024-03-20 15:31:10

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to query the list of resources associated with a tag.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: GetResources.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
ResourceList.N	No	Array of String	Six-segment resource description list. Tencent Cloud uses a six-segment value to describe a resource. For example, ResourceList.1 = qcs::\${ServiceType}:\${Region}:\${Account}:\${ResourcePrefix}/\${ResourceName} If this parameter is passed in, the list of all matching resources will be returned, and the specified <code>MaxResults</code> will become invalid. Value range of N: 0-9
TagFilters.N	No	Array of	Tag key and value.

		TagFilter	If multiple tags are specified, resources bound to all such tags will be queried. Value range of N: 0-5 There can be up to 10 TagValues in each TagFilters .
PaginationToken	No	String	The token value of the next page obtained from the response of the page. Leave it empty for the first request.
MaxResults	No	Integer	Number of data entries to return per page (up to 200). Default value: 50.

3. Output Parameters

Parameter Name	Type	Description
PaginationToken	String	Token value obtained for the next page
ResourceTagMappingList	Array of ResourceTagMapping	List of resources and their associated tags (key-value pairs)
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying resource tag list

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: GetResources
<Common request parameters>

{
  "ResourceList": [
    "qcs::cvm:ap-beijing:uin/100000558920:instance/ins-123",
```

```
"qcs::cvm:ap-shanghai:uin/100000558920:instance/ins-345"
],
"TagFilters": [
{
"TagKey": "11",
"TagValue": [
"11"
]
},
{
"TagKey": "22",
"TagValue": [
"22"
]
}
]
}
```

Output Example

```
{
  "Response": {
    "PaginationToken": "",
    "ResourceTagMappingList": [
      {
        "Resource": "qcs::cvm:ap-beijing:uin/100000558920:instance/ins-123",
        "Tags": [
          {
            "TagKey": "22",
            "TagValue": "22"
          },
          {
            "TagKey": "11",
            "TagValue": "11"
          }
        ]
      },
      {
        "Resource": "qcs::cvm:ap-shanghai:uin/100000558920:instance/ins-345",
        "Tags": [
          {
            "TagKey": "22",
            "TagValue": "22"
          },
          {
            "TagKey": "11",

```

```
"TagValue": "11"
}
]
}
],
"RequestId": "07cfd251-4ed1-426c-8133-e04a583063c0"
}
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Go](#)
- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
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Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
AuthFailure.UnauthorizedOperation	CAM authentication failed.
FailedOperation	The operation failed.
FailedOperation.ResourceTagProcessing	The resource tag is being processed.
InvalidParameter	Incorrect parameter.

InvalidParameter.PaginationTokenInvalid	The <code>PaginationToken</code> parameter is invalid.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameter.Tag	<code>Tag</code> parameter error.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.TagKeyDuplicate	There are duplicate <code>TagKeys</code> in <code>TagList</code> .
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
LimitExceeded.ResourceNumPerRequest	The number of resources requested at a time reaches the upper limit.
LimitExceeded.TagNumPerRequest	The number of tags in a single request exceeds the limit.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.

GetTagKeys

Last updated : 2024-03-20 15:31:10

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to query the list of tag keys.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: GetTagKeys.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
PaginationToken	No	String	The token value of the next page obtained from the response of the previous page. Leave it empty for the first request.
MaxResults	No	Integer	Number of data entries to return per page (up to 1,000). Default value: 50.
Category	No	String	Tag type. Valid values: Custom: custom tag; System: system tag; All: all tags. Default value: All.

3. Output Parameters

Parameter Name	Type	Description
PaginationToken	String	Token value obtained for the next page
TagKeys	Array of String	Tag key information.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying tag key list

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: GetTagKeys
<Common request parameters>

{
  "PaginationToken": "oaWvQ5SFPgHUtWMA3LKTKgryBtKrDB215AUhaE*****",
  "MaxResults": "10"
}
```

Output Example

```
{
  "Response": {
    "PaginationToken": "kF-AjkqVQoB_9GwaBebsjvXudAjBadBTakA1WqPbwR66KjGE0INYQhQ*****",
    "TagKeys": [
      "testKey1",
      "testKey2"
    ],
    "RequestId": "104eeaa2-c268-43e5-b073-0fade*****"
  }
}
```

```
}  
}
```

5. Developer Resources

SDK

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Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
InvalidParameter	Incorrect parameter.
InvalidParameter.PaginationTokenInvalid	The <code>PaginationToken</code> parameter is invalid.
InvalidParameterValue.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
LimitExceeded	The quota limit is exceeded.

GetTagValues

Last updated : 2024-03-20 15:31:09

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to query tag values in the list of created tags.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: GetTagValues.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
TagKeys.N	Yes	Array of String	Tag key. All tag values corresponding to the list of tag keys. Maximum length: 20
PaginationToken	No	String	The token value of the next page obtained from the response of the previous page. Leave it empty for the first request.
MaxResults	No	Integer	Number of data entries to return per page (up to 1,000). Default value: 50.
Category	No	String	Tag type. Valid values: Custom: custom tag; System: system

			tag; All: all tags. Default value: All.
--	--	--	---

3. Output Parameters

Parameter Name	Type	Description
PaginationToken	String	Token value obtained for the next page
Tags	Array of Tag	Tag list.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying tag value list

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: GetTagValues
<Common request parameters>

{
  "PaginationToken": "CvHxL9Up8UzmIeLZKL-pSEjfF0aDNyMkn5kyTyn2M*****",
  "TagKeys": [
    "key1"
  ],
  "MaxResults": "1"
}
```

Output Example

```
{
  "Response": {
```

```
"PaginationToken": "j5YP3W_BJau_FcWBKPPHzvDIrG01rHqMuKyxW*****",
"Tags": [
{
  "TagKey": "key1",
  "TagValue": "value1"
},
],
"RequestId": "7337c479-d89b-4c4c-be6d-c7*****"
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for PHP](#)
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- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
InvalidParameter	Incorrect parameter.
InvalidParameter.PaginationTokenInvalid	

	The <code>PaginationToken</code> parameter is invalid.
<code>InvalidParameterValue.ReservedTagKey</code>	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
<code>LimitExceeded</code>	The quota limit is exceeded.
<code>MissingParameter</code>	Missing parameter.

GetTags

Last updated : 2024-03-20 15:31:09

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to get the list of created tags.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: GetTags.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
PaginationToken	No	String	The token value of the next page obtained from the response of the previous page. Leave it empty for the first request.
MaxResults	No	Integer	Number of data entries to return per page (up to 1,000). Default value: 50.
TagKeys.N	No	Array of String	Tag key. All tags corresponding to the list of tag keys. Maximum length: 20
Category	No	String	Tag type. Valid values: Custom: custom tag; System: system

			tag; All: all tags. Default value: All.
--	--	--	---

3. Output Parameters

Parameter Name	Type	Description
PaginationToken	String	Token value obtained for the next page
Tags	Array of Tag	Tag list.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Querying tag list

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: GetTags
<Common request parameters>

{
  "PaginationToken": "Ab9jDQQcwdAXTyU2IUabQzkIKltlrX19nJCB8MIuJD9Ck8*****",
  "MaxResults": "2"
}
```

Output Example

```
{
  "Response": {
    "PaginationToken": "t1eWpVGSKbAxvaIwRPttZIQq-Eu7e2hWKvN5iMyULmtF*****",
    "Tags": [
      {
```

```
"TagKey": "key1",
"TagValue": "value1"
},
{
"TagKey": "key2",
"TagValue": "value2"
}
],
"RequestId": "0ba573a8-0fdc-44eb-96d7-8f7f*****"
}
}
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Go](#)
- [Tencent Cloud SDK 3.0 for Node.js](#)
- [Tencent Cloud SDK 3.0 for .NET](#)
- [Tencent Cloud SDK 3.0 for C++](#)

Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	The operation failed.
InvalidParameter	Incorrect parameter.

InvalidParameter.PaginationTokenInvalid	The <code>PaginationToken</code> parameter is invalid.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
LimitExceeded	The quota limit is exceeded.

Project APIs

DescribeProjects

Last updated : 2024-03-20 15:31:13

1. API Description

Domain name for API request: tag.tencentcloudapi.com.

This API is used to get project lists.

A maximum of 20 requests can be initiated per second for this API.

We recommend you to use API Explorer

[Try it](#)

API Explorer provides a range of capabilities, including online call, signature authentication, SDK code generation, and API quick search. It enables you to view the request, response, and auto-generated examples.

2. Input Parameters

The following request parameter list only provides API request parameters and some common parameters. For the complete common parameter list, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params . The value used for this API: DescribeProjects.
Version	Yes	String	Common Params . The value used for this API: 2018-08-13.
Region	No	String	Common Params . This parameter is not required for this API.
AllList	Yes	Integer	If this parameter is 1, all projects (including hidden ones) will be queried. If it is 0, only non-hidden projects will be queried.
Limit	Yes	Integer	Number of entries per page. Fixed value: 1,000.
Offset	Yes	Integer	Pagination offset.

3. Output Parameters

Parameter Name	Type	Description
Total	Integer	Total number of data entries.
Projects	Array of Project	Project list.
RequestId	String	The unique request ID, generated by the server, will be returned for every request (if the request fails to reach the server for other reasons, the request will not obtain a RequestId). RequestId is required for locating a problem.

4. Example

Example1 Getting project lists

Input Example

```
POST / HTTP/1.1
Host: tag.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeProjects
<Common request parameters>

{
  "Limit": "500",
  "AllList": "0",
  "Offset": "0"
}
```

Output Example

```
{
  "Response": {
    "Total": 1,
    "Projects": [
      {
        "ProjectId": 1024701,
        "ProjectName": "test1",
        "CreatorUin": 100000548134,
        "ProjectInfo": "",
        "CreateTime": "2021-10-13 11:03:30"
      }
    ]
  }
}
```

```
}  
],  
"RequestId": "d75bbc07-f5bd-4020-b4bd-f877e9ccd1db"  
}  
}
```

5. Developer Resources

SDK

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Command Line Interface

- [Tencent Cloud CLI 3.0](#)

6. Error Code

The following only lists the error codes related to the API business logic. For other error codes, see [Common Error Codes](#).

Error Code	Description
AuthFailure	Error with CAM signature/authentication.
AuthFailure.UnauthorizedOperation	CAM authentication failed.
FailedOperation	The operation failed.
InvalidParameter	Incorrect parameter.

Data Types

Last updated : 2024-03-20 15:31:13

FailedResource

Information of failed resources.

This is returned when resource tag binding or unbinding fails.

Used by actions: TagResources, UnTagResources.

Name	Type	Description
Resource	String	Six-segment descriptions of failed resources
Code	String	Error code
Message	String	Error message

Project

Project information.

Used by actions: DescribeProjects.

Name	Type	Description
ProjectId	Integer	Project ID.
ProjectName	String	Project name.
CreatorUin	Integer	Creator UIN.
ProjectInfo	String	Project description.
CreateTime	String	Creation time.

ResourceIdTag

Resource tag key value

Used by actions: DescribeResourceTagsByTagKeys.

Name	Type	Description
ResourceId	String	Unique resource ID Note: this field may return null, indicating that no valid values can be obtained
TagKeyValues	Array of Tag	Tag key-value pair Note: this field may return null, indicating that no valid values can be obtained

ResourceTag

Resource tag.

Used by actions: DescribeResourcesByTags, DescribeResourcesByTagsUnion.

Name	Type	Description
ResourceRegion	String	The resource's region. Note: This field may return null, indicating that no valid value is found.
ServiceType	String	Service type. Note: This field may return null, indicating that no valid value is found.
ResourcePrefix	String	Resource prefix. Note: This field may return null, indicating that no valid value is found.
ResourceId	String	Unique resource ID. Note: This field may return null, indicating that no valid value is found.
Tags	Array of Tag	Resource tag. Note: This field may return null, indicating that no valid value is found.

ResourceTagMapping

Resources and their associated tags (key-value pairs).

Used by actions: GetResources.

Name	Type	Description
Resource	String	Six-segment resource description. Tencent Cloud uses a six-segment value to describe a resource.

		For example, ResourceList.1 = qcs::\${ServiceType}:\${Region}:\${Account}:\${ResourcePrefix}/\${ResourceId}.
Tags	Array of Tag	List of tags associated with the resource

Tag

A tag key-value pair.

Used by actions: CreateTags, DeleteTags, DescribeResourceTagsByTagKeys, DescribeResourcesByTags, DescribeResourcesByTagsUnion, DescribeTagValues, DescribeTagValuesSeq, GetResources, GetTagValues, GetTags, ModifyResourceTags, TagResources.

Name	Type	Required	Description
TagKey	String	Yes	Tag key.
TagValue	String	Yes	Tag value.
Category	String	No	Tag type. Valid values: Custom: custom tag; System: system tag; All: all tags. Default value: All.Note: This field may return null, indicating that no value is obtained.

TagFilter

Tag filtering array. '**AND**' relation if multiple arrays.

Used by actions: DescribeResourcesByTags, DescribeResourcesByTagsUnion, GetResources.

Name	Type	Required	Description
TagKey	String	Yes	Tag key.
TagValue	Array of String	No	Tag value array. ' OR ' relation if multiple values.

TagKeyObject

Tag key object.

Used by actions: ModifyResourceTags.

Name	Type	Required	Description
TagKey	String	Yes	Tag key.

TagResource

Tag key-value pair and resource ID.

Used by actions: DescribeResourceTags, DescribeResourceTagsByResourceIds, DescribeResourceTagsByResourceIdsSeq.

Name	Type	Description
TagKey	String	Tag key.
TagValue	String	Tag value.
ResourceId	String	Resource ID.
TagKeyMd5	String	Tag key MD5 value.
TagValueMd5	String	Tag value MD5 value.
ServiceType	String	Resource type Note: this field may return null, indicating that no valid values found.
Category	String	Tag type. Valid values: Custom: custom tag; System: system tag.Note: This field may return null, indicating that no value is obtained.

TagWithDelete

A tag key-value pair and if deletion is allowed.

Used by actions: DescribeTags, DescribeTagsSeq.

Name	Type	Description
TagKey	String	Tag key.
TagValue	String	Tag value.
CanDelete	Integer	If deletion is allowed.
Category	String	Tag type. Valid values: Custom: custom tag; System: system tag; All: all tags. Default

		value: All.Note: This field may return null, indicating that no value is obtained.
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Error Codes

Last updated : 2024-03-20 15:31:14

Feature Description

If there is an Error field in the response, it means that the API call failed. For example:

```
{
  "Response": {
    "Error": {
      "Code": "AuthFailure.SignatureFailure",
      "Message": "The provided credentials could not be validated. Please check your signature is correct."
    },
    "RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
  }
}
```

Code in Error indicates the error code, and Message indicates the specific information of the error.

Error Code List

Common Error Codes

Error Code	Description
ActionOffline	This API has been deprecated.
AuthFailure.InvalidAuthorization	Authorization in the request header is invalid.
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type).
AuthFailure.MFAFailure	MFA failed.
AuthFailure.SecretIdNotFound	Key does not exist. Check if the key has been deleted or disabled in the console, and if not, check if the key is correctly entered. Note that whitespaces should not exist before or after the key.
AuthFailure.SignatureExpire	Signature expired. Timestamp and server time cannot differ by more than five minutes. Please

	ensure your current local time matches the standard time.
AuthFailure.SignatureFailure	Invalid signature. Signature calculation error. Please ensure you've followed the signature calculation process described in the Signature API documentation.
AuthFailure.TokenFailure	Token error.
AuthFailure.UnauthorizedOperation	The request is not authorized. For more information, see the CAM documentation.
DryRunOperation	DryRun Operation. It means that the request would have succeeded, but the DryRun parameter was used.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidAction	The API does not exist.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
InvalidRequest	The multipart format of the request body is incorrect.
IpInBlacklist	Your IP is in uin IP blacklist.
IpNotInWhitelist	Your IP is not in uin IP whitelist.
LimitExceeded	Quota limit exceeded.
MissingParameter	A parameter is missing.
NoSuchProduct	The product does not exist.
NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
RequestLimitExceeded.GlobalRegionUinLimitExceeded	Uin exceeds the frequency limit.
RequestLimitExceeded.IPLimitExceeded	The number of ip requests exceeds the frequency limit.
RequestLimitExceeded.UinLimitExceeded	The number of uin requests exceeds the frequency

	limit.
RequestSizeLimitExceeded	The request size exceeds the upper limit.
ResourceInUse	Resource is in use.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	Resource is unavailable.
ResponseSizeLimitExceeded	The response size exceeds the upper limit.
ServiceUnavailable	Service is unavailable now.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	HTTP(S) request protocol error; only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

Service Error Codes

Error Code	Description
AuthFailure	Error with CAM signature/authentication.
FailedOperation.PolicyEnforcedInvalid	
FailedOperation.ResourceAppIdNotSame	The <code>appId</code> of resources in one single request must be the same.
FailedOperation.ResourceTagProcessing	The resource tag is being processed.
FailedOperation.TagAttachedQuota	A quota has already been allocated to tags.
FailedOperation.TagAttachedResource	Tags associated with resources cannot be deleted.
InvalidParameter.PaginationTokenInvalid	The <code>PaginationToken</code> parameter is invalid.
InvalidParameter.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.

InvalidParameter.Tag	<code>Tag</code> parameter error.
InvalidParameter.UnsupportedService	The current business does not support tag operations.
InvalidParameterValue.DeleteTagsParamError	<code>DeleteTags</code> cannot contain the elements in <code>ReplaceTags</code> or <code>AddTags</code> .
InvalidParameterValue.OffsetInvalid	Offset error.
InvalidParameterValue.RegionInvalid	Region error.
InvalidParameterValue.ReservedTagKey	System reserved tag keys <code>qcloud</code> , <code>tencent</code> and <code>project</code> cannot be created.
InvalidParameterValue.ResourceDescriptionError	Resource description error.
InvalidParameterValue.ResourceIdInvalid	Resource ID error.
InvalidParameterValue.ResourcePrefixInvalid	Resource prefix error.
InvalidParameterValue.ServiceTypeInvalid	Service type error.
InvalidParameterValue.TagFilters	<code>TagFilters</code> parameter error
InvalidParameterValue.TagFiltersLengthExceeded	Tag filtering arrays reached the upper limit 6 when querying resources by tag.
InvalidParameterValue.TagKeyCharacterIllegal	Tag key contains illegal characters.
InvalidParameterValue.TagKeyDuplicate	There are duplicate <code>TagKeys</code> in <code>TagList</code> .
InvalidParameterValue.TagKeyEmpty	Tag key cannot be empty.
InvalidParameterValue.TagKeyLengthExceeded	Tag key length exceeds limit.
InvalidParameterValue.TagValueCharacterIllegal	Tag value contains illegal characters.
InvalidParameterValue.TagValueEmpty	The tag value cannot be empty.
InvalidParameterValue.TagValueLengthExceeded	Tag value length exceeds limit.
InvalidParameterValue.UinInvalid	<code>Uin</code> parameter is invalid.
LimitExceeded.Quota	The quota limit is reached.
LimitExceeded.ResourceAttachedTags	The number of tags associated with the resource exceeds the limit.
LimitExceeded.ResourceNumPerRequest	The number of resources requested at a time reaches the

	upper limit.
LimitExceeded.TagKey	The number of created tag keys reaches the limit of 1,000.
LimitExceeded.TagNumPerRequest	The number of tags in a single request exceeds the limit.
LimitExceeded.TagValue	Each tag key can have up to 1,000 values.
OperationDenied	Operation denied.
ResourceInUse.TagDuplicate	Tag already exists.
ResourceInUse.TagKeyAttached	The corresponding tag key has already been associated with the resource.
ResourceNotFound.AttachedTagKeyNotFound	The tag key associated with the resource doesn't exist.
ResourceNotFound.TagNonExist	Tag does not exist.