

集团账号管理

API 文档

产品文档



腾讯云

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History

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Release 3

Release time: 2023-07-06 16:55:08

Release updates:

Improvement to existing documentation.

Modified APIs:

- [ListOrganizationIdentity](#)
 - New input parameters:IdentityType

Release 2

Release time: 2023-04-04 15:55:35

Release updates:

Improvement to existing documentation.

Modified data structures:

- [OrgMemberAuthIdentity](#)
 - New members:IdentityType

Existing Release

Release time: 2022-12-08 10:24:03

Existing APIs/data structures are as follows:

Improvement to existing documentation.

Existing APIs:

- [AddOrganizationNode](#)

- [BindOrganizationMemberAuthAccount](#)
- [CancelOrganizationMemberAuthAccount](#)
- [CreateOrganizationMember](#)
- [CreateOrganizationMemberPolicy](#)
- [DeleteOrganizationMembers](#)
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- [UpdateOrganizationNode](#)

Existing data structures:

- [IdentityPolicy](#)
- [MemberIdentity](#)
- [OrgIdentity](#)
- [OrgMember](#)
- [OrgMemberAuthAccount](#)
- [OrgMemberAuthIdentity](#)
- [OrgMemberPolicy](#)
- [OrgNode](#)
- [OrgPermission](#)

Introduction

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Welcome to TCO !

Tencent Cloud Organization (TCO) is an account management service that enables you to centrally manage multiple Tencent Cloud accounts by integrating them with an organization you created. It provides features that lets you view bills and manage accounts to meet your budgeting, security, and compliance needs. As an administrator of an organization, you can invite existing accounts to join the organization. Through its streamlined multi-account billing mode, TCO allows you to view the billing details of all accounts in your organization conveniently by switching among accounts. Currently, it is available to all Tencent Cloud customers for free.

API Category

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Department and Member Management APIs

API Name	Feature	Frequency Limit (maximum requests per second)
AddOrganizationNode	Adds an organization node	20
CreateOrganizationMember	Creates an organization member	20
DeleteOrganizationMembers	Batch deletes organization members	20
DeleteOrganizationNodes	Batch deletes organization nodes	20
DescribeOrganizationMembers	Gets the list of organization members	20
DescribeOrganizationNodes	Gets the list of organization nodes	20
MoveOrganizationNodeMembers	Moves a member to the specified organization node	20
UpdateOrganizationNode	Updates an organization node	20

Unified Member Login APIs

API Name	Feature	Frequency Limit (maximum requests per second)
BindOrganizationMemberAuthAccount	Binds an organization member to a sub-account of the organization admin	20
CancelOrganizationMemberAuthAccount	Unbinds an organization member from a sub-account of the organization admin	20
CreateOrganizationMemberPolicy	Creates an organization member	20

	access policy	
DescribeOrganizationMemberAuthAccounts	Gets the list of sub-accounts bound to an organization member	20
DescribeOrganizationMemberAuthIdentities	Gets the list of manageable identities of an organization member	20
DescribeOrganizationMemberPolicies	Gets the list of authorization policies of an organization member	20
ListOrganizationIdentity	Gets the list of access identities of an organization member	20

Organization Settings APIs

API Name	Feature	Frequency Limit (maximum requests per second)
DescribeOrganization	Gets the organization information	40

Making API Requests

Request Structure

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1. Service Address

The API supports access from either a nearby region (at `organization.tencentcloudapi.com`) or a specified region (at `organization.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 "organization.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)	<code>organization.tencentcloudapi.com</code>
South China (Guangzhou)	<code>organization.ap-guangzhou.tencentcloudapi.com</code>
East China (Shanghai)	<code>organization.ap-shanghai.tencentcloudapi.com</code>
North China (Beijing)	<code>organization.ap-beijing.tencentcloudapi.com</code>
Southwest China (Chengdu)	<code>organization.ap-chengdu.tencentcloudapi.com</code>
Southwest China (Chongqing)	<code>organization.ap-chongqing.tencentcloudapi.com</code>
Hong Kong, Macao, Taiwan (Hong Kong, China)	<code>organization.ap-hongkong.tencentcloudapi.com</code>

Southeast Asia (Singapore)	organization.ap-singapore.tencentcloudapi.com
Southeast Asia (Bangkok)	organization.ap-bangkok.tencentcloudapi.com
South Asia (Mumbai)	organization.ap-mumbai.tencentcloudapi.com
Northeast Asia (Seoul)	organization.ap-seoul.tencentcloudapi.com
Northeast Asia (Tokyo)	organization.ap-tokyo.tencentcloudapi.com
U.S. East Coast (Virginia)	organization.na-ashburn.tencentcloudapi.com
U.S. West Coast (Silicon Valley)	organization.na-siliconvalley.tencentcloudapi.com
North America (Toronto)	organization.na-toronto.tencentcloudapi.com
Europe (Frankfurt)	organization.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

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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 r 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 y work with belongs. For values supported for an API, see the description c parameter <code>Region</code> in the input parameters in related API documentati parameter is not required for some APIs (which will be indicated in relatec 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 for example, 1529223702. Note: If the difference between the UNIX times server time is greater than 5 minutes, a signature expiration error may oc
X-TC-Version	String	Yes	API version of the action. For the valid values, see the description of the c parameter <code>Version</code> in the API documentation. For example, the versi 2017-03-12.
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_requ SignedHeaders=content-type;host, Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc96317 Here: - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is 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=37ac2f4fde00b0ac9bd9eadeb459b1bbec224158d66e7ae5fcadb70b2d181d02&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=37ac2f4fde00b0ac9bd9eadeb459b1bbee224158d66e7ae5fcadb70b2d181d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

Signature v3

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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	<p>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>.</p> <p>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.</p>
CanonicalHeaders	<p>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.</p> <p>Concatenation rules:</p> <ol style="list-style-type: none"> 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). <p>The calculation result in this example is <code>content-type:application/json; charset=utf-8\nhost:cvm.tencentcloudapi.com\n</code>.</p> <p>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.</p>
SignedHeaders	<p>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.</p> <p>Concatenation rules:</p> <ol style="list-style-type: none"> 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 (;). <p>The value in this example is <code>content-type;host</code></p>
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 match the domain name of the product called. The calculation result in this example is <code>20180525/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 2815843035062ffffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3ad
------------------------	--

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
2815843035062ffffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a
```

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., Gu5t9xGARNpq86cd98joQYCN3*****.
Date	The Date field information in Credential, such as 2019-02-25 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/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
```

The following example shows a finished authorization header:

```
POST https://cvm.tencentcloudapi.com/
Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
```

```
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&InstanceIds.0=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.utcnow().fromtimestamp(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

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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*****';

```

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

最近更新时间：2022-12-08 10:28:58

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.

Department and Member Management APIs

CreateOrganizationMember

最近更新时间：2023-07-06 17:00:18

1. API Description

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

This API is used to create an organization member.

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: CreateOrganizationMember.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Name	Yes	String	Member name, which can contain up to 25 letters, digits, and symbols <code>+@&._[]-:,.</code>
PolicyType	Yes	String	Relationship policy. Valid value: <code>Financial</code> .
PermissionIds.N	Yes	Array of Integer	List of member financial permission IDs. <code>7</code> indicates paying, which is the default value.

NodeId	Yes	Integer	ID of the node of the member's department, which can be obtained through the <code>DescribeOrganizationNodes</code> API.
AccountName	Yes	String	Account name, which can contain up to 25 letters, digits, and symbols <code>+@&._[]-:,.</code>
Remark	No	String	Remarks.
RecordId	No	Integer	Member creation record ID, which is required during retry upon creation exception.
PayUin	No	String	Payer UIN, which is required during paying for a member.
IdentityRoleId.N	No	Array of Integer	List of member access identity IDs, which can be obtained through the <code>ListOrganizationIdentity</code> API. <code>1</code> indicates supported, which is the default value.
AuthRelationId	No	Integer	Verified entity relationship ID, which is required during creating members for different entities.

3. Output Parameters

Parameter Name	Type	Description
Uin	Integer	Member UIN. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Creating an organization member

Input Example

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

```
{
  "Remark": "test",
  "Name": "test",
  "NodeId": "27",
  "AccountName": "test",
  "PermissionIds": [
    1,
    2
  ],
  "PolicyType": "Finical",
  "PayUin": "",
  "IdentityRoleID": [
    1
  ]
}
```

Output Example

```
{
  "Response": {
    "Uin": 100001919,
    "RequestId": "1a556fac-cd38-4732-86ef-6283d6abddd7"
  }
}
```

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](#)
- [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 NodeJS](#)
- [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.AuthInfoEmpty	The user has not completed identity verification.
FailedOperation.AuthNotEnterprise	The user has not completed enterprise identity verification.
FailedOperation.CreateAccount	An exception occurred while creating the member.
FailedOperation.CreateBillingPermissionErr	Failed to create the billing permission
FailedOperation.CreateMemberAuthOverLimit	The number of times of account identity verification exceeds the upper limit.
FailedOperation.CreateRecordAlreadySuccess	Created successfully.
FailedOperation.CreateRecordNotExist	The creation record does not exist.
FailedOperation.CreateRole	An exception occurred while creating the role.
FailedOperation.GetAuthInfo	An error occurred while querying the identity information.
FailedOperation.MemberNameUsed	The name is already in use.
FailedOperation.OperateBillingPermissionErr	An error occurred while manipulating the billing member permission.
FailedOperation.OrganizationMemberNameUsed	The member name already exists.
FailedOperation.OrganizationNodeNotExist	The organization node does not exist.
FailedOperation.OrganizationPermissionIllegal	The organization permission is invalid.
FailedOperation.OrganizationPolicyIllegal	The organization policy is invalid.

FailedOperation.PayUinIllegal	The payer is invalid.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
LimitExceeded.CreateMemberOverLimit	The number of members to be created exceeds the upper limit.
LimitExceeded.OrganizationMemberOverLimit	The number of members exceeds the upper limit.
ResourceNotFound.OrganizationNodeNotExist	The organization node does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.
UnsupportedOperation.AddDelegatePayerNotAllowed	No paying relationships can be added.
UnsupportedOperation.AddDiscountInheritNotAllowed	No offer inheritance relationships can be added.
UnsupportedOperation.ExistedAgent	Payment-on-behalf is not supported for this member or payer as it is a reseller.
UnsupportedOperation.ExistedClient	Payment-on-behalf is not supported for this member or payer as it is a reseller's account.
UnsupportedOperation.InconsistentUserTypes	The user type mismatches.
UnsupportedOperation.ManagementSystemError	An error occurred while calling the operations management system.
UnsupportedOperation.MemberAccountArrears	The member account has an overdue payment.
UnsupportedOperation.MemberDiscountInheritExisted	The member has an inherited offer.
UnsupportedOperation.MemberExistAccountLevelDiscountInherit	The member has an account-level offer.
UnsupportedOperation.MemberIsAgent	The member is an agent or customer.
UnsupportedOperation.OrderInProgressExisted	There is an ongoing order.
UnsupportedOperation.OwnerDiscountInheritExisted	The admin has an inherited offer.
UnsupportedOperation.PayerArrearsAndNoCreditAccount	The payer has an overdue payment and has no credit account.

UnsupportedOperation.PayerExistAccountLevelDiscountInherit

The payer has an account-level offer.

DescribeOrganizationMembers

最近更新时间：2023-04-04 15:58:05

1. API Description

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

This API is used to get the list of organization members.

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: DescribeOrganizationMembers.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Offset	Yes	Integer	Offset, which is an integer multiple of the value of <code>Limit</code> . Default value: <code>0</code> .
Limit	Yes	Integer	Limit, which defaults to <code>10</code> . Value range: 1-50.
Lang	No	String	Valid values: <code>en</code> (Tencent Cloud International); <code>zh</code> (Tencent Cloud).
SearchKey	No	String	Search by member name or ID.
AuthName	No	String	Entity name.

Product	No	String	Abbreviation of the trusted service, which is required during querying the trusted service admin.
---------	----	--------	---

3. Output Parameters

Parameter Name	Type	Description
Items	Array of OrgMember	Member list.
Total	Integer	Total number.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining the member list

This example shows you how to obtain the member list.

Input Example

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

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

Output Example

```
{
  "Response": {
    "Items": [
```

```
{
  "CreateTime": "2021-04-17 12:19:07",
  "MemberType": "Invite",
  "MemberUin": 111111111111,
  "Name": "test2",
  "NodeId": 27,
  "NodeName": "node1",
  "IsAllowQuit": "Denied",
  "OrgPermission": [
    {
      "Id": 1,
      "Name": "Allow the root account to view the consumption information of sub-accounts"
    },
    {
      "Id": 2,
      "Name": "Allow the root account to view the finance information of sub-accounts"
    }
  ],
  "OrgPolicyName": "Finance management",
  "OrgPolicyType": "Financial",
  "Remark": "123",
  "PayUin": "",
  "PayName": "",
  "OrgIdentity": [],
  "BindStatus": "Unbound",
  "PermissionStatus": "Confirmed",
  "UpdateTime": "2021-04-17 12:19:07"
},
{
  "CreateTime": "2021-04-16 11:49:39",
  "MemberType": "Create",
  "MemberUin": 222222222222,
  "Name": "name2",
  "NodeId": 26,
  "NodeName": "node2",
  "IsAllowQuit": "Denied",
  "OrgPermission": [
    {
      "Id": 1,
      "Name": "Allow the root account to view the consumption information of sub-accounts"
    },
    {
      "Id": 2,
      "Name": "Allow the root account to view the finance information of sub-accounts"
    }
  ],
}
```

```
{
  "Id": 3,
  "Name": "Allow the root account to allocate funds to sub-accounts"
},
{
  "Id": 4,
  "Name": "Allow the root account to consolidate the bills of sub-accounts"
},
{
  "Id": 5,
  "Name": "Allow the root account to issue invoices on behalf of sub-accounts"
}
],
"OrgPolicyName": "Finance management",
"OrgPolicyType": "Financial",
"Remark": "",
"PayUin": "",
"PayName": "",
"OrgIdentity": [],
"BindStatus": "Unbound",
"PermissionStatus": "Confirmed",
"UpdateTime": "2021-04-16 11:49:39"
}
],
"RequestId": "a0fe0702-5757-4aa4-8872-74b70a4c1b7a",
"Total": 2
}
}
```

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](#)
- [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 NodeJS](#)
- [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.OperateBillingPermissionErr	An error occurred while manipulating the billing member permission.
InternalServerError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationNotExist	The organization does not exist.
ResourceNotFound.OrganizationServiceNotExist	The organization service does not exist.

UpdateOrganizationNode

最近更新时间：2023-07-06 17:00:17

1. API Description

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

This API is used to update an organization node.

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: UpdateOrganizationNode.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
NodeId	Yes	Integer	Node ID.
Name	No	String	Node name, which can contain up to 40 letters, digits, and symbols +@&._[]- .
Remark	No	String	Remarks.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Updating an organization node

Input Example

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

{
  "NodeId": 123,
  "Name": "test"
}
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

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](#)
- [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 NodeJS](#)
- [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.OrganizationNodeNameUsed	The node name is already in use.
FailedOperation.OrganizationNodeNotExist	The organization node does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

MoveOrganizationNodeMembers

最近更新时间：2023-07-06 17:00:17

1. API Description

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

This API is used to move a member to the specified organization node.

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: MoveOrganizationNodeMembers.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
NodeId	Yes	Integer	Organization node ID.
MemberUin.N	Yes	Array of Integer	Member UIN list.

3. Output Parameters

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

Name		
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Moving a member to the specified organization node

Input Example

```

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

{
  "MemberUin": [
    100000023837
  ],
  "NodeId": 123
}
    
```

Output Example

```

{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
    
```

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](#)
- [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 NodeJS](#)
- [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.OrganizationNodeNotExist	The organization node does not exist.
FailedOperation.SomeUinsNotInOrganization	The UIN does not belong to the organization.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationNodeNotExist	The organization node does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DescribeOrganizationNodes

最近更新时间：2023-07-06 17:00:18

1. API Description

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

This API is used to get the list of organization nodes.

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: DescribeOrganizationNodes.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Limit	Yes	Integer	Maximum number of returned results. Maximum value: 50 .
Offset	Yes	Integer	Offset.

3. Output Parameters

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

Total	Integer	Total number. Note: This field may return null, indicating that no valid values can be obtained.
Items	Array of OrgNode	List details. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting the node list

Input Example

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

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

Output Example

```
{
  "Response": {
    "Items": [
      {
        "CreateTime": "2021-04-16 11:49:39",
        "Name": "Root",
        "NodeId": 26,
        "ParentNodeId": 0,
        "Remark": "",
        "UpdateTime": "2021-04-16 11:49:39"
      },
      {
        "CreateTime": "2021-04-16 14:59:57",
        "Name": "test",
        "NodeId": 27,
        "ParentNodeId": 26,
      }
    ]
  }
}
```

```
"Remark": "test",
"UpdateTime": "2021-04-16 14:59:57"
},
{
"CreateTime": "2021-04-16 15:55:53",
"Name": "test1",
"NodeId": 29,
"ParentNodeId": 27,
"Remark": "1",
"UpdateTime": "2021-04-16 15:55:53"
}
],
"RequestId": "becff4cb-fe62-4288-ac6c-4fba115b94b3",
"Total": 3
}
}
```

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](#)
- [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 NodeJS](#)
- [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
InternalServerError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DeleteOrganizationNodes

最近更新时间：2023-07-06 17:00:18

1. API Description

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

This API is used to batch delete organization nodes.

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: DeleteOrganizationNodes.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
NodeId.N	Yes	Array of Integer	List of node IDs.

3. Output Parameters

Parameter Name	Type	Description

RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.
-----------	--------	--

4. Example

Example1 Batch deleting organization nodes

Input Example

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

{
  "NodeId": [
    123
  ]
}
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

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 NodeJS](#)

- [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.NodeNotEmpty	There are members in this department
FailedOperation.OrganizationNodeDeleteOverLimit	The number of nodes to be deleted exceeds the upper limit.
FailedOperation.OrganizationNodeNotEmpty	There are nodes in the organization.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationMemberNotExist	The organization member does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DeleteOrganizationMembers

最近更新时间：2023-07-06 17:00:18

1. API Description

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

This API is used to batch delete organization members.

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: DeleteOrganizationMembers.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
MemberUin.N	Yes	Array of Integer	List of UINs of the members to be deleted.

3. Output Parameters

Parameter Name	Type	Description

RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.
-----------	--------	--

4. Example

Example1 Batch deleting organization members

Input Example

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

{
  "MemberUin": [
    10000023635
  ]
}
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

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 NodeJS](#)

- [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.DisableQuitSelfCreatedOrganization	You cannot quit an organization created by yourself.
FailedOperation.MemberExistDelegatePayerNotAllowedDelete	The member has a payer and cannot be deleted.
FailedOperation.MemberIsDelegatePayerNotAllowedDelete	The member is a payer and cannot be deleted.
FailedOperation.MemberShareResource	The member is sharing a resource.
FailedOperation.OperateBillingPermissionErr	An error occurred while manipulating the billing member permission.
FailedOperation.OrganizationAuthManageNotAllowedDelete	The member is an entity admin account and cannot be deleted.
FailedOperation.QuitShareUnitError	Failed to leave the shared unit.
FailedOperation.ShareResourceMemberInUse	The member is using a shared resource.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationNotExist	The organization does not exist.
UnsupportedOperation.CreateMemberNotAllowedDelete	Created members cannot be deleted.
UnsupportedOperation.MemberExistOperateProcessNotAllowedDelete	The member is configured with operation audit and cannot be deleted.

UnsupportedOperation.MemberExistServiceNotAllowDelete	The organization member is assigned with an organization service and cannot leave.
UnsupportedOperation.MemberNoPayment	No credit card is bound to the member.

AddOrganizationNode

最近更新时间：2023-07-06 17:00:18

1. API Description

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

This API is used to add an organization node.

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: AddOrganizationNode.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
ParentNodeId	Yes	Integer	Parent node ID, which can be obtained through the <code>DescribeOrganizationNodes</code> API.
Name	Yes	String	Node name, which can contain up to 40 letters, digits, and symbols <code>+@&._[]- .</code>
Remark	No	String	Remarks.

3. Output Parameters

Parameter Name	Type	Description
NodeId	Integer	Node ID.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Adding an organization node

Input Example

```

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

{
  "Name": "test",
  "ParentNodeId": 123
}
    
```

Output Example

```

{
  "Response": {
    "NodeId": 1123,
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
    
```

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
FailedOperation.OrganizationNodeNameUsed	The node name is already in use.
InternalServerError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
LimitExceeded.NodeDepthExceedLimit	The department has too many levels.
LimitExceeded.NodeExceedLimit	The number of departments exceeds the upper limit.
ResourceNotFound.OrganizationNodeNotExist	The organization node does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

Organization Settings APIs

DescribeOrganization

最近更新时间：2023-07-06 17:00:17

1. API Description

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

This API is used to get the organization information.

A maximum of 40 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: DescribeOrganization.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Lang	No	String	Valid values: <code>en</code> (Tencent Cloud International); <code>zh</code> (Tencent Cloud).
Product	No	String	Abbreviation of the trusted service, which is required during querying the trusted service admin.

3. Output Parameters

Parameter Name	Type	Description
OrgId	Integer	Organization ID. Note: This field may return null, indicating that no valid values can be obtained.
HostUin	Integer	Creator UIN. Note: This field may return null, indicating that no valid values can be obtained.
NickName	String	Creator name. Note: This field may return null, indicating that no valid values can be obtained.
OrgType	Integer	Organization type. Note: This field may return null, indicating that no valid values can be obtained.
IsManager	Boolean	Whether the member is the organization admin. Valid values: <code>true</code> (yes); <code>false</code> (no). Note: This field may return null, indicating that no valid values can be obtained.
OrgPolicyType	String	Policy type. Valid values: <code>Financial</code> (finance management). Note: This field may return null, indicating that no valid values can be obtained.
OrgPolicyName	String	Policy name. Note: This field may return null, indicating that no valid values can be obtained.
OrgPermission	Array of OrgPermission	List of member financial permissions. Note: This field may return null, indicating that no valid values can be obtained.
RootNodeid	Integer	Organization root node ID. Note: This field may return null, indicating that no valid values can be obtained.
CreateTime	String	Organization creation time. Note: This field may return null, indicating that no valid values can be obtained.
JoinTime	String	Member joining time. Note: This field may return null, indicating that no valid values can be obtained.

IsAllowQuit	String	Whether the member is allowed to leave. Valid values: <code>Allow</code> , <code>Denied</code> . Note: This field may return null, indicating that no valid values can be obtained.
PayUin	String	Payer UIN. Note: This field may return null, indicating that no valid values can be obtained.
PayName	String	Payer name. Note: This field may return null, indicating that no valid values can be obtained.
IsAssignManager	Boolean	Whether the member is the trusted service admin. Valid values: <code>true</code> (yes); <code>false</code> (no). Note: This field may return null, indicating that no valid values can be obtained.
IsAuthManager	Boolean	Whether the member is the verified entity admin. Valid values: <code>true</code> (yes); <code>false</code> (no). Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting organization details

Input Example

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

{ }
```

Output Example

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

```

"CreateTime": "2021-04-15 21:07:54",
"JoinTime": "2021-04-15 21:07:54",
"HostUin": 100000546922,
"IsManager": true,
"NickName": "",
"OrgId": 13,
"OrgPermission": [
{
"Id": 1,
"Name": "Allow the root account to view the consumption information of sub-accounts"
},
{
"Id": 2,
"Name": "Allow the root account to view the financial information of sub-accounts"
},
{
"Id": 3,
"Name": "Allow the root account to allocate funds to sub-accounts"
},
{
"Id": 4,
"Name": "Allow the root account to consolidate the bills of sub-accounts"
},
{
"Id": 5,
"Name": "Allow the root account to issue invoices on behalf of sub-accounts"
}
],
"OrgPolicyName": "Finance management",
"OrgPolicyType": "Financial",
"OrgType": 1,
"RootNodeId": 1001,
"IsAllowQuit": "Allow",
"PayUin": "",
"PayName": "",
"IsAssignManager": false,
"IsAuthManager": false,
"RequestId": "e5c09721-236b-4a55-a5d1-0513ac506245"
}
}
    
```

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](#)
- [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 NodeJS](#)
- [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.OperateBillingPermissionErr	An error occurred while manipulating the billing member permission.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

ListOrganizationIdentity

BindOrganizationMemberAuthAccount

最近更新时间：2023-07-06 17:00:17

1. API Description

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

This API is used to bind an organization member to a sub-account of the organization admin.

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: BindOrganizationMemberAuthAccount.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
MemberUin	Yes	Integer	Member UIN.
PolicyId	Yes	Integer	Policy ID, which can be obtained through the <code>DescribeOrganizationMemberPolicies</code> API.
OrgSubAccountUins.N	Yes	Array of Integer	List of sub-account UINs of the organization admin, which can contain up to five UINs.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Binding an organization member to a sub-account of the organization admin

Input Example

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

{
  "MemberUin": 100000546922,
  "PolicyId": 98081,
  "OrgSubAccountUins": [
    100000546921
  ]
}
```

Output Example

```
{
  "Response": {
    "RequestId": "4c2f4b68-01b2-4841-a927-6ca8fe40649b"
  }
}
```

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 Go](#)
- [Tencent Cloud SDK 3.0 for NodeJS](#)
- [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.OperatePolicy	Failed to manipulate the policy.
FailedOperation.SubAccountIdentityExist	The sub-account has an identity.
FailedOperation.SubAccountNotExist	The sub-account does not exist.
InternalServerError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.MemberNotExist	The member does not exist.
ResourceNotFound.MemberPolicyNotExist	The organization member policy does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.
UnsupportedOperation	The operation is not supported.

CreateOrganizationMemberPolicy

最近更新时间：2023-07-06 17:00:16

1. API Description

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

This API is used to create an organization member access policy.

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: CreateOrganizationMemberPolicy.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
MemberUin	Yes	Integer	Member UIN.
PolicyName	Yes	String	Policy name, which can contain up to 128 letters, digits, and symbols + = , . @ _ - .
IdentityId	Yes	Integer	Member access identity ID, which can be obtained through the <code>DescribeOrganizationMemberAuthIdentities</code> API.
Description	No	String	Description.

3. Output Parameters

Parameter Name	Type	Description
PolicyId	Integer	Policy ID. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Creating an organization member access policy

Input Example

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

{
  "PolicyName": "test",
  "MemberUin": "100000546922",
  "Description": "test",
  "IdentityId": "1"
}
```

Output Example

```
{
  "Response": {
    "PolicyId": 98081,
    "RequestId": "a1a10c6e-6723-408a-858b-2cb84e92776c"
  }
}
```

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
FailedOperation.CreatePolicy	Failed to create the policy
FailedOperation.MemberPolicyNameExist	The member authorization policy name is already in use.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.MemberIdentityNotExist	The authorizable member identity does not exist.
ResourceNotFound.MemberNotExist	The member does not exist.
ResourceNotFound.OrganizationMemberNotExist	The organization member does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

ListOrganizationIdentity

最近更新时间：2023-04-04 15:58:03

1. API Description

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

This API is used to get the list of access identities of an organization member.

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: ListOrganizationIdentity.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Offset	Yes	Integer	Offset.
Limit	Yes	Integer	Maximum number of returned results. Maximum value: 50 .
SearchKey	No	String	Search by name.
IdentityId	No	Integer	Search by identity ID.

3. Output Parameters

Parameter Name	Type	Description
Total	Integer	Total number. Note: This field may return null, indicating that no valid values can be obtained.
Items	Array of OrgIdentity	Item details. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting the list of access identities of an organization member

Input Example

```

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

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

Output Example

```

{
  "Response": {
    "Items": [
      {
        "IdentityId": "2021-07-15 21:08:38",
        "IdentityAliasName": "test",
        "Description": "",
        "IdentityPolicy": [
          {
            "PolicyId": 1,
    
```



```

"PolicyName": "AdministratorAccess"
}
],
"IdentityType": 1,
"UpdateTime": "2021-07-15 21:08:38"
}
],
"RequestId": "1d744bef-fa56-40e9-8e3b-5a88b122ad5e",
"Total": 1
}
}
    
```

5. Developer Resources

SDK

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- [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
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.

ResourceNotFound.OrganizationNotExist

The organization does not exist.

DescribeOrganizationMemberPolicies

最近更新时间：2023-07-06 17:00:16

1. API Description

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

This API is used to get the list of authorization policies of an organization member.

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: DescribeOrganizationMemberPolicies.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Offset	Yes	Integer	Offset.
Limit	Yes	Integer	Maximum number of returned results. Maximum value: 50 .
MemberUin	Yes	Integer	Member UIN.
SearchKey	No	String	Search keyword, which can be the policy name or description.

3. Output Parameters

Parameter Name	Type	Description
Items	Array of OrgMemberPolicy	List. Note: This field may return null, indicating that no valid values can be obtained.
Total	Integer	Total number. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting the list of authorization policies of an organization member

Input Example

```

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

{
  "MemberUin": "100000546922",
  "Limit": "10",
  "Offset": "0"
}
    
```

Output Example

```

{
  "Response": {
    "Items": [
      {
        "CreateTime": "2021-07-14 20:22:30",
        "Description": "test",
        "IdentityId": 1,
        "IdentityRoleAliasName": "Login access",
        "IdentityRoleName": "OrganizationAccessControlRole",
    
```

```
"PolicyId": 27887,
"PolicyName": "test3",
"UpdateTime": "2021-07-14 20:22:30"
},
{
"CreateTime": "2021-07-14 20:21:21",
"Description": "test",
"IdentityId": 1,
"IdentityRoleAliasName": "Login access",
"IdentityRoleName": "OrganizationAccessControlRole",
"PolicyId": 98081,
"PolicyName": "test",
"UpdateTime": "2021-07-14 20:21:21"
}
],
"RequestId": "a1525f09-8a00-4b76-9db5-d47aea591dff",
"Total": 2
}
}
```

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](#)
- [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 NodeJS](#)
- [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
InternalServerError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationMemberNotExist	The organization member does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DescribeOrganizationMemberAuthIdentities

最近更新时间：2023-04-04 15:58:03

1. API Description

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

This API is used to get the list of manageable identities of an organization member.

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: DescribeOrganizationMemberAuthIdentities.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Offset	Yes	Integer	Offset, which is an integer multiple of the value of <code>Limit</code> . Default value: <code>0</code> .
Limit	Yes	Integer	Limit, which defaults to <code>10</code> . Value range: 1-50.
MemberUin	Yes	Integer	Organization member UIN.

3. Output Parameters

Parameter Name	Type	Description
Items	Array of OrgMemberAuthIdentity	List of authorizable identities Note: This field may return null, indicating that no valid values can be obtained.
Total	Integer	Total number. Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining the list of manageable identities of an organization member

This example shows you how to obtain the list of manageable identities of an organization member.

Input Example

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

{
  "MemberUin": 111111111111,
  "Limit": 10,
  "Offset": 0
}
```

Output Example

```
{
  "Response": {
    "Items": [
      {
        "CreateTime": "2021-07-14 20:17:34",
        "Description": "AdministratorAccess",
        "IdentityId": 1,
        "IdentityRoleAliasName": "Login access",

```



```

"IdentityRoleName": "OrganizationAccessControlRole",
"IdentityType": 1,
"UpdateTime": "2021-07-14 20:17:34"
}
],
"RequestId": "55fa3e27-1166-45e1-bdac-6198c3c38534",
"Total": 1
}
}
    
```

5. Developer Resources

SDK

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- [Tencent Cloud SDK 3.0 for Python](#)
- [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 NodeJS](#)
- [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
InternalServerError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DescribeOrganizationMemberAuthAccounts

最近更新时间：2023-07-06 17:00:16

1. API Description

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

This API is used to get the list of sub-accounts bound to an organization member.

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: DescribeOrganizationMemberAuthAccounts.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
Offset	Yes	Integer	Offset.
Limit	Yes	Integer	Maximum number of returned results.
MemberUin	Yes	Integer	Member UIN.
PolicyId	Yes	Integer	Policy ID.

3. Output Parameters

Parameter Name	Type	Description
Items	Array of OrgMemberAuthAccount	List Note: This field may return null, indicating that no valid values can be obtained.
Total	Integer	Total number Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting the list of sub-accounts bound to an organization member

Input Example

```

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

{
  "MemberUin": "100000546922",
  "Limit": "10",
  "PolicyId": "98081",
  "Offset": "0"
}
    
```

Output Example

```

{
  "Response": {
    "Items": [
      {
        "CreateTime": "2021-07-14 21:00:59",
        "IdentityId": 1,
        "IdentityRoleAliasName": "Login access",
        "IdentityRoleName": "OrganizationAccessControlRole",
    
```

```

"OrgSubAccountUin": 100000546921,
"PolicyId": 98081,
"PolicyName": "test",
"UpdateTime": "2021-07-14 21:00:59",
"OrgSubAccountName": "test"
}
],
"RequestId": "cf182a6b-8caa-4df9-b1d0-09ad41e8c434",
"Total": 1
}
}
    
```

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 NodeJS](#)
- [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
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.

ResourceNotFound.OrganizationNotExist

The organization does not exist.

CancelOrganizationMemberAuthAccount

最近更新时间：2023-07-06 17:00:16

1. API Description

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

This API is used to unbind an organization member from a sub-account of the organization admin.

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: CancelOrganizationMemberAuthAccount.
Version	Yes	String	Common Params . The value used for this API: 2021-03-31.
Region	No	String	Common Params . This parameter is not required for this API.
MemberUin	Yes	Integer	Member UIN.
PolicyId	Yes	Integer	Policy ID.
OrgSubAccountUin	Yes	Integer	Organization sub-account UIN.

3. Output Parameters

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

Name		
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Unbinding an organization member from a sub-account of the organization admin

Input Example

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

{
  "MemberUin": "100000546922",
  "PolicyId": "98081",
  "OrgSubAccountUin": "100000546921"
}
```

Output Example

```
{
  "Response": {
    "RequestId": "caecf1a4-72b7-48d6-8f5f-90d1c428d3f3"
  }
}
```

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 NodeJS](#)
- [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.OperatePolicy	Failed to manipulate the policy.
FailedOperation.SubAccountNotExist	The sub-account does not exist.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
ResourceNotFound.MemberNotExist	The member does not exist.
ResourceNotFound.MemberPolicyNotExist	The organization member policy does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

Data Types

最近更新时间：2023-04-04 15:58:06

IdentityPolicy

Organization identity policy

Used by actions: ListOrganizationIdentity.

Name	Type	Required	Description
PolicyId	Integer	Yes	Policy ID
PolicyName	String	Yes	Policy name

MemberIdentity

Member management identity

Used by actions: DescribeOrganizationMembers.

Name	Type	Description
IdentityId	Integer	Identity ID. Note: This field may return null, indicating that no valid values can be obtained.
IdentityAliasName	String	Identity name. Note: This field may return null, indicating that no valid values can be obtained.

OrgIdentity

Organization identity

Used by actions: ListOrganizationIdentity.

Name	Type	Description
IdentityId	Integer	Identity ID. Note: This field may return null, indicating that no valid values can be obtained.

IdentityAliasName	String	Identity name. Note: This field may return null, indicating that no valid values can be obtained.
Description	String	Description. Note: This field may return null, indicating that no valid values can be obtained.
IdentityPolicy	Array of IdentityPolicy	Identity policy. Note: This field may return null, indicating that no valid values can be obtained.
IdentityType	Integer	Identity type. Valid values: <code>1</code> (preset); <code>2</code> (custom). Note: This field may return null, indicating that no valid values can be obtained.
UpdateTime	String	Update time. Note: This field may return null, indicating that no valid values can be obtained.

OrgMember

Organization member

Used by actions: DescribeOrganizationMembers.

Name	Type	Description
MemberUin	Integer	Member UIN Note: This field may return null, indicating that no valid values can be obtained.
Name	String	Member name Note: This field may return null, indicating that no valid values can be obtained.
MemberType	String	Member type. Valid values: <code>Invite</code> (invited); <code>Create</code> (created). Note: This field may return null, indicating that no valid values can be obtained.
OrgPolicyType	String	Relationship policy type Note: This field may return null, indicating that no valid values can be obtained.
OrgPolicyName	String	Relationship policy name

		Note: This field may return null, indicating that no valid values can be obtained.
OrgPermission	Array of OrgPermission	Relationship policy permission Note: This field may return null, indicating that no valid values can be obtained.
NodeId	Integer	Node ID Note: This field may return null, indicating that no valid values can be obtained.
NodeName	String	Node name Note: This field may return null, indicating that no valid values can be obtained.
Remark	String	Remarks Note: This field may return null, indicating that no valid values can be obtained.
CreateTime	String	Creation time Note: This field may return null, indicating that no valid values can be obtained.
UpdateTime	String	Update time Note: This field may return null, indicating that no valid values can be obtained.
IsAllowQuit	String	Whether the member is allowed to leave. Valid values: <code>Allow</code> , <code>Denied</code> . Note: This field may return null, indicating that no valid values can be obtained.
PayUin	String	Payer UIN Note: This field may return null, indicating that no valid values can be obtained.
PayName	String	Payer name Note: This field may return null, indicating that no valid values can be obtained.
OrgIdentity	Array of MemberIdentity	Management identity Note: This field may return null, indicating that no valid values can be obtained.
BindStatus	String	Security information binding status. Valid values: <code>Unbound</code> , <code>Valid</code> , <code>Success</code> , <code>Failed</code> .

		Note: This field may return null, indicating that no valid values can be obtained.
PermissionStatus	String	Member permission status. Valid values: <code>Confirmed</code> , <code>UnConfirmed</code> . Note: This field may return null, indicating that no valid values can be obtained.

OrgMemberAuthAccount

Authorization relationship between the member and sub-account

Used by actions: DescribeOrganizationMemberAuthAccounts.

Name	Type	Description
OrgSubAccountUin	Integer	Organization sub-account UIN. Note: This field may return null, indicating that no valid values can be obtained.
PolicyId	Integer	Policy ID. Note: This field may return null, indicating that no valid values can be obtained.
PolicyName	String	Policy name. Note: This field may return null, indicating that no valid values can be obtained.
IdentityId	Integer	Identity ID. Note: This field may return null, indicating that no valid values can be obtained.
IdentityRoleName	String	Identity role name. Note: This field may return null, indicating that no valid values can be obtained.
IdentityRoleAliasName	String	Identity role alias. Note: This field may return null, indicating that no valid values can be obtained.
CreateTime	String	Creation time. Note: This field may return null, indicating that no valid values can be obtained.
UpdateTime	String	Update time.

		Note: This field may return null, indicating that no valid values can be obtained.
OrgSubAccountName	String	Sub-account name Note: This field may return null, indicating that no valid values can be obtained.

OrgMemberAuthIdentity

Authorizable identity of the organization member

Used by actions: DescribeOrganizationMemberAuthIdentities.

Name	Type	Description
IdentityId	Integer	Identity ID. Note: This field may return null, indicating that no valid values can be obtained.
IdentityRoleName	String	Role name of an identity Note: This field may return null, indicating that no valid values can be obtained.
IdentityRoleAliasName	String	Role alias of an identity Note: This field may return null, indicating that no valid values can be obtained.
Description	String	Description Note: This field may return null, indicating that no valid values can be obtained.
CreateTime	String	Creation time. Note: This field may return null, indicating that no valid values can be obtained.
UpdateTime	String	Update time. Note: This field may return null, indicating that no valid values can be obtained.
IdentityType	Integer	Identity type (1 : Preset; 2 : Custom) Note: This field may return null, indicating that no valid values can be obtained.

OrgMemberPolicy

Authorized policy of the organization member

Used by actions: DescribeOrganizationMemberPolicies.

Name	Type	Description
PolicyId	Integer	Policy ID. Note: This field may return null, indicating that no valid values can be obtained.
PolicyName	String	Policy name. Note: This field may return null, indicating that no valid values can be obtained.
IdentityId	Integer	Identity ID. Note: This field may return null, indicating that no valid values can be obtained.
IdentityRoleName	String	Identity role name. Note: This field may return null, indicating that no valid values can be obtained.
IdentityRoleAliasName	String	Identity role alias. Note: This field may return null, indicating that no valid values can be obtained.
Description	String	Description. Note: This field may return null, indicating that no valid values can be obtained.
CreateTime	String	Creation time. Note: This field may return null, indicating that no valid values can be obtained.
UpdateTime	String	Update time. Note: This field may return null, indicating that no valid values can be obtained.

OrgNode

Department

Used by actions: DescribeOrganizationNodes.

Name	Type	Description
NodeId	Integer	Organization node ID Note: This field may return null, indicating that no valid values can be obtained.
Name	String	Name Note: This field may return null, indicating that no valid values can be obtained.
ParentNodeId	Integer	Parent node ID Note: This field may return null, indicating that no valid values can be obtained.
Remark	String	Remarks Note: This field may return null, indicating that no valid values can be obtained.
CreateTime	String	Creation time Note: This field may return null, indicating that no valid values can be obtained.
UpdateTime	String	Update time Note: This field may return null, indicating that no valid values can be obtained.

OrgPermission

Relationship policy permission

Used by actions: DescribeOrganization, DescribeOrganizationMembers.

Name	Type	Description
Id	Integer	Permission ID
Name	String	Permission name

Error Codes

最近更新时间：2023-03-14 16:45:03

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	<code>Authorization</code> 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.
InternalServerError	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
FailedOperation.AuthInfoEmpty	The user has not completed identity verification.
FailedOperation.AuthNotEnterprise	The user has not completed enterprise identity verification.
FailedOperation.CreateAccount	An exception occurred while creating the member.
FailedOperation.CreateBillingPermissionErr	Failed to create the billing permission
FailedOperation.CreateMemberAuthOverLimit	The number of times of account identity verification exceeds the upper limit.
FailedOperation.CreatePolicy	Failed to create the policy
FailedOperation.CreateRecordAlreadySuccess	Created successfully.

FailedOperation.CreateRecordNotExist	The creation record does not exist.
FailedOperation.CreateRole	An exception occurred while creating the role.
FailedOperation.DisableQuitSelfCreatedOrganization	You cannot quit an organization created by yourself.
FailedOperation.GetAuthInfo	An error occurred while querying the identity information.
FailedOperation.MemberExistDelegatePayerNotAllowedDelete	The member has a payer and cannot be deleted.
FailedOperation.MemberIsDelegatePayerNotAllowedDelete	The member is a payer and cannot be deleted.
FailedOperation.MemberNameUsed	The name is already in use.
FailedOperation.MemberPolicyNameExist	The member authorization policy name is already in use.
FailedOperation.MemberShareResource	The member is sharing a resource.
FailedOperation.NodeNotEmpty	There are members in this department
FailedOperation.OperateBillingPermissionErr	An error occurred while manipulating the billing member permission.
FailedOperation.OperatePolicy	Failed to manipulate the policy.
FailedOperation.OrganizationAuthManageNotAllowedDelete	The member is an entity admin account and cannot be deleted.
FailedOperation.OrganizationMemberNameUsed	The member name already exists.
FailedOperation.OrganizationNodeDeleteOverLimit	The number of nodes to be deleted exceeds the upper limit.
FailedOperation.OrganizationNodeNameUsed	The node name is already in use.
FailedOperation.OrganizationNodeNotEmpty	There are nodes in the organization.
FailedOperation.OrganizationNodeNotExist	The organization node does not exist.
FailedOperation.OrganizationPermissionIllegal	The organization permission is invalid.
FailedOperation.OrganizationPolicyIllegal	The organization policy is invalid.

FailedOperation.PayUinIllegal	The payer is invalid.
FailedOperation.QuitShareUnitError	Failed to leave the shared unit.
FailedOperation.ShareResourceMemberInUse	The member is using a shared resource.
FailedOperation.SomeUinsNotInOrganization	The UIN does not belong to the organization.
FailedOperation.SubAccountIdentityExist	The sub-account has an identity.
FailedOperation.SubAccountNotExist	The sub-account does not exist.
LimitExceeded.CreateMemberOverLimit	The number of members to be created exceeds the upper limit.
LimitExceeded.NodeDepthExceedLimit	The department has too many levels.
LimitExceeded.NodeExceedLimit	The number of departments exceeds the upper limit.
LimitExceeded.OrganizationMemberOverLimit	The number of members exceeds the upper limit.
ResourceNotFound.MemberIdentityNotExist	The authorizable member identity does not exist.
ResourceNotFound.MemberNotExist	The member does not exist.
ResourceNotFound.MemberPolicyNotExist	The organization member policy does not exist.
ResourceNotFound.OrganizationMemberNotExist	The organization member does not exist.
ResourceNotFound.OrganizationNodeNotExist	The organization node does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.
ResourceNotFound.OrganizationServiceNotExist	The organization service does not exist.
UnsupportedOperation.AddDelegatePayerNotAllow	No paying relationships can be added.
UnsupportedOperation.AddDiscountInheritNotAllow	No offer inheritance relationships can be added.
UnsupportedOperation.CreateMemberNotAllowDelete	Created members cannot be deleted.

UnsupportedOperation.ExistedAgent	Payment-on-behalf is not supported for this member or payer as it is a reseller.
UnsupportedOperation.ExistedClient	Payment-on-behalf is not supported for this member or payer as it is a reseller's account.
UnsupportedOperation.InconsistentUserTypes	The user type mismatches.
UnsupportedOperation.ManagementSystemError	An error occurred while calling the operations management system.
UnsupportedOperation.MemberAccountArrears	The member account has an overdue payment.
UnsupportedOperation.MemberDiscountInheritExisted	The member has an inherited offer.
UnsupportedOperation.MemberExistAccountLevelDiscountInherit	The member has an account-level offer.
UnsupportedOperation.MemberExistOperateProcessNotAllowDelete	The member is configured with operation audit and cannot be deleted.
UnsupportedOperation.MemberExistServiceNotAllowDelete	The organization member is assigned with an organization service and cannot leave.
UnsupportedOperation.MemberIsAgent	The member is an agent or customer.
UnsupportedOperation.MemberNoPayment	No credit card is bound to the member.
UnsupportedOperation.OrderInProgressExisted	There is an ongoing order.
UnsupportedOperation.OwnerDiscountInheritExisted	The admin has an inherited offer.
UnsupportedOperation.PayerArrearsAndNoCreditAccount	The payer has an overdue payment and has no credit account.
UnsupportedOperation.PayerExistAccountLevelDiscountInherit	The payer has an account-level offer.

TCO API 2018-12-25

History

最近更新时间：2019-11-18 22:35:00

Release 1

Release time: October 24, 2019 21:28:31

This release contains:

Improvements to existing documentation.

New APIs:

- [AcceptOrganizationInvitation](#)
- [AddOrganizationNode](#)
- [CancelOrganizationInvitation](#)
- [CreateOrganization](#)
- [DeleteOrganization](#)
- [DeleteOrganizationMemberFromNode](#)
- [DeleteOrganizationMembers](#)
- [DeleteOrganizationNodes](#)
- [DenyOrganizationInvitation](#)
- [GetOrganization](#)
- [GetOrganizationMember](#)
- [ListOrganizationInvitations](#)
- [ListOrganizationMembers](#)
- [ListOrganizationNodeMembers](#)
- [ListOrganizationNodes](#)
- [MoveOrganizationMembersToNode](#)
- [QuitOrganization](#)
- [SendOrganizationInvitation](#)
- [UpdateOrganizationMember](#)
- [UpdateOrganizationNode](#)

New data types:

- [OrgInvitation](#)

-
- [OrgMember](#)
 - [OrgNode](#)

API Category

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Read APIs

API Name	Feature
GetOrganization	Obtains organization information
GetOrganizationMember	Obtains information on organization members
ListOrganizationInvitations	Obtains an invitation list
ListOrganizationMembers	Obtains a list of organization members
ListOrganizationNodeMembers	Obtains a list of organizational unit members
ListOrganizationNodes	Obtains a list of organizational units

Write API

API Name	Feature
AcceptOrganizationInvitation	Accepts an invitation to an organization
AddOrganizationNode	Adds an organizational unit
CancelOrganizationInvitation	Cancels an invitation to an organization
CreateOrganization	Creates an organization
DeleteOrganization	Deletes an organization
DeleteOrganizationMemberFromNode	Deletes an organization member
DeleteOrganizationMembers	Deletes multiple organization members
DeleteOrganizationNodes	Deletes multiple organizational units
DenyOrganizationInvitation	Declines an invitation to an organization
MoveOrganizationMembersToNode	Moves members to a specified organizational unit

API Name	Feature
QuitOrganization	Quits an organization
SendOrganizationInvitation	Sends an invitation to join an organization
UpdateOrganizationMember	Updates information on organization members
UpdateOrganizationNode	Updates organizational units

Making API Requests

Request Structure

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1. Service Address

The API supports access from either a nearby region (at `organization.tencentcloudapi.com`) or a specified region (at `organization.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 "`organization.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)	<code>organization.tencentcloudapi.com</code>
South China (Guangzhou)	<code>organization.ap-guangzhou.tencentcloudapi.com</code>
East China (Shanghai)	<code>organization.ap-shanghai.tencentcloudapi.com</code>
North China (Beijing)	<code>organization.ap-beijing.tencentcloudapi.com</code>
Southwest China (Chengdu)	<code>organization.ap-chengdu.tencentcloudapi.com</code>
Southwest China (Chongqing)	<code>organization.ap-chongqing.tencentcloudapi.com</code>
Hong Kong, Macao, Taiwan (Hong Kong, China)	<code>organization.ap-hongkong.tencentcloudapi.com</code>

Hosted region	Domain name
Southeast Asia (Singapore)	organization.ap-singapore.tencentcloudapi.com
Southeast Asia (Bangkok)	organization.ap-bangkok.tencentcloudapi.com
South Asia (Mumbai)	organization.ap-mumbai.tencentcloudapi.com
Northeast Asia (Seoul)	organization.ap-seoul.tencentcloudapi.com
Northeast Asia (Tokyo)	organization.ap-tokyo.tencentcloudapi.com
U.S. East Coast (Virginia)	organization.na-ashburn.tencentcloudapi.com
U.S. West Coast (Silicon Valley)	organization.na-siliconvalley.tencentcloudapi.com
North America (Toronto)	organization.na-toronto.tencentcloudapi.com
Europe (Frankfurt)	organization.eu-frankfurt.tencentcloudapi.com
Europe (Moscow)	organization.eu-moscow.tencentcloudapi.com

Note: As financial availability zones and non-financial availability zones are isolated, when accessing the services in a financial availability zone (with the common parameter `Region` specifying a financial availability zone), it is necessary to specify a domain name of the financial availability zone, preferably in the same region as specified in `Region` .

Access region for financial availability zone	Domain name for financial availability zone
East China (Shanghai Finance)	organization.ap-shanghai-fsi.tencentcloudapi.com
South China (Shenzhen Finance)	organization.ap-shenzhen-fsi.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

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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.

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 common 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 API 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 time 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.

Parameter Name	Type	Required	Description
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_request SignedHeaders=content-type;host, Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc96317 Here: - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is 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.tencentcloud.com 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=582c400e06b5924a6f2b5d7d672d79c15b1316
    
```

```

2d9279b0855cfba6789a8edb4c
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--
    
```

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
----------------	------	----------	-------------

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=37ac2f4fde00b0ac9bd9eadeb459b1bbee224158d66e7ae5fcadb70b2d181d02&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=37ac2f4fde00b0ac9bd9eadeb459b1bbee224158d66e7ae5fcadb70b2d181d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

Signature v3

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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	<p>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>.</p> <p>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.</p>
CanonicalHeaders	<p>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.</p> <p>Concatenation rules:</p> <ol style="list-style-type: none"> 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). <p>The calculation result in this example is <code>content-type:application/json; charset=utf-8\nhost:cvm.tencentcloudapi.com\n</code>.</p> <p>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.</p>
SignedHeaders	<p>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.</p> <p>Concatenation rules:</p> <ol style="list-style-type: none"> 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 (;). <p>The value in this example is <code>content-type;host</code></p>

Field Name	Explanation
HashedRequestPayload	Hash value of the request payload (i.e., the body, such as <code>{"Limit": 1, "Filter": [{"Values": ["unnamed"], "Name": "instance-name"}]}</code> in this example). The pseudocode for calculation is <code>Lowercase(HexEncode(Hash.SHA256(RequestPayload)))</code> by SHA256 hashing the payload of the HTTP request, performing hexadecimal encoding, and finally converting the encoded string to lowercase letters. For GET requests, <code>RequestPayload</code> is always an empty string. The calculation result in this example is <code>99d58dfbc6745f6747f36bfca17dee5e6881dc0428a0a36f96199342bc5b4907</code> .

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.

Field Name	Explanation
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 ; service is the product name, which should match the domain name of the product called. The calculation result in this example is <code>2019-02-25/cvm/tc3_request</code> .
HashedCanonicalRequest	Hash value of the CanonicalRequest string concatenated in the steps above. The pseudocode for calculation is <code>Lowercase(HexEncode(Hash.SHA256(CanonicalRequest))</code> . The calculation result in this example is <code>2815843035062fffd5fd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a</code>

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
2815843035062fffd5fd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a
```

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/tc3_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*****/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
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%2B WcGel%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 void Main(string[] args)
{

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";
string algorithm = "TC3-HMAC-SHA256";
string contentType = "application/json";
double RequestTimestamp = 1551113065;
// long timestamp = ToTimestamp() / 1000;
// string requestTimestamp = timestamp.ToString();
string date = new DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc).AddSeconds(R
equestTimestamp).ToString("yyyy-MM-dd");

// ***** Step 1: Concatenate the CanonicalRequest string *****
string httpRequestMethod = "POST";
string canonicalUri = "/";
string canonicalQueryString = "";
string canonicalHeaders = "content-type:" + contentType + "; charset=utf-8\n" + "h
ost:" + endpoint + "\n";
string signedHeaders = "content-type;host";
string requestPayload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"unnamed\"],
\"Name\": \"instance-name\"}]}";
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 = date + "/" + service + "/" + "tc3_request";
string hashedCanonicalRequest = SHA256Hex(canonicalRequest);
string stringToSign = algorithm + "\n" + RequestTimestamp + "\n" + credentialScop
e + "\n" + hashedCanonicalRequest;
Console.WriteLine(stringToSign);
Console.WriteLine("-----");
    
```

```
// ***** Step 3: Calculate the signature *****
byte[] tc3SecretKey = Encoding.UTF8.GetBytes("TC3" + SECRET_KEY);
byte[] secretDate = HmacSHA256(tc3SecretKey, Encoding.UTF8.GetBytes(date));
byte[] secretService = HmacSHA256(secretDate, Encoding.UTF8.GetBytes(service));
byte[] secretSigning = HmacSHA256(secretService, Encoding.UTF8.GetBytes("tc3_request"));
byte[] signatureBytes = HmacSHA256(secretSigning, Encoding.UTF8.GetBytes(stringToSign));
string signature = BitConverter.ToString(signatureBytes).Replace("-", "").ToLower();
Console.WriteLine(signature);
Console.WriteLine("-----");

// ***** Step 4: Concatenate the Authorization *****
string authorization = algorithm + " "
+ "Credential=" + SECRET_ID + "/" + 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);
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++)
    {
        snprintf(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 OPENSSL_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 + "/" + credentialScope + ", "
```

```

+ "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

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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=AKIDz8krbsJ5  
yKBZQpn74WFkmLPx3*****&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 enable
    s automatic sorting
    // A random number should be used when actually calling, for example: params.put
    ("Nonce", new Random().nextInt(java.lang.Integer.MAX_VALUE));
    params.put("Nonce", 11886); // Common parameter
    // The current time of the system should be used when actually calling, for examp
    le: params.put("Timestamp", System.currentTimeMillis() / 1000);
    params.put("Timestamp", 1465185768); // Common parameter
    params.put("SecretId", "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*****"); // Common paramet
    er
    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
```

```
// $param["Signature"] = $signature;
// $url = "https://cvm.tencentcloudapi.com/?".http_build_query($param);
// 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> requestPa
rams, 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

最近更新时间：2020-08-18 11:30:12

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.

Error Code	Description
MissingParameter	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.

Read APIs

ListOrganizationNodes

最近更新时间：2020-08-18 11:30:16

1. API Description

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

This API is used to obtain a list of organizational units.

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 parameter. The value used for this API: ListOrganizationNodes.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.

3. Output Parameters

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

Parameter Name	Type	Description
Nodes	Array of OrgNode	Organizational unit list
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining a list of organizational units

Input Example

```
https://organization.tencentcloudapi.com/?Action=ListOrganizationNodes
&Nodes.0=123
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "Nodes": [
      {
        "NodeId": 1,
        "Name": "aa",
        "ParentNodeId": 111,
        "MemberCount": 11
      }
    ],
    "RequestId": "f2b75a7e-fc82-4b00-8426-d04371d9052c"
  }
}
```

5. Developer Resources

API Explorer

This tool allows online call, signature authentication, SDK code generation and quick search of APIs to greatly improve the efficiency of using TencentCloud APIs.

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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
ResourceNotFound.OrganizationNotExist	The organization does not exist.

ListOrganizationNodeMembers

最近更新时间：2020-08-18 11:30:16

1. API Description

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

This API is used to obtain a list of organizational unit members.

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 parameter. The value used for this API: ListOrganizationNodeMembers.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
NodeId	Yes	Integer	Organizational unit ID
Offset	No	Integer	Offset
Limit	No	Integer	Limit

3. Output Parameters

Parameter Name	Type	Description
TotalCount	Integer	Total number of results
Members	Array of OrgMember	Member list
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining a list of organizational unit members

Input Example

```
https://organization.tencentcloudapi.com/?Action=ListOrganizationNodeMembers
&NodeId=123
&Offset=0
&Limit=10
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "TotalCount": 100,
    "Members": [
      {
        "Uin": 1,
        "Name": "aa",
        "Remark": "",
        "JoinTime": "2019-10-10 00:00:00"
      }
    ],
    "RequestId": "53a54672-d955-4f21-a7c2-a1adaf038702"
  }
}
```

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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
ResourceNotFound.NodeNotExist	The organizational unit does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

ListOrganizationMembers

最近更新时间：2020-08-18 11:30:16

1. API Description

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

This API is used to obtain a list of organization members.

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 parameter. The value used for this API: ListOrganizationMembers.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
Offset	No	Integer	Offset
Limit	No	Integer	Limit

3. Output Parameters

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

Parameter Name	Type	Description
Members	Array of OrgMember	Member list
TotalCount	Integer	Total number of results
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining a list of organization members

Input Example

```
https://organization.tencentcloudapi.com/?Action=ListOrganizationMembers
&Offset=0
&Limit=10
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "TotalCount": 0,
    "Members": [
      {
        "Uin": 1,
        "Name": "aa",
        "Remark": "",
        "JoinTime": "2019-10-10 00:00:00"
      }
    ],
    "RequestId": "789d9d58-8e51-4b50-b3d7-f851216c5e9c"
  }
}
```

5. Developer Resources

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Command Line Interface

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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
ResourceNotFound.OrganizationNotExist	The organization does not exist.

ListOrganizationInvitations

最近更新时间：2020-08-18 11:30:16

1. API Description

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

This API is used to obtain an invitation list.

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 parameter. The value used for this API: ListOrganizationInvitations.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
Invited	Yes	Integer	Whether to list the invitations you received or the invitations you sent. <code>1</code> : list the invitations you received; <code>0</code> : list the invitations you sent.
Offset	No	Integer	Offset
Limit	No	Integer	Limit

3. Output Parameters

Parameter Name	Type	Description
Invitations	Array of OrgInvitation	List of invitations
TotalCount	Integer	Total number of results
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining an invitation list

Input Example

```
https://organization.tencentcloudapi.com/?Action=ListOrganizationInvitations
&Invited=1
&Offset=0
&Limit=10
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "TotalCount": 0,
    "Invitations": [
      {
        "Id": 1,
        "Uin": 1,
        "HostUin": 1,
        "HostName": "aa",
        "HostMail": "aa@qq.com",
        "Status": 1,
        "Name": "aa",
        "Remark": "",
        "OrgType": 1,
        "InviteTime": "2019-10-10 00:00:00",
        "ExpireTime": "2019-10-10 00:00:00"
      }
    ],
    "RequestId": "97fd9345-cfd6-4b93-8205-e25d21ecd26e"
  }
}
```

```
}  
}
```

5. Developer Resources

API Explorer

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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
ResourceNotFound.UserNotExist	The user does not exist.

GetOrganizationMember

最近更新时间：2020-08-18 11:30:16

1. API Description

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

This API is used to obtain information on organization members.

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 parameter. The value used for this API: GetOrganizationMember.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
MemberUin	Yes	Integer	Organization member UIN

3. Output Parameters

Parameter Name	Type	Description
Uin	Integer	Organization member UIN

Parameter Name	Type	Description
Name	String	Organization member name
Remark	String	Notes
JoinTime	Timestamp	Joining time
NodeId	Integer	Organizational unit ID
NodeName	String	Organizational unit name
ParentNodeId	Integer	Parent organizational unit ID
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining information on an organization member

Input Example

```
https://organization.tencentcloudapi.com/?Action=GetOrganizationMember
&MemberUin=123
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "Uin": 1,
    "Name": "aa",
    "Remark": "",
    "JoinTime": "2019-10-10 00:00:00",
    "NodeId": 1,
    "NodeName": "aa",
    "ParentNodeId": 0,
    "RequestId": "fae840be-2b30-47ae-93b7-df5610168eff"
  }
}
```

5. Developer Resources

API Explorer

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Command Line Interface

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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
ResourceNotFound.NodeNotExist	The organizational unit does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

GetOrganization

最近更新时间：2020-08-18 11:30:17

1. API Description

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

This API is used to obtain information on organizations.

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 parameter. The value used for this API: GetOrganization.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.

3. Output Parameters

Parameter Name	Type	Description
OrgId	Integer	Organization ID
HostUin	Integer	Creator UIN
Nickname	String	Creator's name

Parameter Name	Type	Description
Mail	String	Creator's email address
OrgType	Integer	Organization type
IsEmpty	Integer	Whether the organization is empty or not
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Obtaining organization information

Input Example

```
https://organization.tencentcloudapi.com/?Action=GetOrganization
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "OrgId": 1,
    "HostUin": 1,
    "Nickname": "test",
    "Mail": "test@qq.com",
    "OrgType": 1,
    "IsEmpty": 1,
    "RequestId": "629cde15-2b9c-403b-b5f1-033992709327"
  }
}
```

5. Developer Resources

API Explorer

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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
ResourceNotFound.OrganizationNotExist	The organization does not exist.
ResourceNotFound.UserNotExist	The user does not exist.

Write APIs

UpdateOrganizationNode

最近更新时间：2020-08-18 11:30:12

1. API Description

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

This API is used to update organizational units.

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 parameter. The value used for this API: UpdateOrganizationNode.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
NodeId	Yes	Integer	Organizational unit ID
Name	No	String	Name
ParentNodeId	No	Integer	Parent organizational unit ID

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Updating organizational units

Input Example

```
https://organization.tencentcloudapi.com/?Action=UpdateOrganizationNode
&NodeId=123
&Name="test"
&ParentNodeId=11
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

API Explorer

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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
LimitExceeded.NodeDepthExceedLimit	Too many organizational unit levels.
ResourceInUse.NodeNameUsed	This name is already in use.
ResourceNotFound.NodeNotExist	The organizational unit does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

UpdateOrganizationMember

最近更新时间：2020-08-18 11:30:13

1. API Description

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

This API is used to update information on organization members.

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 parameter. The value used for this API: UpdateOrganizationMember.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
MemberUin	Yes	Integer	Member UIN
Name	No	String	Name
Remark	No	String	Notes

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Updating organization member information

Input Example

```
https://organization.tencentcloudapi.com/?Action=UpdateOrganizationMember
&MemberUin=123
&Name="test"
&Remark="test"
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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
FailedOperation.MemberNameUsed	The name is already in use.
ResourceNotFound.MemberNotExist	The member does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

SendOrganizationInvitation

最近更新时间：2020-08-18 11:30:13

1. API Description

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

This API is used to send an invitation to join an organization.

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 parameter. The value used for this API: SendOrganizationInvitation.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
InviteUin	Yes	Integer	UIN of the invitee
Name	Yes	String	Name
Remark	Yes	String	Notes

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Sending an invitation to join an organization

Input Example

```
https://organization.tencentcloudapi.com/?Action=SendOrganizationInvitation
&InviteUin=123
&Name="test"
&Remark="test"
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

API Explorer

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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
FailedOperation.MemberNameUsed	The name is already in use.
FailedOperation.ReSentInvitation	The invitation has already been sent before.
FailedOperation.UserInOrganization	The user has already joined the organization.
FailedOperation.UserNotRegister	The account that sent the invitation is not a primary account.
LimitExceeded.Members	The number of organization members has reached the maximum.
ResourceNotFound.OrganizationNotExist	The organization does not exist.
ResourceNotFound.UserNotExist	The user does not exist.

QuitOrganization

最近更新时间：2020-08-18 11:30:13

1. API Description

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

This API is used to quit an organization.

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 parameter. The value used for this API: QuitOrganization.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
OrgId	Yes	Integer	Organization ID

3. Output Parameters

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

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Quitting an organization

Input Example

```
https://organization.tencentcloudapi.com/?Action=QuitOrganization
&OrgId=123
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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Command Line Interface

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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.DisableQuitSelfCreatedOrganization	You cannot quit an organization created by yourself.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

MoveOrganizationMembersToNode

最近更新时间：2020-08-18 11:30:13

1. API Description

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

This API is used to move members to a specified organizational unit.

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 parameter. The value used for this API: MoveOrganizationMembersToNode.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
NodeId	Yes	Integer	Organizational unit ID
Uins.N	Yes	Array of Integer	Member UIN list

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Moving a member to a specified organizational unit

Input Example

```
https://organization.tencentcloudapi.com/?Action=MoveOrganizationMembersToNode
&NodeId=123
&Uins.0=11
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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.SomeUinsNotInOrganization	A UIN does not belong to this organization.
ResourceNotFound.NodeNotExist	The organizational unit does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DenyOrganizationInvitation

最近更新时间：2020-08-18 11:30:14

1. API Description

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

This API is used to decline an invitation to an organization.

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 parameter. The value used for this API: DenyOrganizationInvitation.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
Id	Yes	Integer	Invitation ID

3. Output Parameters

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

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Declining an invitation to an organization

Input Example

```
https://organization.tencentcloudapi.com/?Action=DenyOrganizationInvitation
&Id=123
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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
ResourceNotFound.InvitationNotExist	The invitation information does not exist.

DeleteOrganizationNodes

最近更新时间：2020-08-18 11:30:14

1. API Description

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

This API is used to delete multiple organizational units in a single request.

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 parameter. The value used for this API: DeleteOrganizationNodes.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
NodeIds.N	Yes	Array of Integer	Organizational unit ID list

3. Output Parameters

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

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Deleting an organizational unit

Input Example

```
https://organization.tencentcloudapi.com/?Action=DeleteOrganizationNodes
&NodeIds.0=123
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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.NodeNotEmpty	There are members in this organizational unit.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DeleteOrganizationMembers

最近更新时间：2020-01-13 17:10:48

1. API Description

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

This API is used to delete multiple organization members in a single request.

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

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 parameter. The value used for this API: DeleteOrganizationMembers
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25
Region	No	String	Common parameter. This parameter is not required for this API.
Uins.N	Yes	Array of Integer	List of UINs of members to be deleted

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Deleting multiple organization members

Input Example

```
https://organization.tencentcloudapi.com/?Action=DeleteOrganizationMembers
&Uins.0=1
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DeleteOrganizationMemberFromNode

最近更新时间：2020-08-18 11:30:14

1. API Description

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

This API is used to delete an organization member.

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 parameter. The value used for this API: DeleteOrganizationMemberFromNode.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
MemberUin	Yes	Integer	UIN of the member to be deleted
NodeId	Yes	Integer	Organizational unit ID

3. Output Parameters

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

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Deleting an organization member

Input Example

```
https://organization.tencentcloudapi.com/?Action=DeleteOrganizationMemberFromNode
&MemberUin=123
&NodeId=12
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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.DisableDeleteMemberFromRootNode	Members cannot be deleted from the root unit.
ResourceNotFound.NodeNotExist	The organizational unit does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

DeleteOrganization

最近更新时间：2020-08-18 11:30:14

1. API Description

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

This API is used to delete an organization.

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 parameter. The value used for this API: DeleteOrganization.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.

3. Output Parameters

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Deleting an organization

Input Example

```
https://organization.tencentcloudapi.com/?Action=DeleteOrganization
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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Command Line Interface

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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.OrganizationNotEmpty	There are members in this organization.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

CreateOrganization

最近更新时间：2020-08-18 11:30:15

1. API Description

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

This API is used to create an organization.

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 parameter. The value used for this API: CreateOrganization.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
OrgType	Yes	Integer	Organization type; currently its value is fixed as <code>1</code>

3. Output Parameters

Parameter Name	Type	Description
OrgId	Integer	Organization ID

Parameter Name	Type	Description
Nickname	String	Creator's name
Mail	String	Creator's email address
OrgType	Integer	Organization type
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Creating an organization

Input Example

```
https://organization.tencentcloudapi.com/?Action=CreateOrganization
&OrgType=1
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "OrgId": 123,
    "Nickname": "test",
    "Mail": "test@qq.com",
    "OrgType": 1,
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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.OrganizationExistAlready	The organization already exists.
ResourceNotFound.UserNotExist	The user does not exist.

CancelOrganizationInvitation

最近更新时间：2020-08-18 11:30:15

1. API Description

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

This API is used to cancel an invitation to an organization.

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 parameter. The value used for this API: CancelOrganizationInvitation.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
Id	Yes	Integer	Invitation ID

3. Output Parameters

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

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Canceling an invitation to an organization

Input Example

```
https://organization.tencentcloudapi.com/?Action=CancelOrganizationInvitation
&Id=123
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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Command Line Interface

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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
ResourceNotFound.InvitationNotExist	The invitation information does not exist.

AddOrganizationNode

最近更新时间：2020-08-18 11:30:15

1. API Description

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

This API is used to add an organizational unit.

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 parameter. The value used for this API: AddOrganizationNode.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
ParentNodeId	Yes	Integer	Parent organizational unit ID
Name	Yes	String	Organizational unit name

3. Output Parameters

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

Parameter Name	Type	Description
NodeId	Integer	Organizational unit ID
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Adding an organizational unit

Input Example

```
https://organization.tencentcloudapi.com/?Action=AddOrganizationNode
&ParentNodeId=123
&Name="test"
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "NodeId": 123,
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

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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
LimitExceeded.NodeDepthExceedLimit	Too many organizational unit levels.
LimitExceeded.NodeExceedLimit	The number of organizational units has reached the upper limit.
ResourceInUse.NodeName	The organizational unit name is already in use.
ResourceNotFound.NodeNotExist	The organizational unit does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.

AcceptOrganizationInvitation

最近更新时间：2020-08-18 11:30:15

1. API Description

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

This API is used to accept an invitation to an organization.

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 parameter. The value used for this API: AcceptOrganizationInvitation.
Version	Yes	String	Common parameter. The value used for this API: 2018-12-25.
Region	No	String	Common parameter. This parameter is not required for this API.
Id	Yes	Integer	Invitation ID

3. Output Parameters

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

Parameter Name	Type	Description
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Accepting an invitation to an organization

Input Example

```
https://organization.tencentcloudapi.com/?Action=AcceptOrganizationInvitation
&Id=123
&<Common Request Parameters>
```

Output Example

```
{
  "Response": {
    "RequestId": "b46d2afe-6893-4529-bc96-2c82d9214957"
  }
}
```

5. Developer Resources

API Explorer

This tool allows online call, signature authentication, SDK code generation and quick search of APIs to greatly improve the efficiency of using TencentCloud APIs.

- [API 3.0 Explorer](#)

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

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.InOrganizationAlready	You are already in this organization.
ResourceNotFound.InvitationNotExist	The invitation information does not exist.

Data Types

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OrgInvitation

Information on an invitation to an organization.

Used by actions: ListOrganizationInvitations.

Name	Type	Description
Id	Integer	Invitation ID
Uin	Integer	UIN of the invitee
HostUin	Integer	Creator UIN
HostName	String	Creator's name
HostMail	String	Creator's email address
Status	Integer	Invitation status. <code>-1</code> : expired; <code>0</code> : normal; <code>1</code> : accepted; <code>2</code> : invalid; <code>3</code> : cancelled
Name	String	Name
Remark	String	Notes
OrgType	Integer	Organization type
InviteTime	Timestamp	Time of invitation
ExpireTime	Timestamp	Expiration time

OrgMember

Information on an organization member.

Used by actions: ListOrganizationMembers, ListOrganizationNodeMembers.

Name	Type	Description
Uin	Integer	UIN

Name	Type	Description
Name	String	Name
Remark	String	Notes
JoinTime	Timestamp	Joining time

OrgNode

Information on an organizational unit.

Used by actions: ListOrganizationNodes.

Name	Type	Description
NodeId	Integer	Organizational unit ID
Name	String	Name
ParentNodeId	Integer	Parent organizational unit ID
MemberCount	Integer	Number of members

Error Codes

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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
UnsupportedOperation	Unsupported operation.
ResourceInUse	Resource is in use.
InternalError	Internal error.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
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.
LimitExceeded	Quota limit exceeded.
NoSuchVersion	The API version does not exist.

Error Code	Description
ResourceNotFound	The resource does not exist.
AuthFailure.SignatureFailure	Invalid signature. Signature calculation error. Please ensure you've followed the signature calculation process described in the Signature API documentation.
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.
UnsupportedRegion	API does not support the requested region.
UnauthorizedOperation	Unauthorized operation.
InvalidParameter	Incorrect parameter.
ResourceUnavailable	Resource is unavailable.
AuthFailure.MFAFailure	MFA failed.
AuthFailure.UnauthorizedOperation	The request is not authorized. For more information, see the CAM documentation.
AuthFailure.InvalidSecretId	Invalid key (not a TencentCloud API key type).
AuthFailure.TokenFailure	Token error.
DryRunOperation	DryRun Operation. It means that the request would have succeeded, but the DryRun parameter was used.
FailedOperation	Operation failed.
UnknownParameter	Unknown parameter.
UnsupportedProtocol	HTTP(S) request protocol error; only GET and POST requests are supported.
InvalidParameterValue	Invalid parameter value.
InvalidAction	The API does not exist.
MissingParameter	A parameter is missing.
ResourceInsufficient	Insufficient resource.

Service Error Codes

Error Code	Description
FailedOperation.DisableDeleteMemberFromRootNode	Members cannot be deleted from the root unit.
FailedOperation.DisableQuitSelfCreatedOrganization	You cannot quit an organization created by yourself.
FailedOperation.InOrganizationAlready	You are already in this organization.
FailedOperation.MemberNameUsed	The name is already in use.
FailedOperation.NodeNotEmpty	There are members in this organizational unit.
FailedOperation.OrganizationExistAlready	The organization already exists.
FailedOperation.OrganizationNotEmpty	There are members in this organization.
FailedOperation.ReSentInvitation	The invitation has already been sent before.
FailedOperation.SomeUinsNotInOrganization	A UIN does not belong to this organization.
FailedOperation.UserInOrganization	The user has already joined the organization.
FailedOperation.UserNotRegister	The account that sent the invitation is not a primary account.
LimitExceeded.Members	The number of organization members has reached the maximum.
LimitExceeded.NodeDepthExceedLimit	Too many organizational unit levels.
LimitExceeded.NodeExceedLimit	The number of organizational units has reached the upper limit.
ResourceInUse.NodeName	The organizational unit name is already in use.
ResourceInUse.NodeNameUsed	This name is already in use.
ResourceNotFound.InvitationNotExist	The invitation information does not exist.
ResourceNotFound.MemberNotExist	The member does not exist.
ResourceNotFound.NodeNotExist	The organizational unit does not exist.
ResourceNotFound.OrganizationNotExist	The organization does not exist.
ResourceNotFound.UserNotExist	The user does not exist.