About Billing

API Documentation

Product Documentation

Contents

API Documentation
API Category

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Bill Management APIs

API Name	Feature
DescribeBillDetail	Queries bill details
DescribeBillResourceSummary	Queries bill resource summary
DescribeBillSummaryByPayMode	Gets the bill summarized according to billing mode
DescribeBillSummaryByProduct	Gets the bill summarized according to product
DescribeBillSummaryByProject	Gets the bill summarized according to project
DescribeBillSummaryByRegion	Gets the bill summarized according to region
DescribeBillSummaryByTag	Gets cost distribution over different tags

Making API Requests
Request Structure

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1. Service Address

The API supports access from either a nearby region (at billing.tencentcloudapi.com) or a specified region (at billing.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 "billing.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)	billing.tencentcloudapi.com
South China (Guangzhou)	billing.ap-guangzhou.tencentcloudapi.com
East China (Shanghai)	billing.ap-shanghai.tencentcloudapi.com
North China (Beijing)	billing.ap-beijing.tencentcloudapi.com
Southwest China (Chengdu)	billing.ap-chengdu.tencentcloudapi.com
Southwest China (Chongqing)	billing.ap-chongqing.tencentcloudapi.com
Hong Kong, Macao, Taiwan (Hong Kong, China)	billing.ap-hongkong.tencentcloudapi.com
Southeast Asia (Singapore)	billing.ap-singapore.tencentcloudapi.com
Southeast Asia (Bangkok)	billing.ap-bangkok.tencentcloudapi.com
South Asia (Mumbai)	billing.ap-mumbai.tencentcloudapi.com
Northeast Asia (Seoul)	billing.ap-seoul.tencentcloudapi.com
Northeast Asia (Tokyo)	billing.ap-tokyo.tencentcloudapi.com
U.S. East Coast (Virginia)	billing.na-ashburn.tencentcloudapi.com
U.S. West Coast (Silicon Valley)	billing.na-siliconvalley.tencentcloudapi.com
North America (Toronto)	billing.na-toronto.tencentcloudapi.com
Europe (Frankfurt)	billing.eu-frankfurt.tencentcloudapi.com
Europe (Moscow)	billing.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)	billing.ap-shanghai-fsi.tencentcloudapi.com
South China (Shenzhen Finance)	billing.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 the description of common parameter `Action` in the input parameters in related API documentation. For example, the API for querying the CVM instance list is `DescribeInstances`.
X-TC-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 `Region` 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 it is passed.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp that records the time when the API request was initiated, for example, 1529223702. Note: If the difference between the UNIX timestamp and the 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 input parameter `Version` in the API documentation. For example, the version of CVM is 2017-03-12.
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_request, SignedHeaders=content-type;host, Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc963176630326f1024 Here: - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is a date in UTC time, and this value must match the value of X-TC-Timestamp (a common parameter) in UTC time format; service is the name of the product/service, and is generally a domain name prefix. For example, a domain name cvm.tencentcloudapi.com refers to the CVM product and the value would be cvm; - SignedHeaders: The headers that contains the authentication information; content-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. 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/?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=582
c400e06b5924a6f2b5d7d672d79c15b13162d9279b0855cfba6789a8edb4c
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=582
c400e06b5924a6f2b5d7d672d79c15b13162d9279b0855cfba6789a8edb4c
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 `Action` in the input parameters in related API documentation. For example, the API for querying the CVM instance list is `DescribeInstances`.
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 `Region` 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 `Timestamp` 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 `Version` 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 AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE and Gu5t9xGARNpq86cd98joQYCN3EXAMPLE, 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=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=63eae8f4b793c20564dafd5a5f62817d6e8de7ce5d4fb2d38f7babf1531c493c" ¥
-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 `POST`.
CanonicalURI	URI parameter. Slash ("/") is used for API 3.0.
CanonicalQueryString	The query string in the URL of the originating HTTP request. This is always an empty string "" for POST requests, and is the string after the question mark (?) for GET requests. For example: Limit=10&Offset=0。 Note: `CanonicalQueryString` must be URL-encoded, referencing RFC3986, the UTF8 character set. We recommend using the programming language library. All special characters must be encoded and capitalized.
CanonicalHeaders	Header information for signature calculation, including at least two headers of `host` and `content-type`. Custom headers can be added to participate in the signature process to improve the uniqueness and security of the request. Concatenation rules: 1. 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 key:value\n format; 2. If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase). The calculation result in this example is `content-type:application/json; charset=utf-8¥nhost:cvm.tencentcloudapi.com¥n`. Note: `content-type` 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 sever will return an error indicating that signature verification failed.

Field Name	Explanation
SignedHeaders	Header information for signature calculation, indicating which headers of the request participate in the signature process (they must each individually correspond to the headers in CanonicalHeaders). `Content-type` and `host` are required headers. Concatenation rules: 1. Both the key and value of the header should be converted to lowercase; 2. If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase) and separated by semicolons (;). The value in this example is `content-type;host`
HashedRequestPayload	Hash value of the request payload (i.e., the body, such as `{"Limit": 1, "Filters": [{"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 `TC3-HMAC-SHA256`.
RequestTimestamp	Request timestamp, i.e., the value of the common parameter `X-TC-Timestamp` in the request header, which is the UNIX timestamp of the current time in seconds, such as `1551113065` in this example.
CredentialScope	Scope of the credential in the format of `Date/service/tc3_request`, including the 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 `2019-02-25/cvm/tc3_request`.
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 `2815843035062fffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a`.

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 = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"
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., `Gu5t9xGARNpq86cd98joQYCN3EXAMPLE`.
Date	The Date field information in `Credential`, such as `2019-02-25` in this example.
Service	Value in the Service field in `Credential`, such as `cvm` 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 `TC3-HMAC-SHA256`.
SecretId	The SecretId in the key pair, i.e., `AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE`.

Field Name	Explanation
CredentialScope	Credential scope (see above). The calculation result in this example is `2019-02-25/cvm/tc3_request`.
SignedHeaders	Header information for signature calculation (see above), such as `content-type;host` in this example.
Signature	Signature value. The calculation result in this example is `63eae8f4b793c20564dafd5a5f62817d6e8de7ce5d4fb2d38f7babf1531c493c`.

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

```
TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=63eae8f4b793c20564dafd5a5f62817d6e8de7ce5d4fb2d38f7babf1531c493c
```

The following example shows a finished authorization header:

```
POST https://cvm.tencentcloudapi.com/
Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=63eae8f4b793c20564dafd5a5f62817d6e8de7ce5d4fb2d38f7babf1531c493c
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

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 = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE";
private final static String SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE";
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 = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"

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 := "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"
secretKey := "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"
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-name"}]}`
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 = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE";
$secretKey = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE";
$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 = 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE'
secret_key = 'Gu5t9xGARNpq86cd98joQYCN3EXAMPLE'

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-name"}]}'
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}, SignedHeaders=#{signed_headers}, Signature=#{signatur
e}"
```

```
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 + "'"
```

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: AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
- SecretKey: Gu5t9xGARNpq86cd98joQYCN3EXAMPLE

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	AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
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

Parameter name	Description	Parameter value
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' : 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE',
'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=AKIDz8krbsJ5yKBZQ
pn74WFkmLPx3EXAMPLE&Timestamp=1465185768&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&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&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 = 'Gu5t9xGARNpq86cd98joQYCN3EXAMPLE';
$srcStr = 'GETcvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Timestamp=1465185768&Version=2017-03-12';
$signStr = base64_encode(hash_hmac('sha1', $srcStr, $secretKey, true));
echo $signStr;
```

The final signature is:

```
EliP9YW3pW28FpsEdkXt/+WcGeI=
```

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 EliP9YW3pW28FpsEdkXt/+WcGeI=, the final signature string request parameter (Signature) is EliP9YW3pW28FpsEdkXt%2f%2bWcGeI%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

Error code	Error description
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
- JavaScript
- .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=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Signature=EliP9YW3pW28FpsEdkXt%2F%2BWcGeI%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(java.lang.Intege
r.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.currentTimeM
illis() / 1000);
params.put("Timestamp", 1465185768); // Common parameter
params.put("SecretId", "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"); // 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), "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE", "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 = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"

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 := "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"
secretKey := "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"
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 = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE";
$secretKey = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE";
$param["Nonce"] = 11886;//rand();
$param["Timestamp"] = 1465185768;//time();
$param["Region"] = "ap-guangzhou";
$param["SecretId"] = $secretId;
$param["Version"] = "2017-03-12";
$param["Action"] = "DescribeInstances";
$param["InstanceIds.0"] = "ins-09dx96dg";
$param["Limit"] = 20;
$param["Offset"] = 0;

ksort($param);

$signStr = "GETcvm.tencentcloudapi.com/?";
foreach ( $param 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

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

secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"

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
```

Responses

Last updated：2020-02-10 12:54:51

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

Bill Management APIs
DescribeBillSummaryByPayMode

Last updated : 2020-07-10 12:01:55

1. API Description

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

Gets the bill summarized according to billing mode

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: DescribeBillSummaryByPayMode.
Version	Yes	String	Common parameter. The value used for this API: 2018-07-09.
Region	No	String	Common parameter. This parameter is not required for this API.
PayerUin	Yes	String	Query bill data user’s UIN
BeginTime	Yes	String	Only beginning in the current month is supported, and it must be the same month as the EndTime. For example, 2018-09-01 00:00:00.
EndTime	Yes	String	Only ending in the current month is supported, and it must be the same month as the BeginTime. For example, 2018-09-30 23:59:59.

3. Output Parameters

Parameter Name	Type	Description
Ready	Integer	Indicates whether or not the data is ready. 0 = not ready, 1 = ready.
SummaryOverview	Array of PayModeSummaryOverviewItem	Detailed cost distribution for all billing modes Note: This field may return null, indicating that no valid value was found.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Gets the bill summarized according to billing mode

Input Example

```
https://billing.tencentcloudapi.com/?Action=DescribeBillSummaryByPayMode
&PayerUin=909619400
&BeginTime=2018-11-01 00:00:00
&EndTime=2018-11-01 23:59:59
&<Common Request Parameters>
```

Output Example


```
{
”Response”: {
”Ready”: 1,
”SummaryOverview”: [
{
”PayMode”: ”prePay”,
”PayModeName”: ”Monthly subscription”,
 “RealTotalCost”: ”0.00”,
”RealTotalCostRatio”: ”0.00”,
”Detail”: []
},
{
”PayMode”: ”postPay”,
”PayModeName”: ”Pay-as-you-go”,
 “RealTotalCost”: ”440.66”,
”RealTotalCostRatio”: ”100.00”,
”Detail”: [
{
”ActionType”: ”postpay_deduct”,
”ActionTypeName”: ”Pay-as-you-go deduction”,
 “RealTotalCost”: ”441.25”,
”RealTotalCostRatio”: ”99.98”
},
{
”ActionType”: ”offline_deduct”,
”ActionTypeName”: ””,
 “RealTotalCost”: ”0.10”,
”RealTotalCostRatio”: ”0.02”
},
{
”ActionType”: ”billVirtualId”,
”ActionTypeName”: ”Monthly billing precision discrepancy”,
 “RealTotalCost”: ”-0.69”,
”RealTotalCostRatio”: ”0.00”
}
]
}
],
”RequestId”: ”59a408bc-5d95-4d40-bf21-58e5e8d48dd0”
}
}
```


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

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

DescribeBillSummaryByProduct

Last updated：2020-07-10 12:01:55

1. API Description

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

Gets the bill summarized according to product

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: DescribeBillSummaryByProduct.
Version	Yes	String	Common parameter. The value used for this API: 2018-07-09.
Region	No	String	Common parameter. This parameter is not required for this API.
PayerUin	Yes	String	Queries bill data user’s UIN
BeginTime	Yes	String	Only beginning in the current month is supported, and it must be the same month as the EndTime. For example, 2018-09-01 00:00:00.
EndTime	Yes	String	Only ending in the current month is supported, and it must be the same month as the BeginTime. For example, 2018-09-30 23:59:59.

3. Output Parameters

Parameter Name	Type	Description
Ready	Integer	Indicates whether or not the data is ready. 0 = not ready, 1 = ready.
SummaryTotal	BusinessSummaryTotal	Total cost details Note: This field may return null, indicating that no valid value was found.
SummaryOverview	Array of BusinessSummaryOverviewItem	Cost distribution of all products Note: This field may return null, indicating that no valid value was found.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting cost distribution over different products

Input Example

```
https://billing.tencentcloudapi.com/?Action=DescribeBillSummaryByProduct
&PayerUin=909619400
&BeginTime=2018-11-01 00:00:00
&EndTime=2018-11-01 23:59:59
&<Common request parameters>
```

Output Example


```
{
"Response": {
"Ready": 1,
"SummaryTotal": {
 "RealTotalCost": "1596.49",
"VoucherPayAmount": "176.00",
"IncentivePayAmount": "0.00",
"CashPayAmount": "1420.49"
},
"SummaryOverview": [
{
"BusinessCode": "p_cvm",
 "RealTotalCost": "540.00",
"CashPayAmount": "540.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "33.77",
"BillMonth": "2018-11",
"BusinessCodeName": "CVM"
},
{
"BusinessCode": "p_cbs",
 "RealTotalCost": "536.54",
"CashPayAmount": "536.54",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "33.57",
"BillMonth": "2018-11",
"BusinessCodeName": "CBS"
},
{
"BusinessCode": "p_cos",
 "RealTotalCost": "219.44",
"CashPayAmount": "219.44",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "13.73",
"BillMonth": "2018-11",
"BusinessCodeName": "COS"
},
{
"BusinessCode": "p_ai_image_ocr",
 "RealTotalCost": "169.83",
"CashPayAmount": "0.01",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "169.82",
```

```
"RealTotalCostRatio": "10.62",
"BillMonth": "2018-11",
"BusinessCodeName": "OCR"
},
{
"BusinessCode": "p_yunjing",
 "RealTotalCost": "81.00",
"CashPayAmount": "81.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "5.07",
"BillMonth": "2018-11",
"BusinessCodeName": "Cloud Workload Protection"
},
{
"BusinessCode": "p_blackstone_eip",
 "RealTotalCost": "45.00",
"CashPayAmount": "45.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "2.82",
"BillMonth": "2018-11",
"BusinessCodeName": "BM EIP"
},
{
"BusinessCode": "p_ai_image",
 "RealTotalCost": "4.78",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "4.78",
"RealTotalCostRatio": "0.30",
"BillMonth": "2018-11",
"BusinessCodeName": "Image Recognition"
},
{
"BusinessCode": "p_ai_image_facerecognize",
 "RealTotalCost": "1.39",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "1.39",
"RealTotalCostRatio": "0.09",
"BillMonth": "2018-11",
"BusinessCodeName": "Face Recognition"
},
{
"BusinessCode": "p_cdn",
 "RealTotalCost": "0.46",
"CashPayAmount": "0.46",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.03",
"BillMonth": "2018-11",
"BusinessCodeName": "CDN"
},
{
"BusinessCode": "p_ci",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
```

```
"BusinessCodeName": "CI"
},
{
"BusinessCode": "p_cmq",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"BusinessCodeName": "CMQ"
},
{
"BusinessCode": "billVirtualId",
 "RealTotalCost": "-1.95",
"CashPayAmount": "-1.96",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.01",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"BusinessCodeName": "Amount discrepancy due to different billing accuracies"
}
],
"RequestId": "8a57841e-ef77-413d-a8ba-4c607173663c"
}
}
```


5. Developer Resources

API Explorer

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- 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

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

DescribeBillSummaryByProject

Last updated：2020-07-10 12:01:54

1. API Description

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

Gets the bill summarized according to project

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: DescribeBillSummaryByProject.
Version	Yes	String	Common parameter. The value used for this API: 2018-07-09.
Region	No	String	Common parameter. This parameter is not required for this API.
PayerUin	Yes	String	Queries bill data user’s UIN
BeginTime	Yes	String	Only beginning in the current month is supported, and it must be the same month as the EndTime. For example, 2018-09-01 00:00:00.
EndTime	Yes	String	Only ending in the current month is supported, and it must be the same month as the BeginTime. For example, 2018-09-30 23:59:59.

3. Output Parameters

Parameter Name	Type	Description
Ready	Integer	Indicates whether or not the data is ready. 0 = not ready, 1 = ready.
SummaryOverview	Array of ProjectSummaryOverviewItem	Detailed cost distribution for all projects Note: This field may return null, indicating that no valid value was found.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 DescribeBillSummaryByProject

Input Example

```
https://billing.tencentcloudapi.com/?Action=DescribeBillSummaryByProject
&PayerUin=909619400
&BeginTime=2018-11-01 00:00:00
&EndTime=2018-11-01 23:59:59
&<Common request parameters>
```

Output Example

```
{
"Response": {
"Ready": 1,
"SummaryOverview": [
{
"ProjectId": "0",
 "RealTotalCost": "1596.49",
"CashPayAmount": "1420.49",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "176.00",
"RealTotalCostRatio": "100.00",
"BillMonth": "2018-11",
"ProjectName": "Default project"
}
],
"RequestId": "bac68152-46e8-4538-8bdb-040c40567095"
}
}
```

5. Developer Resources

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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

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

DescribeBillDetail

Last updated : 2020-07-10 12:01:55

1. API Description

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

This API is used to query bill details.

A maximum of 5 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: DescribeBillDetail.
Version	Yes	String	Common parameter. The value used for this API: 2018-07-09.
Region	No	String	Common parameter. This parameter is not required for this API.
Offset	Yes	Integer	Offset
Limit	Yes	Integer	Quantity, maximum is 100
PeriodType	Yes	String	The period type. byUsedTime: By usage period; byPayTime: By payment period. Must be the same as the period of the current monthly bill of the Billing Center. You can check your bill statistics period type at the top of the Bill Overview page.
Month	No	String	Month; format: yyyy-mm. You only have to enter either Month or BeginTime and EndTime. When you enter values for BeginTime and EndTime, Month becomes invalid. This value must be no earlier than the month when Bill 2.0 is activated; last 24 months data are available.
BeginTime	No	String	The start time of the period; format: Y-m-d H:i:s. You only have to enter either Month or BeginTime and EndTime. When you enter values for BeginTime and EndTime, Month becomes invalid. BeginTime and EndTime must be inputted as a pair. This value must be no earlier than the month when Bill 2.0 is activated; last 24 months data are available.
EndTime	No	String	The end time of the period; format: Y-m-d H:i:s. You only have to enter either Month or BeginTime and EndTime. When you enter values for BeginTime and EndTime, Month becomes invalid. BeginTime and EndTime must be inputted as a pair. This value must be no earlier than the month when Bill 2.0 is activated; last 24 months data are available.

Parameter Name	Required	Type	Description
NeedRecordNum	No	Integer	Indicates whether or not the total number of records of accessing the list is required, used for frontend pages. 1 = yes, 0 = no
ProductCode	No	String	Queries information on a specified product
PayMode	No	String	Billing mode: prePay/postPay
ResourceId	No	String	Queries information on a specified resource

3. Output Parameters

Parameter Name	Type	Description
DetailSet	Array of BillDetail	Details list
Total	Integer	Total number of records Note: This field may return null, indicating that no valid value was found.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting bill details

Input Example

```
https://billing.tencentcloudapi.com/?Action=DescribeBillDetail
&Month=2018-07
&PeriodType=byPayTime
&Offset=0
&Limit=1
&BeginTime=2018-11-01 00:00:00
&EndTime=2018-11-01 23:59:59
&NeedRecordNum=1
&ResourceId=ins-49zhx6z1
&<common request parameters>
```

Output Example

```
{
"Response": {
"DetailSet": {
"PayerUin": "20548499",
"OwnerUin": "20548499",
"OperateUin": "20548499",
"PayModeName": "Pay-as-you-go",
"ProjectName": "Default project",
"RegionName": "South China (Guangzhou)",
"ZoneName": "-",
```

```
"ResourceId": "huiyan_idbankcard-1251006373-201907",
"ResourceName": "-",
"ActionTypeName": "monthly settlement",
"BusinessCode": "p_ai_image_huiyan",
"ProductCode": "sp_ai_image_huiyan_idbankcard",
"ActionType": "postpay_deduct_m",
"OrderId": "201907",
"BillId": "20190612020000003179923224518398",
"PayTime": "2019-06-12 14:56:05",
"FeeBeginTime": "2019-06-01 00:00:00",
"FeeEndTime": "2019-06-30 23:59:59",
"RegionId": "1",
"ComponentSet": [
{
"ComponentCodeName": "Three bank card identifiers",
"ItemCodeName": "FaceID - three bank card identifiers",
"ItemCode": "sv_ai_image_huiyan_idbankcard",
"ComponentCode": "v_ai_image_huiyan_idbankcard",
"SinglePrice": "0.4",
"ContractPrice": "0.4",
"SpecifiedPrice": "0.4",
"PriceUnit": "USD/count/month",
"UsedAmount": "5",
"UsedAmountUnit": "count",
"TimeSpan": "1",
"TimeUnitName": "Month",
"Cost": "2",
"Discount": "1",
"ReduceType": "Discount",
"RealCost": "2",
"VoucherPayAmount": "0",
"CashPayAmount": "2",
"IncentivePayAmount": "0"
}
],
"Tags": [
{
"TagKey": "-",
"TagValue": "-"
}
]
},
"Total": 1,
"RequestId": "d11d7149-3a4a-496c-999a-9287adf0962e"
}
}
```


5. Developer Resources

API Explorer

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- API 3.0 Explorer

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- 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

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

DescribeBillSummaryByRegion

Last updated：2020-07-10 12:01:54

1. API Description

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

Gets the bill summarized according to region

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: DescribeBillSummaryByRegion.
Version	Yes	String	Common parameter. The value used for this API: 2018-07-09.
Region	No	String	Common parameter. This parameter is not required for this API.
PayerUin	Yes	String	Queries bill data user’s UIN
BeginTime	Yes	String	Only beginning in the current month is supported, and it must be the same month as the EndTime. For example, 2018-09-01 00:00:00.
EndTime	Yes	String	Only ending in the current month is supported, and it must be the same month as the BeginTime. For example, 2018-09-30 23:59:59.

3. Output Parameters

Parameter Name	Type	Description
Ready	Integer	Indicates whether or not the data is ready. 0 = not ready, 1 = ready.
SummaryOverview	Array of RegionSummaryOverviewItem	Detailed cost distribution for all regions Note: This field may return null, indicating that no valid value was found.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Getting cost distribution over different regions

Input Example

```
https://billing.tencentcloudapi.com/?Action=DescribeBillSummaryByRegion
&PayerUin=909619400
&BeginTime=2018-11-01 00:00:00
&EndTime=2018-11-01 23:59:59
&<Common request parameters>
```

Output Example


```
{
"Response": {
"Ready": 1,
"SummaryOverview": [
{
"RegionId": "4",
 "RealTotalCost": "1330.52",
"CashPayAmount": "1330.52",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "83.26",
"BillMonth": "2018-11",
"RegionName": "East China (Shanghai)",
},
{
"RegionId": "1",
 "RealTotalCost": "200.85",
"CashPayAmount": "24.87",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "175.99",
"RealTotalCostRatio": "12.57",
"BillMonth": "2018-11",
"RegionName": "South China (Guangzhou)"
},
{
"RegionId": "8",
 "RealTotalCost": "66.58",
"CashPayAmount": "66.58",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "4.17",
"BillMonth": "2018-11",
"RegionName": "North China (Beijing)",
},
{
"RegionId": "16",
 "RealTotalCost": "0.02",
"CashPayAmount": "0.02",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"RegionName": "Southwest China (Chengdu)"
},
{
"RegionId": "19",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
```



```
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"RegionName": "Southwest China (Chongqing)"
},
{
"RegionId": "24",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"RegionName": "Europe (Moscow)"
},
{
"RegionId": "6",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"RegionName": "North America (Toronto)",
},
{
"RegionId": "9",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"RegionName": "Southeast Asia (Singapore)",
},
{
"RegionId": "17",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"RegionName": "Europe (Germany)"
},
{
"RegionId": "5",
 "RealTotalCost": "0.00",
"CashPayAmount": "0.00",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.00",
"RealTotalCostRatio": "0.00",
"BillMonth": "2018-11",
"RegionName": "Hong Kong/Macao/Taiwan, China region (Hong Kong, China)"
},
{
"RegionId": "0",
 "RealTotalCost": "-1.49",
"CashPayAmount": "-1.50",
"IncentivePayAmount": "0.00",
"VoucherPayAmount": "0.01",
"RealTotalCostRatio": "0.00",
```

```
"BillMonth": "2018-11",
"RegionName": "Others",
}
],
"RequestId": "88268803-850d-44bc-8d64-df857c2d7487"
}
}
```


5. Developer Resources

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- Tencent Cloud SDK 3.0 for .NET

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

There is no error code related to the API business logic. For other error codes, please see Common Error Codes.

DescribeBillResourceSummary

Last updated : 2020-07-10 12:01:55

1. API Description

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

This API is used to query bill resources summary.

A maximum of 5 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: DescribeBillResourceSummary.
Version	Yes	String	Common parameter. The value used for this API: 2018-07-09.
Region	No	String	Common parameter. This parameter is not required for this API.
Offset	Yes	Integer	Offset
Limit	Yes	Integer	Quantity, maximum is 1000
PeriodType	Yes	String	The period type. byUsedTime: By usage period; byPayTime: by payment period. Must be the same as the period of the current monthly bill of the Billing Center. You can check your bill statistics period type at the top of the Bill Overview page.
Month	Yes	String	Month; format: yyyy-mm. This value cannot be earlier than the month when Bill 2.0 is enabled. Last 24 months data are available.
NeedRecordNum	No	Integer	Indicates whether or not the total number of records of accessing the list is required, used for frontend pages. 1 = yes, 0 = no

3. Output Parameters

Parameter Name	Type	Description
ResourceSummarySet	Array of BillResourceSummary	Resource summary list
Total	Integer	Total number of resource summary lists Note: This field may return null, indicating that no valid value was found.

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 Getting the breakdown of a bill

Input Example

```
https://billing.tencentcloudapi.com/?Action=DescribeBillResourceSummary
&Month=2018-08
&PeriodType=byPayTime
&Offset=0
&Limit=1
&ActionType=Pay-as-you-go deduction
&<common request parameters>
```

Output Example


```
{
"Response": {
"ResourceSummarySet": [
{
"PayerUin": "2384822478",
"OwnerUin": "-",
"OperateUin": "-",
"BusinessCodeName": "Cloud Virtual Machine",
"ProductCodeName": "-",
"PayModeName": "Pay-as-you-go",
"ProjectName": "Default project",
"RegionName": "North America (Toronto)",
"ZoneName": "Toronto Zone 1",
"ResourceId": "ins-o0z91q0p",
"ResourceName": "Unnamed",
"ActionTypeName": "Pay-as-you-go deduction",
"OrderId": "-",
"PayTime": "-",
"FeeBeginTime": "2018-08-28 21:00:00",
"FeeEndTime": "2018-08-28 21:00:02",
"ConfigDesc": "CPU: 1 core; memory: 1GiB; system disk: 50GB; ",
"ExtendField1": "-",
"ExtendField2": "-",
"ExtendField3": "-",
"ExtendField4": "-",
"ExtendField5": "-",
"TotalCost": "155.04348856",
"Discount": "0.6",
"ReduceType": "Discount",
"RealTotalCost": "93.039956",
"VoucherPayAmount": "0",
"CashPayAmount": "93.039956",
"IncentivePayAmount": "0",
"BusinessCode": "p_cvm",
"ProductCode": "sp_cvm_s1",
"RegionId": "1"
}
```

```
],
"Total": 103,
"RequestId": "02917e78-03af-4a7a-855d-d48705108ab2"
}
}
```

5. Developer Resources

API Explorer

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- 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.SummaryDataNotReady	Summary is being built. Please try again later.

DescribeBillSummaryByTag

Last updated : 2020-07-10 12:01:54

1. API Description

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

This API is used to get the cost distribution over different tags.

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

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

2. Input Parameters

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

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The value used for this API: DescribeBillSummaryByTag.
Version	Yes	String	Common parameter. The value used for this API: 2018-07-09.
Region	No	String	Common parameter. This parameter is not required for this API.
PayerUin	Yes	String	Payer UIN
BeginTime	Yes	String	Currently the period to be queried must start from a time point in the current month, and the starting time and the end time must be in the same month. Example: 2018-09-01 00:00:00.
EndTime	Yes	String	Currently the period to be queried must end at a time point in the current month, and the starting time and the end time must be in the same month. Example: 2018-09-30 23:59:59.
TagKey	Yes	String	Cost allocation tag key

3. Output Parameters

Parameter Name	Type	Description
Ready	Integer	Indicates whether or not the data is ready. `0` : not ready; `1` : ready.
SummaryOverview	Array of TagSummaryOverviewItem	Details about cost distribution over different tags 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 cost distribution over different tags

Input Example

```
https://billing.tencentcloudapi.com/?Action=DescribeBillSummaryByTag
&PayerUin=100000007615
&BeginTime=9/1/2019 00:00:00
&EndTime=9/30/2019 23:59:59
&TagKey=province
&<Common request parameters>
```

Output Example


```
{
”Response”: {
”Ready”: 1,
”SummaryOverview”: [
{
”TagValue”: ””,
 “RealTotalCost”: ”0.30”,
”RealTotalCostRatio”: ”17.08”
},
{
”TagValue”: ”shanghai”,
 “RealTotalCost”: ”0.26”,
”RealTotalCostRatio”: ”15.21”
},
{
”TagValue”: ”beijing”,
 “RealTotalCost”: ”0.26”,
”RealTotalCostRatio”: ”15.21”
},
{
”TagValue”: ”guangdong”,
 “RealTotalCost”: ”0.26”,
”RealTotalCostRatio”: ”15.21”
},
{
”TagValue”: ”xiamen”,
 “RealTotalCost”: ”0.22”,
”RealTotalCostRatio”: ”12.43”
},
{
”TagValue”: ”tianjin”,
 “RealTotalCost”: ”0.22”,
”RealTotalCostRatio”: ”12.43”
},
{
”TagValue”: ”sichuan”,
 “RealTotalCost”: ”0.22”,
”RealTotalCostRatio”: ”12.43”
}
],
”SummaryTotal”: {
”RealTotalCost”: ”1.74”
},
”RequestId”: ”b7649c63-59e5-49d3-bbde-64292cc4174d”
```

```
}
}
```

5. Developer Resources

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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.TagKeyNotExist	This cost allocation tag key does not exist.

Data Types

Last updated：2020-02-10 12:57:27

ActionSummaryOverviewItem

Detailed summary of costs by transaction type

Used by actions: DescribeBillSummaryByPayMode.

Name	Type	Description
ActionType	String	Transaction type
ActionTypeName	String	Transaction type name
RealTotalCost	String	Actual cost
RealTotalCostRatio	String	Cost ratio, to two decimal points
CashPayAmount	String	Cash amount
IncentivePayAmount	String	Trial credit amount
VoucherPayAmount	String	Voucher amount
BillMonth	String	Billing month, e.g. `2019-08`

BillDetail

Bill details

Used by actions: DescribeBillDetail.

Name	Type	Description
BusinessCodeName	String	Product name: major categories of Tencent Cloud services, e.g. CVM and TencentDB for MySQL
ProductCodeName	String	Sub-product name: sub-categories of Tencent Cloud services, such as CVM-Standard S1
PayModeName	String	Billing mode
ProjectName	String	Project: project of a resource
RegionName	String	Region: region of a resource, e.g. South China (Guangzhou)
ZoneName	String	Availability zone: availability zone of a resource, e.g. Guangzhou Zone 3
ResourceId	String	Instance ID
ResourceName	String	Instance name
ActionTypeName	String	Transaction type
OrderId	String	Order ID
BillId	String	Transaction ID

Name	Type	Description
PayTime	Timestamp	Payment time
FeeBeginTime	Timestamp	Service start time
FeeEndTime	Timestamp	Service end time
ComponentSet	Array of BillDetailComponent	Component list
PayerUin	String	Payer’s UIN
OwnerUin	String	User’s UIN
OperateUin	String	Operator's UIN
Tags	Array of BillTagInfo	Tag information Note: This field may return null, indicating that no valid values can be obtained.
BusinessCode	String	
ProductCode	String	
ActionType	String	

BillDetailComponent

Information about components charged in the bill

Used by actions: DescribeBillDetail.

Name	Type	Description
ComponentCodeName	String	Component type: type of a resource component, e.g. memory, disk, etc.
ItemCodeName	String	Component name: name of a resource component, e.g. TencentDB for MySQL-memory
SinglePrice	String	Component published price: original price of a resource component with the original granularity
SpecifiedPrice	String	Specified price of the component
PriceUnit	String	Price unit
UsedAmount	String	Component usage
UsedAmountUnit	String	Component usage unit
TimeSpan	String	Usage period
TimeUnitName	String	Time unit
Cost	String	Original price of the component
Discount	String	Discount rate
ReduceType	String	Offer type
RealCost	String	Total discounted price

Name	Type	Description
VoucherPayAmount	String	Amount paid in voucher
CashPayAmount	String	Amount paid in cash
IncentivePayAmount	String	Amount paid in trial credit
ItemCode	String	
ComponentCode	String	
ContractPrice	String	

BillResourceSummary

Information about resources charged in the bill

Used by actions: DescribeBillResourceSummary.

Name	Type	Description
BusinessCodeName	String	Product name: major categories of Tencent Cloud services, e.g. CVM and TencentDB for MySQL
ProductCodeName	String	Sub-product name: sub-categories of Tencent Cloud services, such as CVM-Standard S1; if no subproduct name is obtained, “-” is returned.
PayModeName	String	Billing mode
ProjectName	String	Project
RegionName	String	Region
ZoneName	String	Availability zone
ResourceId	String	Instance ID
ResourceName	String	Resource instance namDeduction timee
ActionTypeName	String	Transaction type
OrderId	String	Order ID
PayTime	Timestamp	Payment time
FeeBeginTime	Timestamp	Service start time
FeeEndTime	Timestamp	Service end time
ConfigDesc	String	Configuration description
ExtendField1	String	Extension field 1
ExtendField2	String	Extension field 2
TotalCost	String	Cost, in USD
Discount	String	Discount rate
ReduceType	String	Offer type

Name	Type	Description
RealTotalCost	String	Total cost after discount, in USD
VoucherPayAmount	String	Amount paid in voucher, in USD
CashPayAmount	String	Amount paid in cash, in USD
IncentivePayAmount	String	Amount paid in trial credit, in USD
ExtendField3	String	Extension field 3
ExtendField4	String	Extension field 4
ExtendField5	String	Extension field 5
Tags	Array of BillTagInfo	Tag information Note: This field may return null, indicating that no valid values can be obtained.
PayerUin	String	Payer UIN
OwnerUin	String	Resource owner UIN; “-” is returned if no value is obtained
OperateUin	String	Operator UIN; “-” is returned if no value is obtained

BillTagInfo

Bill tag information.

Used by actions: DescribeBillDetail、DescribeBillResourceSummary.

Name	Type	Description
TagKey	String	Cost allocation tag key
TagValue	String	Tag value

BusinessSummaryOverviewItem

Summarize product details by product

Used by actions: DescribeBillSummaryByProduct.

Name	Type	Description
BusinessCode	String	Product code Note: This field may return null, indicating that no valid value was found.
BusinessCodeName	String	Product name: major categories of Tencent Cloud services, e.g. CVM and TencentDB for MySQL
RealTotalCost	String	Actual cost
RealTotalCostRatio	String	Cost ratio, to two decimal points
CashPayAmount	String	Cash amount
IncentivePayAmount	String	Trial credit amount

Name	Type	Description
VoucherPayAmount	String	Voucher amount
BillMonth	String	Billing month, e.g. `2019-08`

BusinessSummaryTotal

Summarize total cost by product

Used by actions: DescribeBillSummaryByProduct.

Name	Type	Description
RealTotalCost	String	Total cost
VoucherPayAmount	String	Voucher amount
IncentivePayAmount	String	Trial credit amount
CashPayAmount	String	Cash amount

PayModeSummaryOverviewItem

Detailed summary of purchases by billing mode

Used by actions: DescribeBillSummaryByPayMode.

Name	Type	Description
PayMode	String	Billing mode
PayModeName	String	Billing mode name
RealTotalCost	String	Actual cost
RealTotalCostRatio	String	Cost ratio, to two decimal points
Detail	Array of ActionSummaryOverviewItem	Detailed summary of purchases by transaction type
CashPayAmount	String	Cash amount
IncentivePayAmount	String	Trial credit amount
VoucherPayAmount	String	Voucher amount

ProjectSummaryOverviewItem

Detailed summary of purchases by project

Used by actions: DescribeBillSummaryByProject.

Name	Type	Description
ProjectId	String	Project ID
ProjectName	String	Project name

Name	Type	Description
RealTotalCost	String	Actual cost
RealTotalCostRatio	String	Cost ratio, to two decimal points
CashPayAmount	String	Cash amount
IncentivePayAmount	String	Trial credit amount
VoucherPayAmount	String	Voucher amount
BillMonth	String	Billing month, e.g. `2019-08`

RegionSummaryOverviewItem

Detailed summary of purchases by region

Used by actions: DescribeBillSummaryByRegion.

Name	Type	Description
RegionId	String	Region ID Note: This field may return null, indicating that no valid value was found.
RegionName	String	Region name
RealTotalCost	String	Actual cost
RealTotalCostRatio	String	Cost ratio, to two decimal points
CashPayAmount	String	Cash amount
IncentivePayAmount	String	Trial credit amount
VoucherPayAmount	String	Voucher amount
BillMonth	String	Billing month, e.g. `2019-08`

TagSummaryOverviewItem

Details about cost distribution over different tags.

Used by actions: DescribeBillSummaryByTag.

Name	Type	Description
TagValue	String	Tag value Note: This field may return null, indicating that no valid values can be obtained.
RealTotalCost	String	Actual cost Note: This field may return null, indicating that no valid values can be obtained.
RealTotalCostRatio	String	Cost percentage rounded to two decimal places Note: This field may return null, indicating that no valid values can be obtained.

Error Codes

Last updated : 2020-07-10 12:01:56

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.
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.

Error Code	Description
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.SummaryDataNotReady	Summary is being built. Please try again later.
FailedOperation.TagKeyNotExist	This cost allocation tag key does not exist.