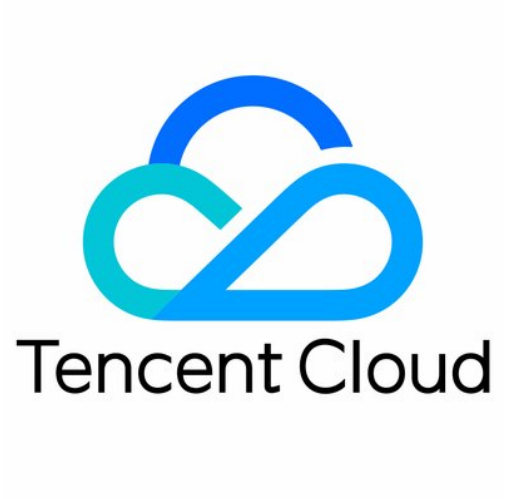
Video Moderation System

API Documentation

Product Documentation



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API Documentation History

Last updated：2022-10-28 17:01:45

Release 1

Release time: 2022-10-28 16:41:12

Release updates:

Improvement to existing documentation.

New APIs:

- CancelTask
- CreateVideoModerationTask
- DescribeTaskDetail
- DescribeTasks

New data structures:

- AudioResult
- AudioResultDetailLanguageResult
- AudioResultDetailMoanResult
- AudioResultDetailTextResult
- AudioSegments
- BucketInfo
- ImageResult
- ImageResultResult
- ImageResultsResultDetail
- ImageResultsResultDetailLocation
- ImageSegments
- InputInfo
- MediaInfo
- RcbAsr
- RecognitionResult
- StorageInfo
- Tag

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- TaskData
- TaskFilter
- TaskInput
- TaskLabel
- TaskResult

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Introduction

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Video Moderation System (VM) supports recognition and categorizing of on-demand and live videos containing inappropriate content, while providing handling suggestions and allowing you to create a custom blocklist. With the help of VM, you can reduce labor costs and increase efficiency.

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API Category

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Video Moderation APIs

API Name	Feature
CancelTask	Cancels a video moderation task
CreateVideoModerationTask	Creates a video moderation task
DescribeTaskDetail	Gets task details
DescribeTasks	Views moderation task list

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Making API Requests
Request Structure

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1. Service Address

The API supports access from either a nearby region (at vm.tencentcloudapi.com) or a specified region (at vm.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 "vm.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)	vm.tencentcloudapi.com
South China (Guangzhou)	vm.ap-guangzhou.tencentcloudapi.com
East China (Shanghai)	vm.ap-shanghai.tencentcloudapi.com
North China (Beijing)	vm.ap-beijing.tencentcloudapi.com
Southwest China (Chengdu)	vm.ap-chengdu.tencentcloudapi.com
Southwest China (Chongqing)	vm.ap-chongqing.tencentcloudapi.com
Hong Kong, Macao, Taiwan (Hong Kong, China)	vm.ap-hongkong.tencentcloudapi.com
Southeast Asia (Singapore)	vm.ap-singapore.tencentcloudapi.com
Southeast Asia (Bangkok)	vm.ap-bangkok.tencentcloudapi.com

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

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Common Params

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

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

Common parameters for Signature Algorithm v3

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

Parameter Name	Type	Required	Description
X-TC-Action	String	Yes	The name of the API for the desired operation. For the specific value, see description of common parameter `Action` in the input parameters in r documentation. For example, the API for querying the CVM instance list i `DescribeInstances` .
X-TC-Region	String	Yes	Region parameter, which is used to identify the region to which the data y work with belongs. For values supported for an API, see the description c parameter `Region` in the input parameters in related API documentati parameter is not required for some APIs (which will be indicated in relate documentation), and will not take effect even it is passed.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp that records the time when the API request for example, 1529223702. Note: If the difference between the UNIX times server time is greater than 5 minutes, a signature expiration error may oc
X-TC-Version	String	Yes	API version of the action. For the valid values, see the description of the c parameter `Version` in the API documentation. For example, the versi 2017-03-12.
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_requ SignedHeaders=content-type;host, Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc96317 Here: - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date i UTC time, and this value must match the value of X-TC-Timestamp (a co

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			parameter) in UTC time format; service is the name of the product/service generally a domain name prefix. For example, a domain name cvm.tencen refers to the CVM product and the value would be cvm; - SignedHeaders: The headers that contains the authentication informatic 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 tempora can obtain the temporary key and token by calling a CAM API. No token i 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/20
18-10-09/cvm/tc3_request, SignedHeaders=content-type;host, Signature=5da7a33f6993
f0614b047e5df4582db9e9bf4672ba50567dba16c6ccf174c474
Content-Type: application/x-www-form-urlencoded
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1539084154
X-TC-Region: ap-guangzhou
```

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

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

Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request,
SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b1316
2d9279b0855cfba6789a8edb4c
Content-Type: application/json
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou

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

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

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

Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request,
SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b1316
2d9279b0855cfba6789a8edb4c
Content-Type: multipart/form-data; boundary=58731222010402
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou

--58731222010402
Content-Disposition: form-data; name="Offset"

0
--58731222010402
Content-Disposition: form-data; name="Limit"

10
--58731222010402--
```

Common parameters for Signature Algorithm v1

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

Parameter Name	Type	Required	Description
Action	String	Yes	The name of the API for the desired operation. For the specific value, see the description of common parameter `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.

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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&Sign
atureMethod=HmacSHA256&Timestamp=1527672334&Signature=37ac2f4fde00b0ac9bd9eadeb45
9b1bbee224158d66e7ae5fcadb70b2d181d02&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:

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```
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=37ac2f4fde00b0ac9bd9eadeb459b1bbee224158d66e7ae5fcadb70b2d18
1d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

Region List

The supported Region field values for all APIs in this product are listed as below. For any API that does not support any of the following regions, this field will be described additionally in the relevant API document.

Region	Value
South Asia Pacific (Mumbai)	ap-mumbai
Southeast Asia Pacific (Singapore)	ap-singapore
Europe (Frankfurt)	eu-frankfurt

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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,

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

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

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

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

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

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

The signature calculation process is explained in detail below.

1. Concatenating the CanonicalRequest String

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

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

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```
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 st “” for POST requests, and is the string after the question mark (?) for GET requests. Fo 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 speci characters must be encoded and capitalized.
CanonicalHeaders	Header information for signature calculation, including at least two headers of `host` `content-type` . Custom headers can be added to participate in the signature proce 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 lead 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 signature verification failed.
SignedHeaders	Header information for signature calculation, indicating which headers of the request participate in the signature process (they must each individually correspond to the heac 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, "Filter`

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	`[{"Values": ["unnamed"], "Name": "instance-name"}]` in this exampl The pseudocode for calculation is Lowercase(HexEncode(Hash.SHA256(RequestPayload))) by SHA256 hashing the pay of the HTTP request, performing hexadecimal encoding, and finally converting the enco string to lowercase letters. For GET requests, `RequestPayload` is always an empt string. The calculation result in this example is `99d58dfbc6745f6747f36bfca17dee5e6881dc0428a0a36f96199342bc5b49`

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 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 date, requested service and termination string (tc3_request). **`Date` is a date in UT time, whose value should match the UTC date converted by the common parameter `X-TC-Timestamp`**; `service` is the product name, which should m the domain name of the product called. The calculation result in this example is `2019-25/cvm/tc3_request`.

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HashedCanonicalRequest	Hash value of the CanonicalRequest string concatenated in the steps above. The pseudocode for calculation is Lowercase(HexEncode(Hash.SHA256(CanonicalRequ The calculation result in this example is `2815843035062fffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3ad`

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
2815843035062fffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a
```

3. Calculating the Signature

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

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

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

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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., `AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******`.
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 `c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff`.

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

```
TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff
```

The following example shows a finished authorization header:

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

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

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

5. Signature Demo

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

- Python
- Java
- PHP
- Go
- NodeJS
- .NET

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

The final output URL might be: https://cvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******&Signature=EliP9YW3pW28FpsEdkXt%2F%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.

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Java

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

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

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

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

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

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

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```
String httpRequestMethod = "POST";
String canonicalUri = "/";
String canonicalQueryString = "";
String canonicalHeaders = "content-type:application/json; charset=utf-8\n" + "hos
t:" + 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" + canoni
calQueryString + "\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, string
ToSign)).toLowerCase();
System.out.println(signature);

// ************* Step 4: Concatenate the Authorization *************
String authorization = algorithm + " " + "Credential=" + SECRET_ID + "/" + creden
tialScope + ", "
+ "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)
```

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

Python

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

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

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

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

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```
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")).hexd
igest()
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.sha2
56).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

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```
package main

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

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

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

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

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

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```
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

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

// step 1: build canonical request string
$httpRequestMethod = "POST";
$canonicalUri = "/";
$canonicalQueryString = "";
$canonicalHeaders = "content-type:application/json; charset=utf-8\n"."host:".$hos
t."\n";
$signedHeaders = "content-type;host";
$payload = '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-na
me"}]}';
$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;
```

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

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

Ruby

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

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

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

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

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

puts canonical_request

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

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

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

puts 'curl -X POST ' + endpoint \
```

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

DotNet

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

public class Application
{
public static string SHA256Hex(string s)
{
using (SHA256 algo = SHA256.Create())
{
byte[] hashbytes = algo.ComputeHash(Encoding.UTF8.GetBytes(s));
StringBuilder builder = new StringBuilder();
for (int i = 0; i < hashbytes.Length; ++i)
{
builder.Append(hashbytes[i].ToString("x2"));
}
return builder.ToString();
}
}
public static byte[] HmacSHA256(byte[] key, byte[] msg)
{
using (HMACSHA256 mac = new HMACSHA256(key))
{
return mac.ComputeHash(msg);
}
}

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

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

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

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

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

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

Dictionary<string, string> headers = new Dictionary<string, string>();
headers.Add("Authorization", authorization);
headers.Add("Host", endpoint);
headers.Add("Content-Type", contentType + "; charset=utf-8");
headers.Add("X-TC-Timestamp", requestTimestamp.ToString());
headers.Add("X-TC-Version", version);
headers.Add("X-TC-Action", action);
headers.Add("X-TC-Region", region);
return headers;
}
public static void Main(string[] args)
{
// SecretID and SecretKey
string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******";

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

// The timestamp `2019-02-26 00:44:25` used here is only for reference. In a proj
ect, use the following parameter:
// DateTime date = DateTime.UtcNow;
// Enter the correct time zone. We recommend using UTC timestamp to avoid errors.
DateTime date = new DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc).AddSeconds
(1551113065);
string requestPayload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"\\u672a\\u5
47d\\u540d\"], \"Name\": \"instance-name\"}]}";

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

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

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NodeJS

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

function sha256(message, secret = '', encoding) {
const hmac = crypto.createHmac('sha256', secret)
return hmac.update(message).digest(encoding)
}
function getHash(message, encoding = 'hex') {
const hash = crypto.createHash('sha256')
return hash.update(message).digest(encoding)
}
function getDate(timestamp) {
const date = new Date(timestamp * 1000)
const year = date.getUTCFullYear()
const month = ('0' + (date.getUTCMonth() + 1)).slice(-2)
const day = ('0' + date.getUTCDate()).slice(-2)
return `${year}-${month}-${day}`
}
function main(){

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

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

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

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

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

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

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

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

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

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

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

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C++

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

using namespace std;

string get_data(int64_t &timestamp)
{
string utcDate;
char buff[20] = {0};
// time_t timenow;
struct tm sttime;
sttime = *gmtime(&timestamp);
strftime(buff, sizeof(buff), "%Y-%m-%d", &sttime);
utcDate = string(buff);
return utcDate;
}
string int2str(int64_t n)
{
std::stringstream ss;
ss << n;
return ss.str();
}
string sha256Hex(const string &str)
{
char buf[3];
unsigned char hash[SHA256_DIGEST_LENGTH];
SHA256_CTX sha256;
SHA256_Init(&sha256);
SHA256_Update(&sha256, str.c_str(), str.size());
SHA256_Final(hash, &sha256);
std::string NewString = "";
for(int i = 0; i < SHA256_DIGEST_LENGTH; i++)
{
snprintf(buf, sizeof(buf), "%02x", hash[i]);
NewString = NewString + buf;
}
return NewString;
```

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```
}
string HmacSha256(const string &key, const string &input)
{
unsigned char hash[32];

HMAC_CTX *h;
#if OPENSSL_VERSION_NUMBER < 0x10100000L
HMAC_CTX hmac;
HMAC_CTX_init(&hmac);
h = &hmac;
#else
h = HMAC_CTX_new();
#endif

HMAC_Init_ex(h, &key[0], key.length(), EVP_sha256(), NULL);
HMAC_Update(h, ( unsigned char* )&input[0], input.length());
unsigned int len = 32;
HMAC_Final(h, hash, &len);

#if OPENSSL_VERSION_NUMBER < 0x10100000L
HMAC_CTX_cleanup(h);
#else
HMAC_CTX_free(h);
#endif

std::stringstream ss;
ss << std::setfill('0');
for (int i = 0; i < len; i++)
{
ss << hash[i];
}

return (ss.str());
}
string HexEncode(const string &input)
{
static const char* const lut = "0123456789abcdef";
size_t len = input.length();

string output;
output.reserve(2 * len);
for (size_t i = 0; i < len; ++i)
{
const unsigned char c = input[i];
output.push_back(lut[c >> 4]);
output.push_back(lut[c & 15]);
}
```

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```
return output;
}

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

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

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

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

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

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

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

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

Signature Failure

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

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

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Signature

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Tencent Cloud API authenticates each access request, i.e. each request needs to include authentication information (Signature) in the common parameters to verify the identity of the requester.
The Signature is generated by the security credentials which include SecretId and SecretKey. If you don't have the security credentials yet, go to the TencentCloud API Key page to apply for them; otherwise, you cannot invoke the TencentCloud API.

1. Applying for Security Credentials

Before using the TencentCloud API for the first time, go to the TencentCloud API Key page to apply for security credentials.
Security credentials consist of SecretId and SecretKey:

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

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

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

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

2. Generating a Signature

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

Assume that the SecretId and SecretKey are:

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

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

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

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

2.1. Sorting Parameters

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

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

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

2.2. Concatenating a Request String

This step generates a request string.

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

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

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

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

2.3. Concatenating the Signature Original String

This step generates a signature original string.

The signature original string consists of the following parameters:

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

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

The concatenation result of the example is:

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

2.4. Generating a Signature String

This step generates a signature string.

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

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

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

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

The final signature is:

```
zmmjn35mikh6pM3V7sUEuX4wyYM=
```

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

3. Encoding a Signature String

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

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

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

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

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

4. Signature Failure

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

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

5. Signature Demo

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

- Python
- Java
- PHP
- Go
- NodeJS
- .NET

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

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

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

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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.getAlg
orithm());
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. TreeM
ap 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 UnsupportedEnc
odingException {
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()) {
```

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

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

Python

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

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

import requests

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

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

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

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

Golang

```
package main

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

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

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

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

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

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

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

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

PHP

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

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```php
$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 = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3*******"

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

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```
'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, sig
n))
puts data['Signature']

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

DotNet

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

public class Application {
public static string Sign(string signKey, string secret)
{
string signRet = string.Empty;
using (HMACSHA1 mac = new HMACSHA1(Encoding.UTF8.GetBytes(signKey)))
{
byte[] hash = mac.ComputeHash(Encoding.UTF8.GetBytes(secret));
signRet = Convert.ToBase64String(hash);
}
return signRet;
}
public static string MakeSignPlainText(SortedDictionary<string, string> requestPa
rams, string requestMethod, string requestHost, string requestPath)
```

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

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

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

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

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

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

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

NodeJS

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

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

function formatSignString(reqMethod, endpoint, path, strParam){
let strSign = reqMethod + endpoint + path + "?" + strParam.slice(1);
return strSign;
}
function sha1(secretKey, strsign){
let signMethodMap = {'HmacSHA1': "sha1"};
let hmac = crypto.createHmac(signMethodMap['HmacSHA1'], secretKey || "");
return hmac.update(Buffer.from(strsign, 'utf8')).digest('base64')
}

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

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

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

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

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

strParam = sort_params(params)

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

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

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

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Responses

Last updated：2022-10-28 16:44:34

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 s
ignature is correct."
},
"RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
}
}
```

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- 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.

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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.

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Video Moderation APIs
DescribeTasks

Last updated：2022-10-28 17:01:45

1. API Description

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

This API is used to query the task queue. You can filter moderation tasks by multiple types of business information, such as business type, moderation result, and task status.

Default request rate limit: **20 requests/sec**.

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

We recommend you to use API Explorer

Try it

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

2. Input Parameters

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

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeTasks.
Version	Yes	String	Common Params. The value used for this API: 2021-09-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product.
Limit	No	Integer	This parameter indicates the number of tasks to be displayed on each page of the task list. **Default value: 10**.
Filter	No	TaskFilter	This parameter indicates the input parameter of the task filter. You can filter tasks by business type, file type, processing suggestion,

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			and task status. For the specific parameter content, see the detailed description of the `TaskFilter` data structure.
PageToken	No	String	This parameter indicates the `Token` information used during pagination. It is automatically generated by the system and will be passed to the next generated page for easy and fast pagination. When you turn to the last page, this field will be empty.
StartTime	No	Timestamp ISO8601	This parameter indicates the start time of the task list in ISO 8601 timestamp format. **Default value: 3 days ago**. If this parameter is passed in, tasks between this time point and `EndTime` will be filtered out. Note: this parameter is used together with `Filter` to filter tasks in no particular order.
EndTime	No	Timestamp ISO8601	This parameter indicates the end time of the task list in ISO 8601 timestamp format. **Default value: empty**. If this parameter is passed in, tasks between `StartTime` and this time point will be filtered out. Note: this parameter is used together with `Filter` to filter tasks in no particular order.

3. Output Parameters

Parameter Name	Type	Description
Total	String	This field is used to return the total number of queried tasks in the format of `int` string. Note: This field may return null, indicating that no valid values can be obtained.
Data	Array of TaskData	This field is used to return the detailed data of the tasks on the current page. For the specific output content, see the detailed description of the `TaskData` data structure. Note: This field may return null, indicating that no valid values can be obtained.
PageToken	String	This field is used to return the `Token` information used during pagination. It is automatically generated by the system and will be passed to the next generated page for easy and fast pagination. When you turn to the last page, this field will be empty. 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.

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4. Example

Example1 Viewing moderation task list

This example shows you how to view the list of moderation tasks.

Input Example

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

{
"Filter": {
"Type": "VIDEO"
}
}
```

Output Example

```
{
"Response": {
"Total": "1",
"Data": [
{
"TaskId": "task-video-XwxJtbkKXWgCt8AZ",
"DataId": "data_test_01",
"BizType": "1001",
"Name": "Test video",
"Status": "FINISH",
"Type": "VIDEO",
"Suggestion": "Block",
"Labels": [
{
"Label": "Porn",
"Suggestion": "Block",
"Score": 99
},
{
"Label": "Hot",
"Suggestion": "Block",
```

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```
"Score": 70
}
],
"MediaInfo": {
"Codecs": "h264 aac",
"Duration": 36,
"Width": 352,
"Height": 640
},
"InputInfo": {
"Type": "URL",
"Url": "https://cms.myqcloud.com/video/test.mp3",
"BucketInfo": null
},
"CreatedAt": "2020-07-13T11:47:01.925Z",
"UpdatedAt": "2020-07-13T11:47:25.840Z"
}
],
"PageToken": "4765-48dXwxJtbkKXW8d3eb",
"RequestId": "8d3e4765-48db-40b5-8fdb-aaf1d7225a60"
}
}
```


5. Developer Resources

SDK

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

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

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6. Error Code

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

Error Code	Description
AuthFailure	CAM signature/authentication error.
DryRunOperation	DryRun operation, which means the DryRun parameter is passed in yet the request will still be successful.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidParameter	Parameter error.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	The quota limit has been reached.
MissingParameter	Missing parameter.
OperationDenied	Operation denied.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	The resource is occupied.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource doesn't exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter error.
UnsupportedOperation	Unsupported operation.

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DescribeTaskDetail

Last updated：2022-10-28 17:01:45

1. API Description

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

This API is used to get details of the video moderation task.

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

We recommend you to use API Explorer

Try it

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

2. Input Parameters

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

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: DescribeTaskDetail.
Version	Yes	String	Common Params. The value used for this API: 2021-09-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product.
TaskId	Yes	String	Task ID, which is returned after a task is created
ShowAllSegments	No	Boolean	Whether to show all segments. If it’s not specified, only hit segments are shown.

3. Output Parameters

Parameter	Type	Description

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Name		
TaskId	String	This field is used to return the task ID (in the `Results` parameter) after a video moderation task is created. It is used to identify the moderation task for which to query the details. Note: This field may return null, indicating that no valid values can be obtained.
DataId	String	This field is used to return the data ID parameter passed in when the video moderation API is called for easier data identification and management. Note: This field may return null, indicating that no valid values can be obtained.
BizType	String	This field is used to return the `BizType` parameter passed in when the video moderation API is called for easier data identification and management. Note: This field may return null, indicating that no valid values can be obtained.
Name	String	This field is used to return the task name in the `TaskInput` parameter passed in when the video moderation API is called for easier task identification and management. Note: This field may return null, indicating that no valid values can be obtained.
Status	String	This field is used to return the task status of the queried content. Valid values: **FINISH** (task completed), **PENDING** (task pending), **RUNNING** (task in progress), **ERROR** (task error), **CANCELLED** (task canceled). Note: This field may return null, indicating that no valid values can be obtained.
Type	String	This field is used to return the type of video for moderation. Valid values: `VIDEO` (video on demand), `LIVE_VIDEO` (video live streaming). Default value: `VIDEO` . Note: This field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion for the maliciousness tag. When you get the determination result, the returned value indicates the operation suggested by the system. We recommend you handle different types of violations and suggestions according to your business needs. Returned values: **Block**, **Review**, **Pass**.

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		Note: This field may return null, indicating that no valid values can be obtained.
Labels	Array of TaskLabel	This field is used to return the maliciousness tag in the detection result. Values: `Normal` : normal; `Porn` : pornographic; `Abuse` : abusive; `Ad` : advertising; `Custom` : custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: This field may return null, indicating that no valid values can be obtained.
MediaInfo	MediaInfo	This field is used to return the details of the input media file, including encoding/decoding formats and segment length. For details, see the description of the `MediaInfo` data structure. Note: This field may return null, indicating that no valid values can be obtained.
InputInfo	InputInfo	This field is used to return the media content information of the moderation service, mainly including the input file type and access URL. Note: This field may return null, indicating that no valid values can be obtained.
CreatedAt	String	This field is used to return the creation time of the queried task in ISO 8601 format. Note: This field may return null, indicating that no valid values can be obtained.
UpdatedAt	String	This field is used to return the last update time of the queried task in ISO 8601 format. Note: This field may return null, indicating that no valid values can be obtained.
TryInSeconds	Integer	Specifies how long, in seconds, to retry Note: This field may return null, indicating that no valid values can be obtained.
ImageSegments	Array of ImageSegments	This field is used to return the moderation result of the frames captured from the video. For the detailed returned content, see the description of the `ImageSegments` data structure. Note: the data is valid for 24 hours. To extend the storage period, set it in the configured COS bucket. Note: This field may return null, indicating that no valid values can be obtained.
AudioSegments	Array of AudioSegments	This field is used to return the moderation result of the audio in the video. For the detailed returned content, see the description of the `AudioSegments` data structure.

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		Note: the data is valid for 24 hours. To extend the storage period, set it in the configured COS bucket. Note: This field may return null, indicating that no valid values can be obtained.
ErrorType	String	When the task status is `Error`, the type of the error will be returned. Valid values: **DECODE_ERROR**: decoding failed (the input resource may contain video that cannot be decoded). **URL_ERROR**: download address verification failed. **TIMEOUT_ERROR**: processing timed out. When the task status is not `Error`, null will be returned by default. Note: This field may return null, indicating that no valid values can be obtained.
ErrorDescription	String	If the task status is `Error`, this field will return the error message; otherwise, null will be returned by default. Note: This field may return null, indicating that no valid values can be obtained.
Label	String	If the recognition result is normal, this parameter is returned with the value `Normal`. If malicious content is recognized, the tag with the highest priority in the result of `Labels` is returned. Note: This field may return null, indicating that no valid values can be obtained.
AudioText	String	This field is used to return the recognized text content of an audio file. **Up to the first 1,000 characters** can be recognized. Note: This field may return null, indicating that no valid values can be obtained.
Asrs	Array of RcbAsr	The text content recognized from the audio 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 Viewing Task Details

This example shows you how to view the details of a task by `TaskId`.

Input Example

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

{
"TaskId": "task-video-Xw0mjnmaiu-Uv1fs"
}
```

Output Example

```
{
"Response": {
"TaskId": "task-video-XwxJtbkKXWgCt8AZ",
"DataId": "data_test_01",
"BizType": "1001",
"Name": "",
"Status": "FINISH",
"Type": "VIDEO",
"Suggestion": "Block",
"Labels": [
{
"Label": "Porn",
"Suggestion": "Block",
"Score": 99
},
{
"Label": "Hot",
"Suggestion": "Block",
"Score": 70
}
],
"MediaInfo": {
"Codecs": "h264 aac",
"Duration": 36,
"Width": 352,
"Height": 640
},
"InputInfo": {
"Type": "URL",
"Url": "https://cms-video-segments-1256309736.cos.ap-guangzhou.myqcloud.co/huang.
mp4",
"BucketInfo": null
},
```

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```
"CreatedAt": "2020-07-13T11:47:01.925Z",
"UpdatedAt": "2020-07-13T11:47:25.840Z",
"ImageSegments": [
{
"Result": {
"HitFlag": 1,
"Label": "Porn",
"Suggestion": "Block",
"Score": 85,
"Results": [
{
"Scene": "Porn",
"HitFlag": 1,
"Suggestion": "Block",
"Label": "Porn",
"SubLabel": "",
"Score": 85,
"Names": [],
"Text": "",
"Details": []
}
],
"Url": "https://cos.ap-zhou.myqcloud.com/c019/image_1.jpg"
},
"OffsetTime": "1"
},
{
"Result": {
"HitFlag": 1,
"Label": "Porn",
"Suggestion": "Block",
"Score": 77,
"Results": [
{
"Scene": "Porn",
"HitFlag": 1,
"Suggestion": "Block",
"Label": "Porn",
"SubLabel": "",
"Score": 77,
"Names": [],
"Text": "",
"Details": []
}
],
"Url": "https://cos.ap-guau.myqcloud.com/cc49b5b90a5d6802b7c019/image_2.jpg"
},
```


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```
"OffsetTime": "2"
}
],
"AudioSegments": [
{
"Result": {
"HitFlag": 0,
"Label": "Normal",
"SubLabel": "",
"Suggestion": "Pass",
"Score": 0,
"Text": "Test audio text",
"Url": "https://xxx.com/7c019/audio_0.mp3",
"Duration": "36398"
},
"OffsetTime": "0"
}
],
"RequestId": "8d3e4765-48db-40b5-8fdb-aaf1d7225a60",
"ErrorType": "",
"ErrorDescription": "",
"TryInSeconds": 0,
"Label": "Porn",
"AudioText": "",
"Asrs": []
}
}
```


Example2 ok

Input Example

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

{
"ShowAllSegments": "true",
"TaskId": "w-video-YyBIZHP6L4buPOcg"
}
```

Output Example

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```
{
"Response": {
"TaskId": "w-video-YyBIZHP6L4buPOcg",
"DataId": "1111",
"BizType": "default",
"Name": "111",
"Status": "RUNNING",
"Type": "VIDEO",
"Suggestion": "UNSPECIFIED",
"Labels": [],
"InputInfo": {
"Type": "URL",
"Url": "https://test-resources-1306254157.cos.ap-guangzhou.myqcloud.com/audio_policy_test/4%E5%88%86%E9%92%9F%E8%B6%85%E9%95%BF.m4a",
"BucketInfo": null
},
"MediaInfo": {
"Codecs": "",
"Duration": 0,
"Width": 0,
"Height": 0,
"Thumbnail": ""
},
"AudioText": "",
"ImageSegments": [],
"AudioSegments": [],
"TryInSeconds": 0,
"CreatedAt": "2022-09-13T09:07:48.926Z",
"UpdatedAt": "2022-09-13T09:07:49.059Z",
"ErrorType": "",
"ErrorDescription": "",
"Asrs": [],
"Label": "",
"RequestId": "ba257e71-a04b-4ba9-9d67-0717a39b6a96"
}
}
```


Example3 Querying VM details

Input Example

```
POST / HTTP/1.1
Host: vm.tencentcloudapi.com
Content-Type: application/json
X-TC-Action: DescribeTaskDetail
```

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```
<Common request parameters>

{
"ShowAllSegments": "true",
"TaskId": "w-live_audio-YyBybeJJPvjum5DP"
}
```

Output Example


```
{
"Response": {
"TaskId": "w-live_audio-YyBybeJJPvjum5DP",
"DataId": "1111",
"BizType": "default",
"Name": "111",
"Status": "RUNNING",
"Type": "LIVE_AUDIO",
"Suggestion": "UNSPECIFIED",
"Labels": [],
"InputInfo": {
"Type": "URL",
"Url": "https://test-resources-1306254157.cos.ap-guangzhou.myqcloud.com/audio_policy_test/4%E5%88%86%E9%92%9F%E8%B6%85%E9%95%BF.m4a",
"BucketInfo": null
},
"MediaInfo": {
"Codecs": "",
"Duration": 0,
"Width": 0,
"Height": 0,
"Thumbnail": ""
},
"AudioText": "",
"ImageSegments": [],
"AudioSegments": [],
"TryInSeconds": 120,
"CreatedAt": "2022-09-13T12:07:09.338Z",
"UpdatedAt": "2022-09-13T12:07:09.623Z",
"ErrorType": "",
"ErrorDescription": "",
"Asrs": [],
"Label": "",
"RequestId": "08895eaa-2c51-4dc6-94fc-7b9bad51632b"
}
}
```


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5. Developer Resources

SDK

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

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

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

Error Code	Description
DryRunOperation	DryRun operation, which means the DryRun parameter is passed in yet the request will still be successful.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidParameter	Parameter error.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	The quota limit has been reached.
MissingParameter	Missing parameter.
OperationDenied	Operation denied.
RequestLimitExceeded	The number of requests exceeds the frequency limit.

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ResourceInUse	The resource is occupied.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource doesn’t exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter error.
UnsupportedOperation	Unsupported operation.

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CreateVideoModerationTask

Last updated：2022-10-28 17:01:45

1. API Description

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

This API is used to create a video moderation task via a URL or bucket.

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

We recommend you to use API Explorer

Try it

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

2. Input Parameters

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

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: CreateVideoModerationTask.
Version	Yes	String	Common Params. The value used for this API: 2021-09-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product. This API only supports: ap-mumbai, ap-singapore.
BizType	Yes	String	Business type, which is used to define a template policy.
Type	Yes	String	Task type. Values: `VIDEO` (video on demand), `LIVE_VIDEO` (live video).
Tasks.N	Yes	Array of TaskInput	Task information. You can create up to 10 tasks at a time.
Seed	No	String	Key of the callback signature. For more details, see the signature

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			documentation.
CallbackUrl	No	String	Callback URL that will receive moderation information. After it is configured, the non-compliant audio segments detected in moderation will be sent through this API.
Priority	No	Integer	Priority, which determines the execution order of your moderation tasks. The default value is 0.

3. Output Parameters

Parameter Name	Type	Description
Results	Array of TaskResult	Task creation result Note: This field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Creating video moderation task

This example shows you how to create a video moderation task.

Input Example

```
https://vm.tencentcloudapi.com/?Action=CreateVideoModerationTask
&BizType=1001
&Type=VIDEO
&Tasks.0.DataId=test_data_1
&Tasks.0.Input.Type=URL
&Tasks.0.Input.Url=https://v.com/test.mp4
&<Common request parameters>
```

Output Example

```
{
"Response": {
"Results": [
```

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```
{
"DataId": "0a782332-c9db-4cf5-a66e-20d60b4ea469",
"TaskId": "c933aca1-90d2-4ab8-b045-f1b08069d76f",
"Code": "OK",
"Message": "Success"
}
],
"RequestId": "c933aca1-90d2-4ab8-b045-f1b08069d76f"
}
}
```


5. Developer Resources

SDK

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

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

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

Error Code	Description
DryRunOperation	DryRun operation, which means the DryRun parameter is passed in yet the request will still be successful.
FailedOperation	Operation failed.

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InternalError	Internal error.
InvalidParameter	Parameter error.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	The quota limit has been reached.
MissingParameter	Missing parameter.
OperationDenied	Operation denied.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	The resource is occupied.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource doesn't exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation	Unauthorized operation.
UnauthorizedOperation.Unauthorized	Operation not authorized/Invalid package/Account overdue
UnknownParameter	Unknown parameter error.
UnsupportedOperation	Unsupported operation.

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CancelTask

Last updated：2022-10-28 17:01:45

1. API Description

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

This API is used to cancel a video moderation task.

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

We recommend you to use API Explorer

Try it

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

2. Input Parameters

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

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: CancelTask.
Version	Yes	String	Common Params. The value used for this API: 2021-09-22.
Region	Yes	String	Common Params. For more information, please see the list of regions supported by the product.
TaskId	Yes	String	Task ID

3. Output Parameters

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

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		locating a problem.

4. Example

Example1 Canceling a video task

This example shows you how to cancel a video moderation task.

Input Example

```
https://vm.tencentcloudapi.com/?Action=CancelTask
&TaskId=123
&<Common request parameters>
```

Output Example

```
{
"Response": {
"RequestId": "c933aca1-90d2-4ab8-b045-f1b08069d76f"
}
}
```

5. Developer Resources

SDK

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

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

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6. Error Code

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

Error Code	Description
DryRunOperation	DryRun operation, which means the DryRun parameter is passed in yet the request will still be successful.
FailedOperation	Operation failed.
InvalidParameter	Parameter error.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	The quota limit has been reached.
MissingParameter	Missing parameter.
OperationDenied	Operation denied.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	The resource is occupied.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource doesn’t exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter error.
UnsupportedOperation	Unsupported operation.

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Data Types

Last updated：2022-10-28 16:44:33

AudioResult

Audio moderation output parameter

Used by actions: DescribeTaskDetail.

Name	Type	Description
HitFlag	Integer	This field is used to return whether the moderated content hit the moderation model. Valid values: 0 (**no**), 1 (**yes**). Note: This field may return `null`, indicating that no valid values can be obtained.
Label	String	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: This field may return `null`, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion. When you get the determination result, the returned value indicates the suggested operation. Returned values: **Block**, **Review**, **Pass**. Note: This field may return `null`, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn 99* indicates that the text is highly likely to be pornographic.

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		Note: This field may return `null`, indicating that no valid values can be obtained.
Text	String	This field is used to return the text information generated by recognizing an audio file with ASR. Audio files of up to **5 hours** can be recognized. If this limit is exceeded, an error will be reported by the API. Note: This field may return `null`, indicating that no valid values can be obtained.
Url	String	This field is used to return the URL where audio segments are stored, which is valid for 1 day. Note: This field may return `null`, indicating that no valid values can be obtained.
Duration	String	This field is used to return the length of an audio file in seconds. Note: This field may return `null`, indicating that no valid values can be obtained.
Extra	String	This field is used to return the additional information (Extra) in the input parameters. If it is not configured, an empty value will be returned by default. Note: the returned information varies by customer or `Biztype`. If you need to configure this field, submit a ticket or contact the aftersales service for assistance. Note: This field may return `null`, indicating that no valid values can be obtained.
TextResults	Array of AudioResultDetailTextResult	This field is used to return the detailed moderation result of the text generated by recognizing an audio file with ASR. For the specific result, see the detailed description of the `AudioResultDetailLanguageResult` data structure. Note: This field may return `null`, indicating that no valid values can be obtained.
MoanResults	Array of AudioResultDetailMoanResult	This field is used to return the detailed moan detection result of an audio file. For the specific result, see the detailed description of the `AudioResultDetailMoanResult` data structure.

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		Note: This field may return `null`, indicating that no valid values can be obtained.
LanguageResults	Array of AudioResultDetailLanguageResult	This field is used to return the detailed minor language detection result of an audio. For the specific result, see the detailed description of the `AudioResultDetailLanguageResult` data structure. Note: This field may return `null`, indicating that no valid values can be obtained.
SubLabel	String	This field is used to return a subtag under the current tag (Lable). Note: This field may return `null`, indicating that no valid values can be obtained.
RecognitionResults	Array of RecognitionResult	List of recognized category labels Note: This field may return `null`, indicating that no valid values can be obtained.

AudioResultDetailLanguageResult

Audio language detection result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Label	String	Language Note: This field may return null, indicating that no valid values can be obtained.
Score	Integer	Score Note: This field may return null, indicating that no valid values can be obtained.
StartTime	Float	Start time Note: This field may return null, indicating that no valid values can be obtained.
EndTime	Float	End time Note: This field may return null, indicating that no valid values can be obtained.
SubLabelCode	String	Subtag under the current tag Note: This field may return null, indicating that no valid values can be obtained.

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AudioResultDetailMoanResult

Audio moan moderation result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Label	String	This field is used to return the type of the content to be detected. It is fixed at **Moan** here to call the moan detection feature. Note: This field may return `null`, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence of moan detection. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the audio is more likely to fall into the category of moan.
StartTime	Float	This field is used to return the start time of the segment of an audio file under the corresponding moan tag in milliseconds.
EndTime	Float	This field is used to return the end time of the segment of an audio file under the corresponding moan tag in milliseconds.
SubLabelCode	String	*This field is in beta test. Stay tuned*
SubLabel	String	This field is used to return a subtag under the current tag (Lable).
Suggestion	String	This field returns the suggested action according to the check result. Values: `Block`, `Review`, `Pass`.

AudioResultDetailTextResult

ASR-based audio moderation result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Label	String	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: This field may return null, indicating that no valid values can be obtained.
Keywords	Array	This field is used to return the keyword information hit by the text content recognized

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	of String	with ASR and indicate the specific cause of content non-compliance (such as "Friend me on WeChat"). This parameter may have multiple returned values representing multiple hit keywords. If the returned value is empty, but `Score` is not empty, the maliciousness tag (Label) that corresponds to the recognition result derives from the returned value determined by the semantic model. Note: This field may return null, indicating that no valid values can be obtained.
LibId	String	This field is **valid only when** `Label` **is** `Custom` **(custom keyword)**. It is used to return the ID of the custom library for easier custom library management and configuration. Note: This field may return null, indicating that no valid values can be obtained.
LibName	String	This field is **valid only when** `Label` **is** `Custom` **(custom keyword)**. It is used to return the name of the custom library for easier custom library management and configuration. Note: This field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn 99* indicates that the text is highly likely to be pornographic. Note: This field may return null, indicating that no valid values can be obtained.
LibType	Integer	This field is used to return the dictionary type of a custom keyword. Valid values: **1** (blocklist/allowlist), **2** (custom keyword dictionary). If no custom keyword dictionary is configured, the default value will be 1 (blocklist/allowlist). Note: This field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion. When you get the determination result, the returned value indicates the suggested operation. Returned values: **Block**, **Review**, **Pass**. Note: This field may return null, indicating that no valid values can be obtained.
SubLabel	String	This field is used to return a subtag under the current tag (Lable). Note: This field may return null, indicating that no valid values can be obtained.

AudioSegments

Information of the audio segment

Used by actions: DescribeTaskDetail.

Name	Type	Description

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OffsetTime	String	Capture time. For VOD files, it indicates the video offset time given in seconds (e.g., 0, 5, 10). For live files, it indicates a timestamp (e.g., 1594650717). Note: This field may return null, indicating that no valid values can be obtained.
Result	AudioResult	Result set Note: This field may return null, indicating that no valid values can be obtained.

BucketInfo

Bucket information

For more information on Tencent Cloud storage, see https://www.tencentcloud.com/document/product/436/44352.?from_cn_redirect=1

Used by actions: CreateVideoModerationTask.

Name	Type	Required	Description
Bucket	String	Yes	Name of the COS bucket
Region	String	Yes	Region
Object	String	Yes	Object key

ImageResult

Result details

Used by actions: DescribeTaskDetail.

Name	Type	Description
HitFlag	Integer	Whether the video content is hit `0` : No `1` : Yes Note: This field may return null, indicating that no valid values can be obtained.
Label	String	Hit tag `Porn` : Pornographic `Sexy` : Sexy `Polity` : Political

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		`Illegal` : Illegal `Abuse` : Abusive `Terror` : Violence and terrorism `Ad` : Advertising Note: This field may return null, indicating that no valid values can be obtained.
Suggestion	String	Suggestion. Values: `Pass` : You're suggested to allow the video to pass. `Review` : You're suggested to take a manual review. `Block` : You're suggested to block the non-compliant video. Note: This field may return null, indicating that no valid values can be obtained.
Score	Integer	Score Note: This field may return null, indicating that no valid values can be obtained.
Results	Array of ImageResultResult	Captured images Note: This field may return null, indicating that no valid values can be obtained.
Url	String	Image URL Note: This field may return null, indicating that no valid values can be obtained.
Extra	String	Additional field Note: This field may return null, indicating that no valid values can be obtained.

ImageResultResult

Sub-result of the image output result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Scene	String	Scenario `Porn` : Pornographic `Sexy` : Sexy `Polity` : Political `Illegal` : Illegal `Abuse` : Abusive

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		`Terror` : Violence and terrorism `Ad` : Advertising Note: This field may return null, indicating that no valid values can be obtained.
HitFlag	Integer	Whether the video content is hit `0` : No `1` : Yes Note: This field may return null, indicating that no valid values can be obtained.
Suggestion	String	Suggestion. Values: `Pass` : You're suggested to allow the video to pass. `Review` : You're suggested to take a manual review. `Block` : You're suggested to block the non-compliant video. Note: This field may return null, indicating that no valid values can be obtained.
Label	String	Tag Note: This field may return null, indicating that no valid values can be obtained.
SubLabel	String	Subtag under the current tag Note: This field may return null, indicating that no valid values can be obtained.
Score	Integer	Score Note: This field may return null, indicating that no valid values can be obtained.
Names	Array of String	If the hit video contains political content, the list of politicians will be returned; otherwise a null value is returned. Note: This field may return null, indicating that no valid values can be obtained.
Text	String	OCR-recognized text in the image Note: This field may return null, indicating that no valid values can be obtained.
Details	Array of ImageResultsResultDetail	Other details Note: This field may return null, indicating that no valid values can be obtained.

ImageResultsResultDetail

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Image recognition result in the specific scenario

Used by actions: DescribeTaskDetail.

Name	Type	Description
Name	String	Task name Note: This field may return null, indicating that no valid values can be obtained.
Text	String	OCR-recognized text Note: This field may return null, indicating that no valid values can be obtained.
Location	ImageResultsResultDetailLocation	Location information Note: This field may return null, indicating that no valid values can be obtained.
Label	String	Tag Note: This field may return null, indicating that no valid values can be obtained.
LibId	String	Library ID Note: This field may return null, indicating that no valid values can be obtained.
LibName	String	Database name Note: This field may return null, indicating that no valid values can be obtained.
Keywords	Array of String	Hit keyword Note: This field may return null, indicating that no valid values can be obtained.
Suggestion	String	Suggestion Note: This field may return null, indicating that no valid values can be obtained.
Score	Integer	Score Note: This field may return null, indicating that no valid values can be obtained.
SubLabelCode	String	Subtag under the current tag Note: This field may return null, indicating that no valid values can be obtained.

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ImageResultsResultDetailLocation

Position information of image details

Used by actions: DescribeTaskDetail.

Name	Type	Description
X	Float	X-coordinate Note: This field may return null, indicating that no valid values can be obtained.
Y	Float	Y-coordinate Note: This field may return null, indicating that no valid values can be obtained.
Width	Integer	Width Note: This field may return null, indicating that no valid values can be obtained.
Height	Integer	Height Note: This field may return null, indicating that no valid values can be obtained.
Rotate	Float	Rotation angle Note: This field may return null, indicating that no valid values can be obtained.

ImageSegments

Image segment information

Used by actions: DescribeTaskDetail.

Name	Type	Description
OffsetTime	String	Capture time. For VOD files, it indicates the video offset time given in seconds (e.g., 0, 5, 10). For live files, it indicates a timestamp (e.g., 1594650717).
Result	ImageResult	Image capture result

InputInfo

Input information details

Used by actions: DescribeTaskDetail, DescribeTasks.

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Name	Type	Description
Type	String	Type. Values: `URL` , `COS` . Note: This field may return null, indicating that no valid values can be obtained.
Url	String	URL Note: This field may return null, indicating that no valid values can be obtained.
BucketInfo	String	Bucket information. When `Type = COS` , this field is required. Note: This field may return null, indicating that no valid values can be obtained.

MediaInfo

Media type

Used by actions: DescribeTaskDetail, DescribeTasks.

Name	Type	Description
Codecs	String	Encoding format
Duration	Integer	Segment duration during stream detection Note: this field may return null, indicating that no valid values can be obtained.
Width	Integer	Width, in pixels
Height	Integer	Height, in pixels
Thumbnail	String	Cover

RcbAsr

Audit ASR text information of the segment

Used by actions: DescribeTaskDetail.

Name	Type	Description
Text	String	This field is used to return the recognized text content of an audio file. **Up to the first 1,000 characters** can be recognized. Note: This field may return null, indicating that no valid values can be obtained.
CreatedAt	String	This field is used to return the creation time of the queried task in ISO 8601 format. Note: This field may return null, indicating that no valid values can be obtained.

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RecognitionResult

Information of the category label

Used by actions: DescribeTaskDetail.

Name	Type	Description
Label	String	Values: `Teenager` , `Gender` Note: This field may return `null` , indicating that no valid values can be obtained.
Tags	Array of Tag	List of recognized category labels Note: This field may return `null` , indicating that no valid values can be obtained.

StorageInfo

Data storage information

Used by actions: CreateVideoModerationTask.

Name	Type	Required	Description
Type	String	No	Type. Values: `URL` : Resource link `COS` : Tencent Cloud COS
Url	String	No	Resource link
BucketInfo	BucketInfo	No	Tencent Cloud bucket information

Tag

Tag of the audio slice

Used by actions: DescribeTaskDetail.

Name	Type	Description
Name	String	The value of this parameter varies by `Label` . When `Label` is `Teenager` , `Name` can be `Teenager` .

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		When `Label` is `Gender`, `Name` can be `Male` and `Female`. Note: This field may return `null`, indicating that no valid values can be obtained.
Score	Integer	Confidence score. Value: 1 to 100. Note: This field may return `null`, indicating that no valid values can be obtained.
StartTime	Float	Start time for the recognition (ms) Note: This field may return `null`, indicating that no valid values can be obtained.
EndTime	Float	End time for the recognition (ms) Note: This field may return `null`, indicating that no valid values can be obtained.

TaskData

Task data

Used by actions: DescribeTasks.

Name	Type	Description
TaskId	String	Task ID Note: This field may return null, indicating that no valid values can be obtained.
DataId	String	Data ID Note: This field may return null, indicating that no valid values can be obtained.
BizType	String	Service type Note: This field may return null, indicating that no valid values can be obtained.
Name	String	Task name Note: This field may return null, indicating that no valid values can be obtained.
Status	String	Task status. Values: `PENDING`, `RUNNING`, `ERROR`, `FINISH`, and `CANCELLED`. Note: This field may return null, indicating that no valid values can be obtained.
Type	String	Task type Note: This field may return null, indicating that no valid values can be obtained.

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Suggestion	String	Suggestion Note: This field may return null, indicating that no valid values can be obtained.
Labels	Array of TaskLabel	Tag Note: This field may return null, indicating that no valid values can be obtained.
MediaInfo	MediaInfo	Media information Note: This field may return null, indicating that no valid values can be obtained.
InputInfo	InputInfo	Input information Note: This field may return null, indicating that no valid values can be obtained.
CreatedAt	String	Creation time Note: This field may return null, indicating that no valid values can be obtained.
UpdatedAt	String	Update time Note: This field may return null, indicating that no valid values can be obtained.

TaskFilter

Cos TaskFilter

Used by actions: DescribeTasks.

Name	Type	Required	Description
BizType	String	No	Task type
Type	String	No	Task type. Values: `VIDEO`, `AUDIO`, `LIVE_VIDEO`, and `LIVE_AUDIO`.
Suggestion	String	No	Suggestion. Values: `Pass`, `Review`, and `Block`.
TaskStatus	String	No	Task status. Values: `PENDING`, `RUNNING`, `ERROR`, `FINISH`, and `CANCELLED`.

TaskInput

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Audio/Video task structure

Used by actions: CreateVideoModerationTask.

Name	Type	Required	Description
DataId	String	No	Data ID
Name	String	No	Task name
Input	StorageInfo	No	Task input

TaskLabel

Task output tag

Used by actions: DescribeTaskDetail, DescribeTasks.

Name	Type	Description
Label	String	Hit tag `Porn` : Pornographic `Sexy` : Sexy `Polity` : Political `Illegal` : Illegal `Abuse` : Abusive `Terror` : Violence and terrorism `Ad` : Advertising Note: This field may return null, indicating that no valid values can be obtained.
Suggestion	String	Suggestion. Values: `Pass` : You're suggested to allow the video to pass. `Review` : You're suggested to take a manual review. `Block` : You're suggested to block the non-compliant video. Note: This field may return null, indicating that no valid values can be obtained.
Score	Integer	Score. Value range: 0-100. Note: This field may return null, indicating that no valid values can be obtained.

TaskResult

The result returned during task creation

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Used by actions: CreateVideoModerationTask.

Name	Type	Description
DataId	String	Data ID passed when you request the data Note: This field may return null, indicating that no valid values can be obtained.
TaskId	String	Task ID Note: This field may return null, indicating that no valid values can be obtained.
Code	String	Error code. If `OK` is returned, it indicates the task is created successfully. You can see common error codes for more details. Note: This field may return null, indicating that no valid values can be obtained.
Message	String	Error message Note: This field may return null, indicating that no valid values can be obtained.

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Error Codes

Last updated：2022-10-28 16:44:33

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 si
gnature is correct."
},
"RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
}
}
```

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

Error Code List

Common Error Codes

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

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

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

Service Error Codes

Error Code	Description
AuthFailure	CAM signature/authentication error.
OperationDenied	Operation denied.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation.Unauthorized	Operation not authorized/Invalid package/Account overdue

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Video Moderation APIs 2020-12-29 History

Last updated：2022-07-25 15:47:29

Release 1

Release time: 2022-03-28 11:11:36

Release updates:

Improvement to existing documentation.

New APIs:

- CancelTask
- CreateVideoModerationTask
- DescribeTaskDetail
- DescribeTasks

New data structures:

- AudioResult
- AudioResultDetailLanguageResult
- AudioResultDetailMoanResult
- AudioResultDetailTextResult
- AudioSegments
- BucketInfo
- ImageResult
- ImageResultResult
- ImageResultsResultDetail
- ImageResultsResultDetailLocation
- ImageSegments
- InputInfo
- MediaInfo
- StorageInfo
- TaskData
- TaskFilter
- TaskInput

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- TaskLabel
- TaskResult

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API Category

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Video Moderation APIs

API Name	Feature
CancelTask	Cancels task
CreateVideoModerationTask	Creates video moderation task
DescribeTaskDetail	Views task details
DescribeTasks	Views moderation task list

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Making API Requests
Request Structure

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1. Service Address

The API supports access from either a nearby region (at vm.tencentcloudapi.com) or a specified region (at vm.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 "vm.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)	vm.tencentcloudapi.com
South China (Guangzhou)	vm.ap-guangzhou.tencentcloudapi.com
East China (Shanghai)	vm.ap-shanghai.tencentcloudapi.com
North China (Beijing)	vm.ap-beijing.tencentcloudapi.com
Southwest China (Chengdu)	vm.ap-chengdu.tencentcloudapi.com
Southwest China (Chongqing)	vm.ap-chongqing.tencentcloudapi.com
Hong Kong, Macao, Taiwan (Hong Kong, China)	vm.ap-hongkong.tencentcloudapi.com
Southeast Asia (Singapore)	vm.ap-singapore.tencentcloudapi.com
Southeast Asia (Bangkok)	vm.ap-bangkok.tencentcloudapi.com

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

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Common Params

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

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

Common parameters for Signature Algorithm v3

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

Parameter Name	Type	Required	Description
X-TC-Action	String	Yes	The name of the API for the desired operation. For the specific value, see description of common parameter `Action` in the input parameters in r documentation. For example, the API for querying the CVM instance list i `DescribeInstances` .
X-TC-Region	String	Yes	Region parameter, which is used to identify the region to which the data y work with belongs. For values supported for an API, see the description c parameter `Region` in the input parameters in related API documentati parameter is not required for some APIs (which will be indicated in relate documentation), and will not take effect even it is passed.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp that records the time when the API request for example, 1529223702. Note: If the difference between the UNIX times server time is greater than 5 minutes, a signature expiration error may oc
X-TC-Version	String	Yes	API version of the action. For the valid values, see the description of the c parameter `Version` in the API documentation. For example, the versi 2017-03-12.
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_requ SignedHeaders=content-type;host, Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc96317 Here: - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date i UTC time, and this value must match the value of X-TC-Timestamp (a co

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			parameter) in UTC time format; service is the name of the product/service generally a domain name prefix. For example, a domain name cvm.tencen refers to the CVM product and the value would be cvm; - SignedHeaders: The headers that contains the authentication informatic 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 tempora can obtain the temporary key and token by calling a CAM API. No token i 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/20
18-10-09/cvm/tc3_request, SignedHeaders=content-type;host, Signature=5da7a33f6993
f0614b047e5df4582db9e9bf4672ba50567dba16c6ccf174c474
Content-Type: application/x-www-form-urlencoded
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1539084154
X-TC-Region: ap-guangzhou
```

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

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

Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request,
SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b1316
2d9279b0855cfba6789a8edb4c
Content-Type: application/json
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou

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

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

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

Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request,
SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b1316
2d9279b0855cfba6789a8edb4c
Content-Type: multipart/form-data; boundary=58731222010402
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou

--58731222010402
Content-Disposition: form-data; name="Offset"

0
--58731222010402
Content-Disposition: form-data; name="Limit"

10
--58731222010402--
```

Common parameters for Signature Algorithm v1

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

Parameter Name	Type	Required	Description
Action	String	Yes	The name of the API for the desired operation. For the specific value, see the description of common parameter `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.

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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&Sign
atureMethod=HmacSHA256&Timestamp=1527672334&Signature=37ac2f4fde00b0ac9bd9eadeb45
9b1bbee224158d66e7ae5fcadb70b2d181d02&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:

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```
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=37ac2f4fde00b0ac9bd9eadeb459b1bbee224158d66e7ae5fcadb70b2d18
1d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

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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,

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

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

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

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

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

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

The signature calculation process is explained in detail below.

1. Concatenating the CanonicalRequest String

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

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

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```
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 st “” for POST requests, and is the string after the question mark (?) for GET requests. Fo 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 speci characters must be encoded and capitalized.
CanonicalHeaders	Header information for signature calculation, including at least two headers of `host` `content-type` . Custom headers can be added to participate in the signature proce 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 lead 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 signature verification failed.
SignedHeaders	Header information for signature calculation, indicating which headers of the request participate in the signature process (they must each individually correspond to the heac 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, "Filter`

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	`[{"Values": ["unnamed"], "Name": "instance-name"}]` in this exampl The pseudocode for calculation is Lowercase(HexEncode(Hash.SHA256(RequestPayload))) by SHA256 hashing the pay of the HTTP request, performing hexadecimal encoding, and finally converting the enco string to lowercase letters. For GET requests, `RequestPayload` is always an empt string. The calculation result in this example is `99d58dfbc6745f6747f36bfca17dee5e6881dc0428a0a36f96199342bc5b49`

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 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 date, requested service and termination string (tc3_request). **`Date` is a date in UT time, whose value should match the UTC date converted by the common parameter `X-TC-Timestamp`**; `service` is the product name, which should m the domain name of the product called. The calculation result in this example is `2019-25/cvm/tc3_request`.

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HashedCanonicalRequest	Hash value of the CanonicalRequest string concatenated in the steps above. The pseudocode for calculation is Lowercase(HexEncode(Hash.SHA256(CanonicalRequ The calculation result in this example is `2815843035062fffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3ad`

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
2815843035062fffda5fd6f2a44ea8a34818b0dc46f024b8b3786976a3adda7a
```

3. Calculating the Signature

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

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

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

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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., `AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******`.
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 `c492e8e41437e97a620b728c301bb8d17e7dc0c17eeabce80c20cd70fc3a78ff`.

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

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

The following example shows a finished authorization header:

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

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

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

5. Signature Demo

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

- Python
- Java
- PHP
- Go
- NodeJS
- .NET

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

The final output URL might be: https://cvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******&Signature=EliP9YW3pW28FpsEdkXt%2F%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.

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Java

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

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

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

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

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

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

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```
String httpRequestMethod = "POST";
String canonicalUri = "/";
String canonicalQueryString = "";
String canonicalHeaders = "content-type:application/json; charset=utf-8\n" + "hos
t:" + 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" + canoni
calQueryString + "\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, string
ToSign)).toLowerCase();
System.out.println(signature);

// ************* Step 4: Concatenate the Authorization *************
String authorization = algorithm + " " + "Credential=" + SECRET_ID + "/" + creden
tialScope + ", "
+ "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)
```

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

Python

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

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

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

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

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```
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")).hexd
igest()
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.sha2
56).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

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```
package main

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

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

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

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

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

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```
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

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

// step 1: build canonical request string
$httpRequestMethod = "POST";
$canonicalUri = "/";
$canonicalQueryString = "";
$canonicalHeaders = "content-type:application/json; charset=utf-8\n"."host:".$hos
t."\n";
$signedHeaders = "content-type;host";
$payload = '{"Limit": 1, "Filters": [{"Values": ["unnamed"], "Name": "instance-na
me"}]}';
$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;
```

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

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

Ruby

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

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

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

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

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

puts canonical_request

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

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

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

puts 'curl -X POST ' + endpoint \
```

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

DotNet

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

public class Application
{
public static string SHA256Hex(string s)
{
using (SHA256 algo = SHA256.Create())
{
byte[] hashbytes = algo.ComputeHash(Encoding.UTF8.GetBytes(s));
StringBuilder builder = new StringBuilder();
for (int i = 0; i < hashbytes.Length; ++i)
{
builder.Append(hashbytes[i].ToString("x2"));
}
return builder.ToString();
}
}
public static byte[] HmacSHA256(byte[] key, byte[] msg)
{
using (HMACSHA256 mac = new HMACSHA256(key))
{
return mac.ComputeHash(msg);
}
}

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

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

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

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

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

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

Dictionary<string, string> headers = new Dictionary<string, string>();
headers.Add("Authorization", authorization);
headers.Add("Host", endpoint);
headers.Add("Content-Type", contentType + "; charset=utf-8");
headers.Add("X-TC-Timestamp", requestTimestamp.ToString());
headers.Add("X-TC-Version", version);
headers.Add("X-TC-Action", action);
headers.Add("X-TC-Region", region);
return headers;
}
public static void Main(string[] args)
{
// SecretID and SecretKey
string SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3*******";
string SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3*******";

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

// The timestamp `2019-02-26 00:44:25` used here is only for reference. In a proj
ect, use the following parameter:
// DateTime date = DateTime.UtcNow;
// Enter the correct time zone. We recommend using UTC timestamp to avoid errors.
DateTime date = new DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc).AddSeconds
(1551113065);
string requestPayload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"\\u672a\\u5
47d\\u540d\"], \"Name\": \"instance-name\"}]}";

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

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

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NodeJS

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

function sha256(message, secret = '', encoding) {
const hmac = crypto.createHmac('sha256', secret)
return hmac.update(message).digest(encoding)
}
function getHash(message, encoding = 'hex') {
const hash = crypto.createHash('sha256')
return hash.update(message).digest(encoding)
}
function getDate(timestamp) {
const date = new Date(timestamp * 1000)
const year = date.getUTCFullYear()
const month = ('0' + (date.getUTCMonth() + 1)).slice(-2)
const day = ('0' + date.getUTCDate()).slice(-2)
return `${year}-${month}-${day}`
}
function main(){

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

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

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

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

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

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

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

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

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

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

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

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C++

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

using namespace std;

string get_data(int64_t &timestamp)
{
string utcDate;
char buff[20] = {0};
// time_t timenow;
struct tm sttime;
sttime = *gmtime(&timestamp);
strftime(buff, sizeof(buff), "%Y-%m-%d", &sttime);
utcDate = string(buff);
return utcDate;
}
string int2str(int64_t n)
{
std::stringstream ss;
ss << n;
return ss.str();
}
string sha256Hex(const string &str)
{
char buf[3];
unsigned char hash[SHA256_DIGEST_LENGTH];
SHA256_CTX sha256;
SHA256_Init(&sha256);
SHA256_Update(&sha256, str.c_str(), str.size());
SHA256_Final(hash, &sha256);
std::string NewString = "";
for(int i = 0; i < SHA256_DIGEST_LENGTH; i++)
{
snprintf(buf, sizeof(buf), "%02x", hash[i]);
NewString = NewString + buf;
}
return NewString;
```

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```
}
string HmacSha256(const string &key, const string &input)
{
unsigned char hash[32];

HMAC_CTX *h;
#if OPENSSL_VERSION_NUMBER < 0x10100000L
HMAC_CTX hmac;
HMAC_CTX_init(&hmac);
h = &hmac;
#else
h = HMAC_CTX_new();
#endif

HMAC_Init_ex(h, &key[0], key.length(), EVP_sha256(), NULL);
HMAC_Update(h, ( unsigned char* )&input[0], input.length());
unsigned int len = 32;
HMAC_Final(h, hash, &len);

#if OPENSSL_VERSION_NUMBER < 0x10100000L
HMAC_CTX_cleanup(h);
#else
HMAC_CTX_free(h);
#endif

std::stringstream ss;
ss << std::setfill('0');
for (int i = 0; i < len; i++)
{
ss << hash[i];
}

return (ss.str());
}
string HexEncode(const string &input)
{
static const char* const lut = "0123456789abcdef";
size_t len = input.length();

string output;
output.reserve(2 * len);
for (size_t i = 0; i < len; ++i)
{
const unsigned char c = input[i];
output.push_back(lut[c >> 4]);
output.push_back(lut[c & 15]);
}
```

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```
return output;
}

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

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

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

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

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

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

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

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

Signature Failure

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

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

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Signature

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Tencent Cloud API authenticates each access request, i.e. each request needs to include authentication information (Signature) in the common parameters to verify the identity of the requester.
The Signature is generated by the security credentials which include SecretId and SecretKey. If you don't have the security credentials yet, go to the TencentCloud API Key page to apply for them; otherwise, you cannot invoke the TencentCloud API.

1. Applying for Security Credentials

Before using the TencentCloud API for the first time, go to the TencentCloud API Key page to apply for security credentials.
Security credentials consist of SecretId and SecretKey:

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

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

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

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

2. Generating a Signature

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

Assume that the SecretId and SecretKey are:

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

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

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

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

2.1. Sorting Parameters

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

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

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

2.2. Concatenating a Request String

This step generates a request string.

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

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

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

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

2.3. Concatenating the Signature Original String

This step generates a signature original string.

The signature original string consists of the following parameters:

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

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

The concatenation result of the example is:

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

2.4. Generating a Signature String

This step generates a signature string.

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

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

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

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

The final signature is:

```
zmmjn35mikh6pM3V7sUEuX4wyYM=
```

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

3. Encoding a Signature String

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

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

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

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

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

4. Signature Failure

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

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

5. Signature Demo

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

- Python
- Java
- PHP
- Go
- NodeJS
- .NET

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

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

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

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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.getAlg
orithm());
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. TreeM
ap 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 UnsupportedEnc
odingException {
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()) {
```

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

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

Python

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

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

import requests

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

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

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

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

Golang

```
package main

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

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

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

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

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

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

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

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

PHP

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

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```
$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

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

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

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

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```
'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, sig
n))
puts data['Signature']

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

DotNet

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

public class Application {
public static string Sign(string signKey, string secret)
{
string signRet = string.Empty;
using (HMACSHA1 mac = new HMACSHA1(Encoding.UTF8.GetBytes(signKey)))
{
byte[] hash = mac.ComputeHash(Encoding.UTF8.GetBytes(secret));
signRet = Convert.ToBase64String(hash);
}
return signRet;
}
public static string MakeSignPlainText(SortedDictionary<string, string> requestPa
rams, string requestMethod, string requestHost, string requestPath)
```

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

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

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

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

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

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

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

NodeJS

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

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

function formatSignString(reqMethod, endpoint, path, strParam){
let strSign = reqMethod + endpoint + path + "?" + strParam.slice(1);
return strSign;
}
function sha1(secretKey, strsign){
let signMethodMap = {'HmacSHA1': "sha1"};
let hmac = crypto.createHmac(signMethodMap['HmacSHA1'], secretKey || "");
return hmac.update(Buffer.from(strsign, 'utf8')).digest('base64')
}

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

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

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

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

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

strParam = sort_params(params)

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

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

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

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Responses

Last updated：2022-04-13 11:49:33

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 s
ignature is correct."
},
"RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
}
}
```

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- 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.

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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.

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Video Moderation APIs
CreateVideoModerationTask

Last updated：2023-11-14 14:44:34

1. API Description

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

This API is used to submit a video file or stream for smart moderation. Before using it, you need to log in to the console with the Tencent Cloud root account to activate VM and adjust the business configuration.

Feature use instructions

- Go to the "CMS console - VM" to activate AMS.
- This API is a paid API. For its billing mode, see VM Pricing.
- Default API request rate limit: **20 requests/sec**. When this limit is exceeded, requests for async moderation tasks (video on demand) will automatically join the queue of requests pending moderation, while an error will be reported for sync moderation tasks (video live streaming).
- Default limit on the number of concurrent moderation channels: 10. When this limit is exceeded, requests for async moderation tasks (video on demand) will automatically join the queue of requests pending moderation, while an error will be reported for sync moderation tasks (video live streaming).

API feature description

- It can automatically detect video files or streams and recognize non-compliant content in them based on the deep learning technology from the perspectives of OCR-based text recognition, object detection (such as object, advertising logo, and QR code), image recognition, and audio moderation;
- It allows you to set the callback address (Callback) to get the detection result or call the API for viewing task details to get the details of the detection result through polling. For normal video moderation tasks, if non-compliant content is contained, the captured frames will be called back within **3s**, and the audio segments will be called back within the configured **segment duration + 2s**; for queued moderation tasks, the callback time will be equal to the sum of the callback time for normal moderation and waiting time;
- The API for viewing the moderation task list can be called to query the task queue. You can filter moderation tasks by multiple types of business information, such as business type, moderation result, and task status;

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- It can recognize various non-compliant scenarios, including vulgarity, abuse, pornography, and advertising;
- It allows you to customize moderation policies based on different business scenarios;
- You can customize blocklist/allowlist dictionaries and image libraries to filter non-compliant content of custom types (currently, only blocklist configuration is supported);
- You can customize the moderation task priority, so that when multiple tasks are queuing, the task priority will be automatically adjusted according to the configuration;
- You can submit detection tasks in batches and **create up to 10 tasks at a time**;

Call description for video file

- Supported video file size: **< 3 GB**
- Supported video file resolution: **the optimal resolution is 1920x1080 (1080p)**. For video files of less than 300 MB in size, their resolution can be greater than 1080p; for video files of a greater size, you can call MPS to transcode them before submitting them for moderation;
- Supported video file formats: FLV, MKV, MP4, RMVB, AVI, WMV, 3GP, TS, MOV, RM, MPEG, and WMF;
- Supported video file access methods: URL (over HTTP/HTTPS) and Tencent Cloud COS;
- If you pass in the access URL of a video file, you need to **limit its header file read time to 3 seconds**. To ensure the stability and reliability of the video to be detected, we recommend you use Tencent Cloud COS for storage or CDN for caching;
- You can configure whether to enable audio moderation, and if it is not enabled, only the image content of video files will be moderated.

Call description for video stream

- Supported video stream duration: **< 5 hours**
- Supported video stream resolution: **1920x1080 (1080p)**. For videos with a higher resolution, you can call live transcoding to transcode them before submitting them for moderation;
- Supported video stream formats: mainstream video stream codecs such as RMTP and FLV;
- Supported video transfer protocols: HTTP, HTTPS, and RTMP;
- You can configure whether to enable audio moderation, and if it is not enabled, only the image content of video streams will be moderated.

A maximum of 500 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.

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2. Input Parameters

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

Parameter Name	Required	Type	Description
Action	Yes	String	Common Params. The value used for this API: CreateVideoModerationTask.
Version	Yes	String	Common Params. The value used for this API: 2020-12-29.
Region	No	String	Common Params. This parameter is not required for this API.
Type	Yes	String	This parameter is used to pass in the task type of a moderation task. Valid values: **VIDEO** (video on demand), **LIVE_VIDEO** (video live streaming).
Tasks.N	Yes	Array of TaskInput	This field indicates the input video moderation task information. For the specific input content, see the detailed description of the `TaskInput` data structure. Note: you can create up to **10 tasks** at a time.
BizType	No	String	This field indicates the specific number of the policy, which is used for API scheduling and can be configured in the CMS console. If the `Biztype` parameter is passed in, a moderation policy will be used based on the business scenario; otherwise, the default moderation policy will be used. Note: `Biztype` can contain 3–32 digits, letters, and underscores; different `Biztype` values are associated with different business scenarios and moderation policies, so you need to verify the `Biztype` before calling this API.
Seed	No	String	This field is optional and indicates the key information of the callback signature, which is used to ensure the data security. The signature algorithm is to add the `X-Signature` field to the returned HTTP header, whose value is the SHA256-encoded hex string of `seed` + `body` . After receiving the callback data, you can calculate `X-Signature` by using **sha256(seed + body)** based on the returned `body` for verification. .

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Parameter Name	Required	Type	Description
CallbackUrl	No	String	This field is optional and indicates the address for receiving the moderation information callback in the default format of URL. After it is configured successfully, the non-compliant audio/video segments generated during moderation will be sent through this API. Note: by default, audio segments are captured at intervals of **15 seconds**, and video frames are captured at intervals of **5 seconds**. If you configure the capturing interval, segments will be returned according to the configuration.
Priority	No	Integer	This parameter is optional and used to pass in the priority of a moderation task. When you have multiple tasks in the queue, you can use this parameter to control their priorities for processing the queue jumping logic. **Default value: 0**.

3. Output Parameters

Parameter Name	Type	Description
Results	Array of TaskResult	This field is used to return the task creation result. For the specific output content, see the detailed description of the `TaskResult` data structure. Note: this field may return null, indicating that no valid values can be obtained.
RequestId	String	The unique request ID, which is returned for each request. RequestId is required for locating a problem.

4. Example

Example1 Creating video moderation task

This example shows you how to create a video moderation task.

Input Example

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

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```
{
"Type": "VIDEO",
"Tasks": [
{
"DataId": "0a782332-c9db-4cf5-a66e-20d60b4ea469",
"Input": {
"Url": "https://test.myqcloud.com/test.mp4"
}
}
]
}
```

Output Example

```
{
"Response": {
"Results": [
{
"DataId": "0a782332-c9db-4cf5-a66e-20d60b4ea469",
"TaskId": "c933aca1-90d2-4ab8-b045-f1b08069d76f",
"Code": "OK",
"Message": "Success"
}
],
"RequestId": "c933aca1-90d2-4ab8-b045-f1b08069d76f"
}
}
```

Example2 Sample callback signature

If you configure `Seed` when creating a moderation task, we will add the signature parameter to the callback to ensure the data security.
Signature algorithm: add the `X-Signature` field to the returned HTTP header, whose value is the SHA256-encoded hex string of `seed` + `body` .

For example:
If your `CallbackUrl` is `http://example.com` and `Seed` is `dedb6dcc1cb7c63fde8fa5abfd57` , and the returned callback data is:

```

```

,
Then, after completing the moderation, we will pass in `X-Signature` with the following value in the HTTP header

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when calling `http://example.com` :

`74f0ae6d1f1e4eb1ffe4162da480a812f8a4dc19fe5a52bacbcd2c862d3edcfd`

Note: for the callback body format, see the API for task details query.

Input Example

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

{
"Type": "VIDEO",
"CallbackUrl": "https://apis.example.com/callback/video",
"Seed": "dedb6dcc1cb7c63fde8fa5abfd57",
"Tasks": [
{
"DataId": "test",
"Input": {
"Url": "https://test.myqcloud.com/test.mp4"
}
}
]
}
```

Output Example

```
{
"Response": {
"Results": [
{
"DataId": "test",
"TaskId": "c933aca1-90d2-4ab8-b045-f1b08069d76f",
"Code": "OK",
"Message": "Success"
}
],
"RequestId": "c933aca1-90d2-4ab8-b045-f1b08069d76f"
}
}
```

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5. Developer Resources

SDK

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

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

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

Error Code	Description
DryRunOperation	`DryRun` Operation. It means that the request would have succeeded, but the `DryRun` parameter was used.
FailedOperation	The operation failed.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
InvalidParameterValue	The parameter value is incorrect.
LimitExceeded	The quota limit is exceeded.
MissingParameter	The parameter is missing.
OperationDenied	The operation was denied.

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Error Code	Description
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	The resource is in use.
ResourceInsufficient	The resource is insufficient.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation	The operation is unauthorized.
UnauthorizedOperation.Unauthorized	
UnknownParameter	The parameter is unknown.
UnsupportedOperation	The operation is not supported.

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CancelTask

Last updated：2022-07-25 15:47:30

1. API Description

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

This API is used to cancel a moderation task. It will return the `TaskId` of the task after the task is canceled successfully.

Default API request rate limit: **20 requests/sec**.

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.
This document describes the parameters for Signature V1. It's recommended to use the V3 signature, which provides higher security. Note that for Signature V3, the common parameters need to be placed in the HTTP Header. See details.

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The value used for this API: CancelTask.
Version	Yes	String	Common parameter. The value used for this API: 2020-12-29.
Region	No	String	Common parameter. This parameter is not required for this API.
TaskId	Yes	String	This field indicates the task ID (in the `Results` parameter) returned after a video moderation task is created. It is used to identify the moderation task to be canceled.

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3. Output Parameters

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

4. Example

Example1 Canceling task

This example shows you how to cancel a task.

Input Example

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

{
"TaskId": "task-video-XwxJtbkKXWgCt8AZ"
}
```

Output Example

```
{
"Response": {
"RequestId": "c933aca1-90d2-4ab8-b045-f1b08069d76f"
}
}
```

5. Developer Resources

SDK

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

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- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

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

Error Code	Description
DryRunOperation	`DryRun` Operation. It means that the request would have succeeded, but the `DryRun` parameter was used.
FailedOperation	The operation failed.
InvalidParameter	The parameter is incorrect.
InvalidParameterValue	The parameter value is incorrect.
LimitExceeded	The quota limit is exceeded.
MissingParameter	The parameter is missing.
OperationDenied	The operation was denied.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	The resource is in use.
ResourceInsufficient	The resource is insufficient.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.

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UnauthorizedOperation	The operation is unauthorized.
UnknownParameter	The parameter is unknown.
UnsupportedOperation	The operation is not supported.

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DescribeTaskDetail

Last updated：2022-07-25 15:47:29

1. API Description

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

This API is used to poll the details of the detection result.

Default API request rate limit: **200 requests/sec**.

A maximum of 200 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.

This document describes the parameters for Signature V1. It's recommended to use the V3 signature, which provides higher security. Note that for Signature V3, the common parameters need to be placed in the HTTP Header. See details.

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The value used for this API: DescribeTaskDetail.
Version	Yes	String	Common parameter. The value used for this API: 2020-12-29.
Region	No	String	Common parameter. This parameter is not required for this API.
TaskId	Yes	String	This field indicates the task ID (in the `Results` parameter) returned after a video moderation task is created. It is used to identify the moderation task for which to query the details. Note: the query API can query up to **20 tasks at a time**.

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ShowAllSegments	No	Boolean	This boolean field indicates whether to display all video segments. Valid values: True (yes), False (display only video segments that hit the moderation rule). Default value: False.

3. Output Parameters

Parameter Name	Type	Description
TaskId	String	This field is used to return the task ID (in the `Results` parameter) after a video moderation task is created. It is used to identify the moderation task for which to query the details. Note: this field may return null, indicating that no valid values can be obtained.
DataId	String	This field is used to return the data ID parameter passed in when the video moderation API is called for easier data identification and management. Note: this field may return null, indicating that no valid values can be obtained.
BizType	String	This field is used to return the `BizType` parameter passed in when the video moderation API is called for easier data identification and management. Note: this field may return null, indicating that no valid values can be obtained.
Name	String	This field is used to return the task name in the `TaskInput` parameter passed in when the video moderation API is called for easier task identification and management. Note: this field may return null, indicating that no valid values can be obtained.
Status	String	This field is used to return the task status of the queried content. Valid values: **FINISH** (task completed), **PENDING** (task pending), **RUNNING** (task in progress), **ERROR** (task error), **CANCELLED** (task canceled). Note: this field may return null, indicating that no valid values can be obtained.
Type	String	This field is used to return the video moderation type passed in when the video moderation API is called. Valid values: **VIDEO** (video on demand), **LIVE_VIDEO** (video live streaming). Default value: VIDEO.

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		Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion for the maliciousness tag. When you get the determination result, the returned value indicates the operation suggested by the system. We recommend you handle different types of violations and suggestions according to your business needs. Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
Labels	Array of TaskLabel	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
MediaInfo	MediaInfo	This field is used to return the details of the input media file, including encoding/decoding formats and segment length. For details, see the description of the `MediaInfo` data structure. Note: this field may return null, indicating that no valid values can be obtained.
InputInfo	InputInfo	This field is used to return the media content information of the moderation service, mainly including the input file type and access URL. Note: this field may return null, indicating that no valid values can be obtained.
CreatedAt	String	This field is used to return the creation time of the queried task in ISO 8601 format. Note: this field may return null, indicating that no valid values can be obtained.
UpdatedAt	String	This field is used to return the last update time of the queried task in ISO 8601 format. Note: this field may return null, indicating that no valid values can be obtained.
ImageSegments	Array of ImageSegments	This field is used to return the moderation result of the frames captured from the video. For the detailed returned content, see the description of the `ImageSegments` data structure. Note: the data is valid for 24 hours. To extend the storage period, set it in the configured COS bucket.

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		Note: this field may return null, indicating that no valid values can be obtained.
AudioSegments	Array of AudioSegments	This field is used to return the moderation result of the audio in the video. For the detailed returned content, see the description of the `AudioSegments` data structure. Note: the data is valid for 24 hours. To extend the storage period, set it in the configured COS bucket. Note: this field may return null, indicating that no valid values can be obtained.
ErrorType	String	When the task status is `Error`, the type of the error will be returned. Valid values: **DECODE_ERROR**: decoding failed (the input resource may contain video that cannot be decoded). **URL_ERROR**: download address verification failed. **TIMEOUT_ERROR**: processing timed out. When the task status is not `Error`, null will be returned by default. Note: this field may return null, indicating that no valid values can be obtained.
ErrorDescription	String	If the task status is `Error`, this field will return the error message; otherwise, null will be returned by default. 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 Viewing task details

This example shows you how to view the details of a task by `TaskId`.

Input Example

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

{
"TaskId": "task-video-XwxJtbkKXWgCt8AZ"
}
```

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Output Example


```
{
"Response": {
"TaskId": "task-video-XwxJtbkKXWgCt8AZ",
"DataId": "data_test_01",
"BizType": "1001",
"Name": "",
"Status": "FINISH",
"Type": "VIDEO",
"Suggestion": "Block",
"Labels": [
{
"Label": "Porn",
"Suggestion": "Block",
"Score": 99
},
{
"Label": "Hot",
"Suggestion": "Block",
"Score": 70
}
],
"MediaInfo": {
"Duration": 36
},
"InputInfo": {
"Type": "URL",
"Url": "https://cms-video-segments-1256309736.cos.ap-guangzhou.myqcloud.co/huang.
mp4",
"BucketInfo": null
},
"CreatedAt": "2020-07-13T11:47:01.925Z",
"UpdatedAt": "2020-07-13T11:47:25.840Z",
"ImageSegments": [
{
"Result": {
"HitFlag": 1,
"Label": "Porn",
"Suggestion": "Block",
"Score": 85,
"Results": [
{
"Scene": "Porn",
"HitFlag": 1,
```


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```
"Suggestion": "Block",
"Label": "Porn",
"SubLabel": "",
"Score": 85,
"Names": [],
"Text": "",
"Details": []
}
],
"Url": "https://cos.ap-zhou.myqcloud.com/c019/image_1.jpg"
},
"OffsetTime": "1"
},
{
"Result": {
"HitFlag": 1,
"Label": "Porn",
"Suggestion": "Block",
"Score": 77,
"Results": [
{
"Scene": "Porn",
"HitFlag": 1,
"Suggestion": "Block",
"Label": "Porn",
"SubLabel": "",
"Score": 77,
"Names": [],
"Text": "",
"Details": []
}
],
"Url": "https://cos.ap-guau.myqcloud.com/cc49b5b90a5d6802b7c019/image_2.jpg"
},
"OffsetTime": "2"
}
],
"AudioSegments": [
{
"Result": {
"HitFlag": 0,
"Label": "Normal",
"Suggestion": "Pass",
"Score": 0,
"Text": "Test audio text",
"Url": "https://xxx.com/7c019/audio_0.mp3",
"Duration": "36398"
```


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```
},
"OffsetTime": "0"
}
],
"RequestId": "8d3e4765-48db-40b5-8fdb-aaf1d7225a60",
"ErrorType": "",
"ErrorDescription": ""
}
}
```


5. Developer Resources

SDK

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

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

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

Error Code	Description
DryRunOperation	`DryRun` Operation. It means that the request would have succeeded, but the `DryRun` parameter was used.
FailedOperation	The operation failed.

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InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
InvalidParameterValue	The parameter value is incorrect.
LimitExceeded	The quota limit is exceeded.
MissingParameter	The parameter is missing.
OperationDenied	The operation was denied.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	The resource is in use.
ResourceInsufficient	The resource is insufficient.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation	The operation is unauthorized.
UnknownParameter	The parameter is unknown.
UnsupportedOperation	The operation is not supported.

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DescribeTasks

Last updated：2022-07-25 15:47:29

1. API Description

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

This API is used to query the task queue. You can filter moderation tasks by multiple types of business information, such as business type, moderation result, and task status.

Default API request rate limit: **20 requests/sec**.

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.
This document describes the parameters for Signature V1. It's recommended to use the V3 signature, which provides higher security. Note that for Signature V3, the common parameters need to be placed in the HTTP Header. See details.

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The value used for this API: DescribeTasks.
Version	Yes	String	Common parameter. The value used for this API: 2020-12-29.
Region	No	String	Common parameter. This parameter is not required for this API.
Limit	No	Integer	This parameter indicates the number of tasks to be displayed on each page of the task list. **Default value: 10**.
Filter	No	TaskFilter	This parameter indicates the input parameter of the task filter. You can filter tasks by business type, file type, processing suggestion,

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			and task status. For the specific parameter content, see the detailed description of the `TaskFilter` data structure.
PageToken	No	String	This parameter indicates the `Token` information used during pagination. It is automatically generated by the system and will be passed to the next generated page for easy and fast pagination. When you turn to the last page, this field will be empty.
StartTime	No	Timestamp ISO8601	This parameter indicates the start time of the task list in ISO 8601 timestamp format. **Default value: 3 days ago**. If this parameter is passed in, tasks between this time point and `EndTime` will be filtered out. Note: this parameter is used together with `Filter` to filter tasks in no particular order.
EndTime	No	Timestamp ISO8601	This parameter indicates the end time of the task list in ISO 8601 timestamp format. **Default value: empty**. If this parameter is passed in, tasks between `StartTime` and this time point will be filtered out. Note: this parameter is used together with `Filter` to filter tasks in no particular order.

3. Output Parameters

Parameter Name	Type	Description
Total	String	This field is used to return the total number of queried tasks in the format of `int` string. Note: this field may return null, indicating that no valid values can be obtained.
Data	Array of TaskData	This field is used to return the detailed data of the tasks on the current page. For the specific output content, see the detailed description of the `TaskData` data structure. Note: this field may return null, indicating that no valid values can be obtained.
PageToken	String	This field is used to return the `Token` information used during pagination. It is automatically generated by the system and will be passed to the next generated page for easy and fast pagination. When you turn to the last page, this field will be empty. 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.

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4. Example

Example1 Viewing moderation task list

This example shows you how to view the list of moderation tasks.

Input Example

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

{
"Filter": {
"Type": "VIDEO"
}
}
```

Output Example

```
{
"Response": {
"Total": "1",
"Data": [
{
"TaskId": "task-video-XwxJtbkKXWgCt8AZ",
"DataId": "data_test_01",
"BizType": "1001",
"Name": "Test video",
"Status": "FINISH",
"Type": "VIDEO",
"Suggestion": "Block",
"Labels": [
{
"Label": "Porn",
"Suggestion": "Block",
"Score": 99
},
{
"Label": "Hot",
"Suggestion": "Block",
"Score": 70
```

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```
}
],
"MediaInfo": {
"Duration": 36
},
"CreatedAt": "2020-07-13T11:47:01.925Z",
"UpdatedAt": "2020-07-13T11:47:25.840Z"
}
],
"PageToken": "4765-48dXwxJtbkKXW8d3eb",
"RequestId": "8d3e4765-48db-40b5-8fdb-aaf1d7225a60"
}
}
```


5. Developer Resources

SDK

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

- Tencent Cloud SDK 3.0 for Python
- Tencent Cloud SDK 3.0 for Java
- Tencent Cloud SDK 3.0 for PHP
- Tencent Cloud SDK 3.0 for Go
- Tencent Cloud SDK 3.0 for NodeJS
- Tencent Cloud SDK 3.0 for .NET
- Tencent Cloud SDK 3.0 for C++

Command Line Interface

- Tencent Cloud CLI 3.0

6. Error Code

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

Error Code	Description
AuthFailure	A CAM signature/authentication error occurred.

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DryRunOperation	`DryRun` Operation. It means that the request would have succeeded, but the `DryRun` parameter was used.
FailedOperation	The operation failed.
InternalError	An internal error occurred.
InvalidParameter	The parameter is incorrect.
InvalidParameterValue	The parameter value is incorrect.
LimitExceeded	The quota limit is exceeded.
MissingParameter	The parameter is missing.
OperationDenied	The operation was denied.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	The resource is in use.
ResourceInsufficient	The resource is insufficient.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	The resource is unavailable.
ResourcesSoldOut	The resources have been sold out.
UnauthorizedOperation	The operation is unauthorized.
UnknownParameter	The parameter is unknown.
UnsupportedOperation	The operation is not supported.

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Data Types

Last updated：2022-07-25 15:47:30

AudioResult

Audio moderation output parameter

Used by actions: DescribeTaskDetail.

Name	Type	Description
HitFlag	Integer	This field is used to return whether the moderated content hit the moderation model. Valid values: 0 (**no**), 1 (**yes**). Note: this field may return null, indicating that no valid values can be obtained.
Label	String	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion. When you get the determination result, the returned value indicates the suggested operation. Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn 99* indicates that the text is highly likely to be pornographic.

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		Note: this field may return null, indicating that no valid values can be obtained.
Text	String	This field is used to return the text information generated by recognizing an audio file with ASR. Audio files of up to **5 hours** can be recognized. If this limit is exceeded, an error will be reported by the API. Note: this field may return null, indicating that no valid values can be obtained.
Url	String	This field is used to return the URL where audio segments are stored, which is valid for 1 day. Note: this field may return null, indicating that no valid values can be obtained.
Duration	String	This field is used to return the length of an audio file in seconds. Note: this field may return null, indicating that no valid values can be obtained.
Extra	String	This field is used to return the additional information (Extra) in the input parameters. If it is not configured, an empty value will be returned by default. Note: the returned information varies by customer or `Biztype`. If you need to configure this field, submit a ticket or contact the aftersales service for assistance. Note: this field may return null, indicating that no valid values can be obtained.
TextResults	Array of AudioResultDetailTextResult	This field is used to return the detailed moderation result of the text generated by recognizing an audio file with ASR. For the specific result, see the detailed description of the `AudioResultDetailLanguageResult` data structure. Note: this field may return null, indicating that no valid values can be obtained.
MoanResults	Array of AudioResultDetailMoanResult	This field is used to return the detailed moan detection result of an audio file. For the specific result, see the detailed description of the `AudioResultDetailMoanResult` data structure.

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		Note: this field may return null, indicating that no valid values can be obtained.
LanguageResults	Array of AudioResultDetailLanguageResult	This field is used to return the detailed minor language detection result of an audio. For the specific result, see the detailed description of the `AudioResultDetailLanguageResult` data structure. Note: this field may return null, indicating that no valid values can be obtained.
SubLabel	String	This field is used to return a subtag under the current tag (Lable). Note: this field may return null, indicating that no valid values can be obtained.

AudioResultDetailLanguageResult

Audio language detection result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Label	String	This field is used to return the language information. Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This parameter is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the audio is more likely to fall into the category of the current returned language tag; Note: this field may return null, indicating that no valid values can be obtained.
StartTime	Float	This parameter is used to return the start time of the segment of an audio file under the corresponding language tag in milliseconds. Note: this field may return null, indicating that no valid values can be obtained.
EndTime	Float	This parameter is used to return the end time of the segment of an audio file under the corresponding language tag in milliseconds. Note: this field may return null, indicating that no valid values can be obtained.
SubLabelCode	String	*This field is in beta test. Stay tuned* Note: this field may return null, indicating that no valid values can be obtained.

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AudioResultDetailMoanResult

Audio moan moderation result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Label	String	This field is used to return the type of the content to be detected. It is fixed at **Moan** here to call the moan detection feature. Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence of moan detection. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the audio is more likely to fall into the category of moan.
StartTime	Float	This field is used to return the start time of the segment of an audio file under the corresponding moan tag in milliseconds.
EndTime	Float	This field is used to return the end time of the segment of an audio file under the corresponding moan tag in milliseconds.
SubLabelCode	String	*This field is in beta test. Stay tuned*
SubLabel	String	This field is used to return a subtag under the current tag (Lable). Note: this field may return null, indicating that no valid values can be obtained.

AudioResultDetailTextResult

ASR-Based audio moderation result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Label	String	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
Keywords	Array of String	This field is used to return the keyword information hit by the text content recognized with ASR and indicate the specific cause of content non-compliance (such as "Friend me on WeChat"). This parameter may have multiple returned values representing multiple hit keywords. If the returned value is empty, but `Score` is not empty, the

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		maliciousness tag (Label) that corresponds to the recognition result derives from the returned value determined by the semantic model. Note: this field may return null, indicating that no valid values can be obtained.
LibId	String	This field is **valid only when** `Label` **is** `Custom` **(custom keyword)**. It is used to return the ID of the custom library for easier custom library management and configuration. Note: this field may return null, indicating that no valid values can be obtained.
LibName	String	This field is **valid only when** `Label` **is** `Custom` **(custom keyword)**. It is used to return the name of the custom library for easier custom library management and configuration. Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn 99* indicates that the text is highly likely to be pornographic. Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion. When you get the determination result, the returned value indicates the suggested operation. Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
LibType	Integer	This field is used to return the dictionary type of a custom keyword. Valid values: **1** (blocklist/allowlist), **2** (custom keyword dictionary). If no custom keyword dictionary is configured, the default value will be 1 (blocklist/allowlist). Note: this field may return null, indicating that no valid values can be obtained.
SubLabel	String	This field is used to return a subtag under the current tag (Lable). Note: this field may return null, indicating that no valid values can be obtained.

AudioSegments

Returns audio segment moderation result

Used by actions: DescribeTaskDetail.

Name	Type	Description
OffsetTime	String	This field is used to return the start time of an audio segment in seconds. For audio on demand files, this parameter indicates the time offset of the audio from the complete audio track, such as 0 (no offset), 5 (5 seconds after the start of the

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		audio track), and 10 (10 seconds after the start of the audio track). For live audio stream files, this parameter returns the Unix timestamp of the start of the audio segment, such as `1594650717`. Note: this field may return null, indicating that no valid values can be obtained.
Result	AudioResult	This field is used to return the specific moderation result of an audio segment. For details, see the description of the `AudioResult` data structure. Note: this field may return null, indicating that no valid values can be obtained.

BucketInfo

Bucket information

See the basic concepts at https://www.tencentcloud.com/document/product/436/44352?from_cn_redirect=1

Used by actions: CreateVideoModerationTask.

Name	Type	Required	Description
Bucket	String	Yes	This field indicates a bucket name in Tencent Cloud COS. For more information on buckets, see Basic Concepts.
Region	String	Yes	This field indicates a region where a Tencent Cloud managed data center is deployed. COS data is stored in buckets in these regions.
Object	String	Yes	This field indicates an object key in Tencent Cloud COS. An object is stored in a bucket as a basic storage unit. You can manage objects through the Tencent Cloud console, API, or SDK. For more information on objects, see Object Overview.

ImageResult

Result details

Used by actions: DescribeTaskDetail.

Name	Type	Description
HitFlag	Integer	This parameter indicates whether the moderated content hit a maliciousness tag. Valid values: 0 (**no**), 1 (**yes**). Note: this field may return null, indicating that no valid values can be obtained.
Label	String	This field is used to return the maliciousness tag in the detection result.

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		Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion. When you get the determination result, the returned value indicates the suggested operation. Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn-SexBehavior 99* indicates that the text is highly likely to fall into the category of content involving sexual behaviors. Note: this field may return null, indicating that no valid values can be obtained.
Results	Array of ImageResultResult	This field is used to return the sub-result of the image moderation result. For details, see the description of the `ImageResultResult` data structure. Note: this field may return null, indicating that no valid values can be obtained.
Url	String	This field is used to return the access URL of the moderation result. Supported image formats include PNG, JPG, JPEG, BMP, GIF, and WEBP. Note: the data **is valid for 12 hours by default**. If you need a longer storage period, configure it in the COS bucket where the data is stored. Note: this field may return null, indicating that no valid values can be obtained.
Extra	String	This field is used to return the additional information (Extra) in the input parameters. If it is not configured, an empty value will be returned by default. Note: the returned information varies by customer or `Biztype` . If you need to configure this field, submit a ticket or contact the aftersales service for assistance. Note: this field may return null, indicating that no valid values can be obtained.

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SubLabel	String	This field is used to return a subtag under the current tag (Lable). Note: this field may return null, indicating that no valid values can be obtained.

ImageResultResult

Sub-result of the image output result

Used by actions: DescribeTaskDetail.

Name	Type	Description
Scene	String	This field is used to return the maliciousness scenario in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **AppLogo**: advertising logo; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
HitFlag	Integer	This parameter indicates whether the moderated content hit a maliciousness tag. Valid values: 0 (**no**), 1 (**yes**). Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion. When you get the determination result, the returned value indicates the suggested operation. Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
Label	String	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
SubLabel	String	This field is used to return the detection result for a subtag under the maliciousness tag, such as *Porn-SexBehavior*.

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		Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn-SexBehavior 99* indicates that the text is highly likely to fall into the category of content involving sexual behaviors. Note: this field may return null, indicating that no valid values can be obtained.
Names	Array of String	This field is used to return the list of specific object names hit by the moderated image in a sensitive scenario. Note: this field may return null, indicating that no valid values can be obtained.
Text	String	This field is used to return the OCR result of an image. OCR can recognize text of **up to 5,000 bytes**. Note: this field may return null, indicating that no valid values can be obtained.
Details	Array of ImageResultsResultDetail	This field is used to return other detailed information of the image moderation sub-result, such as text position and custom library. For the detailed returned content, see the description of the `ImageResultsResultDetail` data structure. Note: this field may return null, indicating that no valid values can be obtained.

ImageResultsResultDetail

Image recognition result in the specific scenario

Used by actions: DescribeTaskDetail.

Name	Type	Description
Name	String	This field is used to return the task name in the `TaskInput` parameter passed in when the video moderation API is called for easier task identification and management. Note: this field may return null, indicating that no valid values can be obtained.
Text	String	This field is used to return the OCR result of an image.

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		OCR can recognize text of **up to 5,000 bytes**. Note: this field may return null, indicating that no valid values can be obtained.
Location	ImageResultsResultDetailLocation	This field is used to return the detailed position information of the image moderation sub-result, such as coordinates, size, and rotation angle. For the detailed returned content, see the description of the `ImageResultsResultDetailLocation` data structure. Note: this field may return null, indicating that no valid values can be obtained.
Label	String	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
LibId	String	This field is **valid only when** `Label` **is** `Custom` **(custom keyword)**. It is used to return the ID of the custom library for easier custom library management and configuration. Note: this field may return null, indicating that no valid values can be obtained.
LibName	String	This field is **valid only when** `Label` **is** `Custom` **(custom keyword)**. It is used to return the name of the custom library for easier custom library management and configuration. Note: this field may return null, indicating that no valid values can be obtained.
Keywords	Array of String	This field is used to return the keyword information hit by the detected text and indicate the specific cause of text non-compliance (such as *Friend me*). This parameter may have multiple returned values representing multiple hit keywords. If the returned value is empty, but `Score` is not empty, the maliciousness tag (Label) that corresponds to the recognition result derives from the returned value determined by the semantic model.

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		Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion. When you get the determination result, the returned value indicates the suggested operation. Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag. Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn 99* indicates that the text is highly likely to be pornographic. Note: this field may return null, indicating that no valid values can be obtained.
SubLabelCode	String	This field is used to return the detection result for a subtag under the maliciousness tag, such as *Porn-SexBehavior*. Note: this field may return null, indicating that no valid values can be obtained.

ImageResultsResultDetailLocation

Position information of image details

Used by actions: DescribeTaskDetail.

Name	Type	Description
X	Float	This parameter is used to indicate the pixel position of the **abscissa (X)** of the top-left corner of the OCR detection frame. It can be combined with other parameters to uniquely determine the size and position of the detection frame. Note: this field may return null, indicating that no valid values can be obtained.
Y	Float	This parameter is used to indicate the pixel position of the **ordinate (Y)** of the top-left corner of the OCR detection frame. It can be combined with other parameters to uniquely determine the size and position of the detection frame. Note: this field may return null, indicating that no valid values can be obtained.

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Width	Integer	This parameter is used to indicate the **width of the OCR detection frame** (the length starting from the top-left corner and extending to the right on the X axis). It can be combined with other parameters to uniquely determine the size and position of the detection frame. Note: this field may return null, indicating that no valid values can be obtained.
Height	Integer	This parameter is used to indicate the **height of the OCR detection frame** (the length starting from the top-left corner and extending down the Y axis). It can be combined with other parameters to uniquely determine the size and position of the detection frame. Note: this field may return null, indicating that no valid values can be obtained.
Rotate	Float	This parameter is used to indicate the **rotation angle of the OCR detection frame**. Valid values: **0–360** (**degrees**), and the direction is **counterclockwise rotation**. This parameter can be combined with the `X` and `Y` coordinate parameters to uniquely determine the specific position of the detection frame. Note: this field may return null, indicating that no valid values can be obtained.

ImageSegments

Image segment information

Used by actions: DescribeTaskDetail.

Name	Type	Description
OffsetTime	String	This field is used to return the frame capturing time of a video segment in seconds. For video on demand files, this parameter indicates the time offset of the captured image from the video, such as 0 (no offset), 5 (5 seconds after the start of the video), and 10 (10 seconds after the start of the video). For live video stream files, this parameter returns the Unix timestamp of the image, such as `1594650717`.
Result	ImageResult	This field is used to return the specific moderation result of a frame captured from a video segment. For details, see the description of the `ImageResult` data structure.

InputInfo

Input information details

Used by actions: DescribeTaskDetail.

Name	Type	Description

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Type	String	This field indicates the file access type. Valid values: **URL** (resource link), **COS** (Tencent Cloud COS). Note: this field may return null, indicating that no valid values can be obtained.
Url	String	This field indicates the link address for file access in standard URL format. Note: when `Type` is `URL`, this field will not be empty. Note: this field may return null, indicating that no valid values can be obtained.
BucketInfo	String	This field indicates the Tencent Cloud bucket information for file access. Note: when `Type` is `COS`, this field will not be empty. Note: this field may return null, indicating that no valid values can be obtained.

MediaInfo

Media type

Used by actions: DescribeTaskDetail, DescribeTasks.

Name	Type	Description
Duration	Integer	This field is used to return the segment length of the input video stream in seconds. It is **5 seconds by default** and is customizable. Note: this field will take effect only when the moderated file is streaming media. If it returns 0, no valid value has been obtained.

StorageInfo

Data storage information

Used by actions: CreateVideoModerationTask.

Name	Type	Required	Description
Type	String	No	This field indicates the file access type. Valid values: **URL** (resource link), **COS** (Tencent Cloud COS). It should correspond to the access type passed in and can be used for strict verification and quick identification of the access address. If you don't pass in this parameter, the default value will be `URL`, and the system will automatically determine the access address type.
Url	String	No	This field indicates the link address for file access in standard URL format.

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			Note: when `Type` is `URL`, this field will not be empty. You must pass in either this parameter or the `BucketInfo` parameter.
BucketInfo	BucketInfo	No	This field indicates the Tencent Cloud bucket information for file access. Note: when `Type` is `COS`, this field will not be empty. You must pass in either this parameter or the `Url` parameter.

TaskData

Task data

Used by actions: DescribeTasks.

Name	Type	Description
DataId	String	This field is used to return the ID of the video moderation task data for subsequent query and management of moderation tasks. Note: this field may return null, indicating that no valid values can be obtained.
TaskId	String	This field is used to return the ID of a video moderation task for identification, query, and management of moderation tasks.
Status	String	This field is used to return the task status of the queried content. Valid values: **FINISH** (task completed), **PENDING** (task pending), **RUNNING** (task in progress), **ERROR** (task error), **CANCELLED** (task canceled).
Name	String	This field is used to return the name of a video moderation task for subsequent query and management of moderation tasks. Note: this field may return null, indicating that no valid values can be obtained.
BizType	String	This field is used to return the `BizType` parameter passed in when the video moderation API is called for easier data identification and management. Note: this field may return null, indicating that no valid values can be obtained.
Type	String	This field is used to return the audio moderation type passed in when the audio moderation API is called. Valid values: **VIDEO** (video on demand), **LIVE_VIDEO** (video live streaming). Default value: VIDEO. Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion for the maliciousness tag. When you get the determination result, the returned value indicates the suggested operation.

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		Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
Labels	Array of TaskLabel	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive, unsafe, or inappropriate types of content.
MediaInfo	MediaInfo	This field is used to return the details of the input media file, including codec and segment length. For details, see the description of the `MediaInfo` data structure. Note: this field may return null, indicating that no valid values can be obtained.
CreatedAt	String	This field is used to return the creation time of the queried task in ISO 8601 format.
UpdatedAt	String	This field is used to return the last update time of the queried task in ISO 8601 format. Note: this field may return null, indicating that no valid values can be obtained.

TaskFilter

Task filter

Used by actions: DescribeTasks.

Name	Type	Required	Description
BizType	Array of String	No	This field is used to pass in the business type of a task as a filter. `Biztype` is the specific number of the policy, which is used for API scheduling and can be configured in the CMS console. Different `Biztype` values are associated with different business scenarios and moderation policies, so you need to verify the `Biztype` before calling this API. `Biztype` can contain 3–32 digits, letters, and underscores. Note: when this parameter is not passed in, tasks will not be filtered by business type by default. Note: this field may return null, indicating that no valid values can be obtained.
Type	String	No	This field is used to pass in the type of a video moderation task as a filter. Valid values: **VIDEO** (video on demand moderation), **AUDIO** (audio on demand moderation), **LIVE_VIDEO** (video live streaming moderation), **LIVE_AUDIO** (audio live streaming moderation). Note: when this parameter is not passed in, tasks will not be filtered by task type by default.

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Suggestion	String	No	This field is used to pass in the operation suggestion of a video moderation task as a filter. Valid values: **Block**, **Review**, **Pass**. Note: when this parameter is not passed in, tasks will not be filtered by operation suggestion by default.
TaskStatus	String	No	This field is used to pass in the status of a moderation task as a filter. Valid values: **FINISH** (task completed), **PENDING** (task pending), **RUNNING** (task in progress), **ERROR** (task error), **CANCELLED** (task canceled). Note: when this parameter is not passed in, tasks will not be filtered by task status by default.

TaskInput

Audio/Video task structure

Used by actions: CreateVideoModerationTask.

Name	Type	Required	Description
DataId	String	No	This field is optional and indicates the data ID assigned by you to the object to be detected for easier file identification and management. It **can contain up to 64 letters, digits, and special symbols (_-@#)**.
Name	String	No	This field is optional and indicates the name of a moderation task for subsequent query and management of moderation tasks.
Input	StorageInfo	No	This field is required and indicates the access parameter of the moderated file, which is used to get the moderated media file and contains the access type and address.

TaskLabel

Task output tag

Used by actions: DescribeTaskDetail, DescribeTasks.

Name	Type	Description
Label	String	This field is used to return the maliciousness tag in the detection result. Returned values: **Normal**: normal; **Porn**: pornographic; **Abuse**: abusive; **Ad**: advertising; **Custom**: custom type of non-compliant content and other offensive,

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		unsafe, or inappropriate types of content. Note: this field may return null, indicating that no valid values can be obtained.
Suggestion	String	This field is used to return the operation suggestion for the current tag (Label). When you get the determination result, the returned value indicates the operation suggested by the system. We recommend you handle different types of violations and suggestions according to your business needs. Returned values: **Block**, **Review**, **Pass**. Note: this field may return null, indicating that no valid values can be obtained.
Score	Integer	This field is used to return the confidence under the current tag (Label). Value range: 0 (**the lowest confidence**)–100 (**the highest confidence**), where a higher value indicates that the text is more likely to fall into the category of the current returned tag; for example, *Porn 99* indicates that the text is highly likely to be pornographic, while *Porn 0* indicates that the text is not pornographic. Note: this field may return null, indicating that no valid values can be obtained.
SubLabel	String	This field is used to return a subtag under the current tag (Lable). Note: this field may return null, indicating that no valid values can be obtained.

TaskResult

The result returned during task creation

Used by actions: CreateVideoModerationTask.

Name	Type	Description
DataId	String	This field is used to return the `DataId` passed in within the `TaskInput` structure when a video moderation task is created. It is used to identify the specific moderation task. Note: this field may return null, indicating that no valid values can be obtained.
TaskId	String	This field is used to return the ID of a video moderation task for identification, query, and management of moderation tasks. Note: this field may return null, indicating that no valid values can be obtained.
Code	String	This field is used to return the task creation status. If `OK` is returned, the task has been created successfully; if another value is returned, refer to the common error codes. Note: this field may return null, indicating that no valid values can be obtained.
Message	String	**This field will take effect only when the returned value of `Code` is an error code**. It is used to return the error message. Note: this field may return null, indicating that no valid values can be obtained.

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Error Codes

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Feature Description

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

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

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

Error Code List

Common Error Codes

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

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

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

Service Error Codes

Error Code	Description
AuthFailure	A CAM signature/authentication error occurred.
OperationDenied	The operation was denied.
ResourcesSoldOut	The resources have been sold out.

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