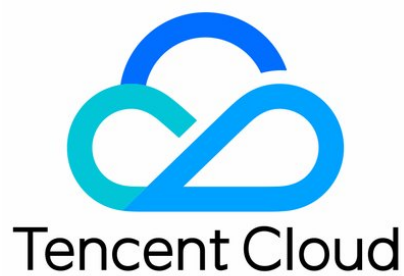


Elastic MapReduce

API documentation

Product Documentation



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Last updated : 2019-07-22 16:53:14

Release 3

Release time: May 16, 2019 16:14:48

This release contains:

Improvements on existing documentation.

Modified APIs:

- [CreateInstance](#)
 - New input parameters: NeedMasterWan

New data structures:

- [MultiDisk](#)

Modified data structures:

- [NodeSpec](#)
 - New members: MultiDisks

Release 2

Release time: April 12, 2019 12:08:42

This release contains:

Improvements on existing documentation.

New APIs:

- [CreateInstance](#)
- [DescribeInstances](#)
- [InquiryPriceScaleOutInstance](#)
- [ScaleOutInstance](#)
- [TerminateInstance](#)
- [TerminateTasks](#)

New data structures:

- [COSSettings](#)
- [ClusterInfoResult](#)
- [ClusterInstanceInfo](#)
- [CreateInstanceResult](#)
- [EMRProductConfigSettings](#)

- [LoginSettings](#)
- [PreExecuteFileSettings](#)
- [ScaleOutInstanceResult](#)
- [TerminateResult](#)

Release 1

Release time: March 28, 2019 20:22:49

This release contains:

Improvements on existing documentation.

New APIs:

- [InquiryPriceCreateInstance](#)

New data structures:

- [InquiryPriceResult](#)
- [NodeSpec](#)
- [Placement](#)
- [ResourceSpec](#)
- [VPCSettings](#)

Introduction

Last updated : 2019-07-22 16:53:13

Tencent Cloud Elastic MapReduce (EMR) is a cloud-hosted Hadoop service that features Hadoop cluster deployment, software installation, configuration modification, monitoring and alarming, and elastic scaling, providing individual and enterprise users with a secure and stable big data processing solution.

API Category

Last updated : 2019-07-22 16:53:13

Information Query APIs

API Name	Description
DescribeInstances	Describes one or more EMR instances
InquiryPriceCreateInstance	Inquires about the price of creating an instance
InquiryPriceScaleOutInstance	Inquires about the price of scaling out the specified instance

Scaling APIs

API name	Description
ScaleOutInstance	Scales out the specified instance
TerminateTasks	Terminates one or more task nodes

Cluster Lifecycle APIs

API name	Description
CreateInstance	Creates an EMR instance
TerminateInstance	Terminates the specified EMR instance

Making API Requests

Request Structure

Last updated : 2019-07-22 16:53:13

1. Service Address

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

It is recommended to use the domain name for accessing the nearest server. When you call an API, this domain name is automatically resolved to a server in the region **nearest** to the client 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, with the result same as that of using "`cvm.ap-guangzhou.tencentcloudapi.com`".

Note: For latency-sensitive businesses, it is recommended to specify a domain name with region.

Below lists the currently supported regions:

Access region	Domain name
Local access region (recommended, only for non-financial availability zones)	<code>cvm.tencentcloudapi.com</code>
South China (Guangzhou)	<code>cvm.ap-guangzhou.tencentcloudapi.com</code>
East China (Shanghai)	<code>cvm.ap-shanghai.tencentcloudapi.com</code>
North China (Beijing)	<code>cvm.ap-beijing.tencentcloudapi.com</code>
Southwest China (Chengdu)	<code>cvm.ap-chengdu.tencentcloudapi.com</code>
Southwest China (Chongqing)	<code>cvm.ap-chongqing.tencentcloudapi.com</code>
Southeast Asia (Hong Kong, China)	<code>cvm.ap-hongkong.tencentcloudapi.com</code>
Southeast Asia (Singapore)	<code>cvm.ap-singapore.tencentcloudapi.com</code>
Asia Pacific (Bangkok)	<code>cvm.ap-bangkok.tencentcloudapi.com</code>
Asia Pacific (Mumbai)	<code>cvm.ap-mumbai.tencentcloudapi.com</code>
Asia Pacific (Seoul)	<code>cvm.ap-seoul.tencentcloudapi.com</code>
Asia Pacific (Tokyo)	<code>cvm.ap-tokyo.tencentcloudapi.com</code>
Eastern US (Virginia)	<code>cvm.na-ashburn.tencentcloudapi.com</code>
Western US (Silicon Valley)	<code>cvm.na-siliconvalley.tencentcloudapi.com</code>
North America (Toronto)	<code>cvm.na-toronto.tencentcloudapi.com</code>
Europe (Frankfurt)	<code>cvm.eu-frankfurt.tencentcloudapi.com</code>
Europe (Moscow)	<code>cvm.eu-moscow.tencentcloudapi.com</code>

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

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

2. Communications Protocol

All the TencentCloud APIs communicate via HTTPS, providing highly secure communications tunnels.

3. Request Method

Supported HTTP request methods:

- POST (recommended)
- GET

The Content-Type types supported by POST request:

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

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 method is used, and up to 10 MB when TC3-HMAC-SHA256 is used.

4. Character Encoding

Only UTF-8 encoding is used.

Common Params

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The common parameters are used to authenticate the user and API. If not necessary, these parameters are not described in individual API documents. However, they have to be carried by each request to initiate properly.

Signature Method v3

When using TC3-HMAC-SHA256 to sign your requests, you should include all common parameters in the HTTP header as shown below:

Parameter name	Type	Required	Description
X-TC-Action	String	Yes	API name for the action. For the valid values, see the description of the common input parameter "Action" in the API documentation. For example, the name of the API describing the specified CVM instances is DescribeInstances.
X-TC-Region	String	Yes	R parameter for specifying the region of the operated data. For the valid regions, see the description of the common input parameter "Region" in the API documentation. Note: This parameter is not required by some APIs and will not be in effect when using these APIs. You can find the detailed information about optional parameters in the API documentation.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp. It records the time when an API request is initiated. For example, 1529223702. Note: A greater-than-5-minute difference between your local current time and the API server time can cause your signature to expire.
X-TC-Version	String	Yes	API version of the action. For the valid values, see the description of the common input parameter "Version" in the API documentation. For example, the version of CVM is 2017-03-12.
Authorization	String	Yes	The HTTP authentication request header, for example: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_request, SignedHeaders=content-type;host, Signature=fe5f80f77d5fa3beca038a248ff027d0445342fe2855ddc963176630326f1024 Here, - TC3-HMAC-SHA256: Signature method, currently fixed as this value; - Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is a date in UTC time, and this value must be matched the value of X-TC-Timestamp (a common parameter) in UTC time format; service is the name of the product/service (e.g., cvm) you called; - SignedHeaders: The headers that contains the authentication information; content-type and host are the required headers; - Signature: Signature digest.
X-TC-Token	String	No	The token that is used along with the temporary key to generate the temporary certificate. You need to obtain the temporary key and token by calling the CAM API. A token is not required when a long-term key is being used.

Assume that you want to query the list of Cloud Virtual Machine instances in the Guangzhou region, structure a request that consists of the request URL, the request header and request body as follows:

The following example shows you how to structure an HTTP GET request:

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

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

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

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

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

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

The following example shows you how to structure an HTTP POST (multipart/form-data) request structure (only available for some APIs):

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

```
Authorization: TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/2018-05-30/cvm/tc3_request, SignedHeaders=content-type;host, Signature=582c400e06b5924a6f2b5d7d672d79c15b13162d9279b0855cfba6789a8edb4c
Content-Type: multipart/form-data; boundary=58731222010402
Host: cvm.tencentcloudapi.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1527672334
X-TC-Region: ap-guangzhou
```

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

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

```
10
--58731222010402--
```

Signature Method v1

When using HmacSHA1 or HmacSHA256 to sign your requests, you should include the following common parameters in your presigned URL:

Parameter name	Type	Required	Description
Action	String	Yes	API name for the action. For the valid values, see the description of the common input parameter "Action" in the API documentation. For example, the name of the API describing the specified CVM instances is DescribeInstances.
Region	String	Yes	A parameter for specifying the region of the operated data. For the valid regions, see the description of the common input parameter "Region" in the API documentation. Note: This parameter is not required by some APIs and will not be in effect when using these APIs. You can find the detailed information about optional parameters in the API documentation.
Timestamp	Integer	Yes	The current UNIX timestamp. It records the time when an API request is initiated. For example, 1529223702. Note: If the difference between this value and the current time is too large, your signature will be expired.
Nonce	Integer	Yes	A random positive integer used along with Timestamp to prevent replay attacks.
SecretId	String	Yes	You can obtain your SecretId here TencentCloud API Key . A SecretId is a unique identifier of a SecretKey which is used to generate a signature for your request.
Signature	String	Yes	The signature added in the HTTP request for verifying the identity of the requester. The signature is calculated based on the actual input parameters.
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	Keyed hash algorithm that is used to create a signature. You may use either HmacSHA256 or HmacSHA1. However, you only use HmacSHA256 when specified.
Token	String	No	The token that is used along with the temporary key to generate the temporary certificate. You need to obtain the temporary key and token by calling the CAM API. A token is not required when a long-term key is being used.

Assume that you want to query the list of Cloud Virtual Machine instances in the Guangzhou region, structure a request that consists of the request URL, the request header and request body as follows:

The following example shows you how to structure an HTTP GET request:

```
https://cvm.tencentcloudapi.com/?Action=DescribeInstances&Version=2017-03-12&SignatureMethod=HmacSHA256&Timestamp=1527672334&Signature=37ac2f4fde00b0ac9bd9eaddeb459b1bbee224158d66e7ae5fcadb70b2d181d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

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

The following example shows you how to structure an HTTP POST request:

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

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

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

```
Action=DescribeInstances&Version=2017-03-12&SignatureMethod=HmacSHA256&Timestamp=1527672334&Signature=37ac2f4fde00b0ac9bd9eadeb459b1bbee224158d66e7ae5fcadb70b2d181d02&Region=ap-guangzhou&Nonce=23823223&SecretId=AKIDEXAMPLE
```

Region List

The possible values for the Region field in all APIs of this product are as shown below. If an API does not support any of the listed regions, the detail will be described separately in the API documentation.

Region	Value
North China (Beijing)	ap-beijing
Southwest China (Chongqing)	ap-chongqing
South China (Guangzhou)	ap-guangzhou
East China (Shanghai)	ap-shanghai

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 in 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 pair of SecretId/SecretKey.

Using the Resources for Developers

TencentCloud API comes with SDKs for seven commonly used programming languages, including [Python](#), [Java](#), [PHP](#), [Go](#), [NodeJS](#), [.NET](#), and [C++](#). 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 Method

Compatible with the previous HmacSHA1 and HmacSHA256 signature methods, the TC3-HMAC-SHA256 signature method is more secure and supports larger requests and JSON format with better performance. It is recommended to use it to calculate the signature.

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

The following uses querying the list of CVM instances in the Guangzhou region as an example to describe the steps of signature calculation. We choose 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 makes it able to demonstrate how to use arrays containing data structures.

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

Assuming that your SecretId and SecretKey are AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE and Gu5t9xGARNpq86cd98joQYCN3EXAMPLE, respectively, if you want to view the status of the instance in the Guangzhou region whose virtual machine name is "unnamed" and have only one data entry returned, then the request may be:

```
curl -X POST https://cvm.tencentcloudapi.com \
-H "Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/2019-02-25/cvm/tc3_request, SignedHeaders=content-type;host, Signature=72e494ea809ad7a8c8f7a4507b9bddcbaa8e581f516e8da2f66e2c5a96525168" \
-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": [{"\u672a\u547d\u540d"}, {"Name": "instance-name"}]}'
```

The signature calculation process is explained in detail below.

1. Concatenating the CanonicalRequest String

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

```
CanonicalRequest =
HTTPRequestMethod + '\n' +
CanonicalURI + '\n' +
CanonicalQueryString + '\n' +
CanonicalHeaders + '\n' +
SignedHeaders + '\n' +
HashedRequestPayload
```

Field Name	Explanation
HTTPRequestMethod	HTTP request method (GET or POST). This example uses <code>POST</code> .
CanonicalURI	URI parameter. Slash ("/") is used for API 3.0.
CanonicalQueryString	Query string in the URL of the originating HTTP request. It is always an empty string "" for the POST request, and the string after the question mark ("?") in URL for the GET request such as <code>Limit=10&Offset=0</code> . Note: CanonicalQueryString must be URL-encoded.

Field Name	Explanation
CanonicalHeaders	<p>Header information for signature calculation, including at least two headers of host and content-type. Custom headers can be added to participate in the signature process to improve the uniqueness and security of the request.</p> <p>Concatenating rules:</p> <ol style="list-style-type: none"> Both the key and value of the header should be converted to lowercase with the leading and trailing spaces removed, so they are concatenated in the format of key:value\n format; If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase). <p>The calculation result in this example is <code>content-type:application/json; charset=utf-8\nhost:cvm.tencentcloudapi.com\n</code>.</p> <p>Note: content-type must match the actually sent content. In some programming languages, a charset value would be added even if it is not specified. In this case, the request sent is different from the one signed, and the sever will return an error indicating that signature verification failed.</p>
SignedHeaders	<p>Header information for signature calculation, indicating which headers of the request participate in the signature process (they must correspond to the headers in CanonicalHeaders one-to-one). content-type and host are required headers.</p> <p>Concatenating rules:</p> <ol style="list-style-type: none"> Both the key and value of the header should be converted to lowercase; If there are multiple headers, they should be sorted in ASCII ascending order by the header keys (lowercase) and separated by semicolons (;). <p>The value in this example is <code>content-type;host</code></p>
HashedRequestPayload	<p>Hash value of the request payload (i.e., the body, such as <code>{"Limit": 1, "Filters": [{"Values": ["\u672a\u547d\u540d"], "Name": "instance-name"}]}</code> in this example). The pseudocode for calculation is <code>Lowercase(HexEncode(Hash.SHA256(RequestPayload)))</code> by SHA256 hashing the payload of the HTTP request, performing hexadecimal encoding, and finally converting the encoded string to lowercase letters. For GET requests, RequestPayload is always an empty string.</p> <p>The calculation result in this example is <code>35e9c5b0e3ae67532d3c9f17ead6c90222632e5b1ff7f6e89887f1398934f064</code>.</p>

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
35e9c5b0e3ae67532d3c9f17ead6c90222632e5b1ff7f6e89887f1398934f064
```

2. Concatenating the String to Be Signed

The string to be signed is concatenated in the following format:

```
StringToSign =
Algorithm + \n +
```



```
RequestTimestamp + \n +
CredentialScope + \n +
HashedCanonicalRequest
```

Field Name	Explanation
Algorithm	Signature algorithm, which is always <code>TC3-HMAC-SHA256</code> currently.
RequestTimestamp	Request timestamp, i.e., the value of the common parameter <code>X-TC-Timestamp</code> in the request header, which is the UNIX timestamp of the current time in seconds, such as <code>1551113065</code> in this example.
CredentialScope	Scope of the credential in the format of <code>Date/service/tc3_request</code> , including the date, requested service and termination string (<code>tc3_request</code>). Date is a date in UTC time, whose value should match the UTC date converted by the common parameter <code>X-TC-Timestamp</code> ; service is the product name, which should match the domain name of the product called. The calculation result in this example is <code>2019-02-25/cvm/tc3_request</code> .
HashedCanonicalRequest	Hash value of the <code>CanonicalRequest</code> string concatenated in the steps above. The pseudocode for calculation is <code>Lowercase(HexEncode(Hash.SHA256(CanonicalRequest)))</code> . The calculation result in this example is <code>5ffe6a04c0664d6b969fab9a13bdab201d63ee709638e2749d62a09ca18d7031</code> .

Note:

1. Date has to be calculated from the timestamp "X-TC-Timestamp" and the time zone is UTC+0. If you add the system's local time zone information (such as UTC+8), calls can succeed in the daytime 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 current system time, and it should be ensured that the system time and standard time are synced; if the difference is over five minutes, the call will definitely fail. If the time difference exists for a long time, it may cause the requests to definitely fail after running for a period of time, with a signature expiration error returned.

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

```
TC3-HMAC-SHA256
1551113065
2019-02-25/cvm/tc3_request
5ffe6a04c0664d6b969fab9a13bdab201d63ee709638e2749d62a09ca18d7031
```

3. Calculating the Signature

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

```
SecretKey = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"
SecretDate = HMAC_SHA256("TC3" + SecretKey, Date)
SecretService = HMAC_SHA256(SecretDate, Service)
SecretSigning = HMAC_SHA256(SecretService, "tc3_request")
```

Field Name	Explanation
SecretKey	The original SecretKey, i.e., <code>Gu5t9xGARNpq86cd98joQYCN3EXAMPLE</code> .

Field Name	Explanation
Date	The Date field information in Credential, such as 2019-02-25 in this example.
Service	Value in the Service field in Credential, such as cvm in this example.

2) Calculate the signature with the following pseudocode:

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

4. Concatenating the Authorization

The Authorization is concatenated in the following format:

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

Field Name	Explanation
Algorithm	Signature algorithm, which is always TC3-HMAC-SHA256 .
SecretId	The SecretId in the key pair, i.e., AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE .
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 72e494ea809ad7a8c8f7a4507b9bddcbaa8e581f516e8da2f66e2c5a96525168 .

Based on the rules above, the value in the example is:

```
TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/2019-02-25/cvm/tc3_request, SignedHeaders=
content-type;host, Signature=72e494ea809ad7a8c8f7a4507b9bddcbaa8e581f516e8da2f66e2c5a96525168
```

The final complete call information is as follows:

```
POST https://cvm.tencentcloudapi.com/
Authorization: TC3-HMAC-SHA256 Credential=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE/2019-02-25/cvm/tc3_request, Si
gnedHeaders=content-type;host, Signature=72e494ea809ad7a8c8f7a4507b9bddcbaa8e581f516e8da2f66e2c5a96525168
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": ["\u672a\u547d\u540d"], "Name": "instance-name"}]}
```

5. Signature Demo

Java

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

public class TencentCloudAPITC3Demo {
    private final static Charset UTF8 = StandardCharsets.UTF_8;
    private final static String SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE";
    private final static String SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE";
    private final static String CT_JSON = "application/json; charset=utf-8";

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

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

    public static void main(String[] args) throws Exception {
        System.setProperty("https.proxyHost", "dev-proxy.oa.com");
        System.setProperty("https.proxyPort", "8080");
        String service = "cvm";
        String host = "cvm.tencentcloudapi.com";
        String region = "ap-guangzhou";
        String action = "DescribeInstances";
        String version = "2017-03-12";
        String algorithm = "TC3-HMAC-SHA256";
        String timestamp = "1551113065";
        //String timestamp = String.valueOf(System.currentTimeMillis() / 1000);
        SimpleDateFormat sdf = new SimpleDateFormat("yyyy-MM-dd");
        // Pay attention to the time zone; otherwise, errors may occur
        sdf.setTimeZone(TimeZone.getTimeZone("UTC"));
        String date = sdf.format(new Date(Long.valueOf(timestamp + "000")));

        // ***** Step 1: Concatenate the CanonicalRequest string *****
        String httpRequestMethod = "POST";
        String canonicalUri = "/";
        String canonicalQueryString = "";
        String canonicalHeaders = "content-type:application/json; charset=utf-8\n" + "host:" + host + "\n";
        String signedHeaders = "content-type;host";

        String payload = "{\"Limit\": 1, \"Filters\": [{\"Values\": [\"\\u672a\\u547d\\u540d\"], \"Name\": \"instance-name\"}]"};
```

```

String hashedRequestPayload = sha256Hex(payload);
String canonicalRequest = httpRequestMethod + "\n" + canonicalUri + "\n" + canonicalQueryString + "\n"
+ canonicalHeaders + "\n" + signedHeaders + "\n" + hashedRequestPayload;
System.out.println(canonicalRequest);

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

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

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

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

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

```

Python

```

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

# Key parameters
secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"

```

```

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

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

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

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

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

```

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

Signature Failure

The following error codes for signature failure exist based on the actual conditions. Please cope with 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 may be that the signature was wrongly calculated, the signature does not match the content actually sent, or the SecretKey of the key is incorrect.
AuthFailure.TokenFailure	Error with the token of the temporary certificate.
AuthFailure.InvalidSecretId	Invalid key (not TencentCloud API key type).

Signature

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TencentCloud API authenticates each access request, i.e. each request needs to include signature information (Signature) in the common request 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, please go to the [TencentCloud API Key](#) page to apply; otherwise, you cannot call 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 include SecretId and SecretKey:

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

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

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

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

2. Generating the Signature String

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

Assume that the SecretId and SecretKey are:

- SecretId: AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
- SecretKey: Gu5t9xGARNpq86cd98joQYCN3EXAMPLE

Note: This is just a sample here. For actual operations, use your real SecretId and SecretKey!

Take the API for viewing CVM instance list (DescribeInstances) as an example. When you invoke this API, the request parameters may be as follows:

Parameter name	English	Parameter value
Action	Method name	DescribeInstances
SecretId	Key ID	AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
Timestamp	Current timestamp	1465185768
Nonce	Random positive integer	11886
Region	Region where the instance is located	ap-guangzhou

Parameter name	English	Parameter value
InstanceIds.0	ID of the to-be-queried instance	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' : 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE',
  'Timestamp' : 1465185768,
  'Version' : '2017-03-12',
}
```

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

2.2. Concatenating the 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 together 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=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Timestamp=1465185768&Version=2017-03-12
```

2.3. Concatenating the Signature Original String

This step generates a signature original string, which 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: That is the request string generated in the previous step.

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

The concatenating result of the sample is:

```
GETcvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceId=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmlPx3EXAMPLE&Timestamp=1465185768&Version=2017-03-12
```

2.4. Generating the Signature String

This step generates a signature string. First, use the HMAC-SHA1 algorithm to sign the **signature original string** obtained in the previous step, and then encode the generated signature string using Base64 to obtain the final signature string.

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

```
$secretKey = 'Gu5t9xGARNpq86cd98joQYCN3EXAMPLE';

```

The final signature is:

```
EliP9YW3pW28FpsEdkXt/+WcGel=
```

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

3. Encoding the Signature String

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

For example, if the signature generated in the previous step is EliP9YW3pW28FpsEdkXt/+WcGel=, the final signature request parameter (Signature) is EliP9YW3pW28FpsEdkXt/+WcGel=, 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 HTTP libraries of some programming languages automatically URL encode all parameters, in which case there is no need to URL encode the signature; 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 for percent-encoding of special characters such as Chinese characters, where "X" and "Y" are hexadecimal characters (0-9 and uppercase A-F), and using lowercase will cause an error.

4. Signature Failure

The following error codes for signature failure exist based on the actual conditions. Please cope with the errors accordingly.

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

5. Signature Demo

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

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

In order to explain the signing process more clearly, the process described above is implemented below with a real-world programming language as an example. The request domain name, called API and parameter values in the sample are used here. The code here is only for explaining the signature process and not universal. For actual development, please use the SDK as much as possible.

The final output URL might be: `https://cvm.tencentcloudapi.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=ap-guangzhou&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Signature=ElIP9YW3pW28FpsEdkXt/+WcGel=&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, the URLs generated may be different in the order of the parameters during each execution with different or even the same programming languages, but this does not affect the correctness. As long as all parameters are in place and the signature is calculated correctly, it would be okay.

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 difference in details. Please refer to the corresponding documentation.

Java

```
import java.io.UnsupportedEncodingException;
import java.net.URLEncoder;
import java.util.Random;
```

```
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.xml.bind.DatatypeConverter;

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

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

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

    public static String getUrl(TreeMap<String, Object> params) throws UnsupportedEncodingException {
        StringBuilder url = new StringBuilder("https://cvm.tencentcloudapi.com/?");
        // There is no requirement for the order of the parameters in the actual request URL
        for (String k : params.keySet()) {
            // The request string needs to be URL encoded. As the Key is all in English letters, only the value is URL encoded here
            url.append(k).append("=").append(URLEncoder.encode(params.get(k).toString(), CHARSET)).append("&");
        }
        return url.toString().substring(0, url.length() - 1);
    }

    public static void main(String[] args) throws Exception {
        TreeMap<String, Object> params = new TreeMap<String, Object>(); // TreeMap can enable auto sorting
        // A random numbers 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 example: params.put("Timestamp", System.currentTimeMillis() / 1000);
        params.put("Timestamp", 1465185768); // Common parameter
        params.put("SecretId", "AKIDz8krbsJ5yKBZQpn74WfkmLPx3EXAMPLE"); // Common parameter
        params.put("Action", "DescribeInstances"); // Common parameter
        params.put("Version", "2017-03-12"); // Common parameter
        params.put("Region", "ap-guangzhou"); // Common parameter
        params.put("Limit", 20); // Business parameter
        params.put("Offset", 0); // Business parameter
        params.put("InstanceIds.0", "ins-09dx96dg"); // Business parameter
        params.put("Signature", sign(getStringToSign(params), "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE", "HmacSHA1")); // Common parameter
        System.out.println(getUrl(params));
    }
}
```

Python

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

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

import requests

secret_id = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE"
secret_key = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE"

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

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

if __name__ == '__main__':
    endpoint = "cvm.tencentcloudapi.com"
    data = {
        'Action': 'DescribeInstances',
        'InstanceId.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 calling would occur here which may incur fees after success
    # resp = requests.get("https://" + endpoint, params=data)
    # print(resp.url)
```

Responses

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Response For Successful Requests

For example, when calling 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 call has failed, you may see the response as shown below:

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

- The presence of the `Error` field indicates that the request has failed. A response for failed request must include `Error`, along with `Code` and `Message`.
- `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` describes the cause of this error and it may change as Tencent Cloud services update.
- `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	Error description
AuthFailure.InvalidSecretId	Invalid key (not TencentCloud API key type).
AuthFailure.MFAFailure	MFA failure.
AuthFailure.SecretIdNotFound	Key does not exist.
AuthFailure.SignatureExpire	Signature expired.
AuthFailure.SignatureFailure	Signature error.
AuthFailure.TokenFailure	Token error.
AuthFailure.UnauthorizedOperation	No CAM authorization.
DryRunOperation	DryRun operation, which means the request will succeed, but an unnecessary DryRun parameter is passed in.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidAction	API does not exist.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	Quota limit is exceeded.
MissingParameter	A parameter is missing.
NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The request rate limit is exceeded.
ResourceInUse	Resource is occupied.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	Resource does not exist.
ResourceUnavailable	Resource is unavailable.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	Unsupported HTTP(S) request protocol. Only GET and POST requests are supported.
UnsupportedRegion	Unsupported region.

Information Query APIs

DescribeInstances

Last updated : 2019-07-22 16:53:16

1. API Description

API domain name: emr.tencentcloudapi.com.

This API describes one or more specified EMR instances.

Default API request rate limit: 20 requests/sec.

2. Input Parameters

The following parameters are required for requesting this API, including action-specific parameters and common parameters. For more information about common parameters for all requests, see [Common Request Parameters](#).

Parameter name	Required	Type	Description
Action	Yes	String	Common parameter. The name of this API: DescribeInstances
Version	Yes	String	Common parameter. The version of this API: 2019-01-03
Region	Yes	String	Common parameter. For more information, see the list of regions supported by the product.
InstanceIds.N	No	Array of String	Query the list. If this is left empty, the list of all instances under the Appld is returned
Offset	No	Integer	Query offset; 0 by default
Limit	No	Integer	Limit for query results. The default value is 10.

3. Output Parameters

Parameter name	Type	Description
Result	ClusterInfoResult	Number of instances
RequestId	String	The ID of the request. Each request returns a unique ID. The RequestId is required to troubleshoot issues.

4. Examples

Example 1. Querying Instance Details

Input Sample Code

```
https://emr.tencentcloudapi.com/?Action=DescribeInstances
&Offset=0
&Limit=1
&InstanceId=emr-b3zor8nr
&<Common request parameter>
```

Output Sample Code

```
{
  "Response": {
    "Result": {
      "TotalCnt": 1,
      "ClusterList": [
        {
          "ClusterId": "emr-b3zor8nr",
          "StatusDesc": "Cluster running",
          "ClusterName": "jaco2",
          "ZoneId": "190001",
          "AppId": "1258469122",
          "Addtime": "2019-03-14 20:44:31",
          "Runtime": "0 days 3 hours 41 minutes 13 seconds",
          "Config": {
            "SoftInfo": [
              "zookeeper-3.4.9",
              "hadoop-2.7.3",
              "sys-1.0"
            ],
            "MasterNodeSize": 1,
            "CoreNodeSize": 2,
            "TaskNodeSize": 1,
            "ComNodeSize": 0,
            "MasterResourceSpec": {
              "CPUCores": 4,
              "DiskType": "CLOUD_PREMIUM",
              "Memory": 8192,
              "RootDiskVolume": 100,
              "Spec": "CVM.S3",
              "StorageType": 5,
              "Volume": 100,
              "SpecName": ""
            },
            "CoreResourceSpec": {
              "CPUCores": 4,
              "DiskType": "CLOUD_PREMIUM",
              "Memory": 8192,
              "RootDiskVolume": 100,
              "Spec": "CVM.S3",
              "StorageType": 5,
              "Volume": 100,
              "SpecName": ""
            },
            "TaskResourceSpec": {
              "CPUCores": 4,
```



```
"DiskType": "CLOUD_PREMIUM",
"Memory": 8192,
"RootDiskVolume": 100,
"Spec": "CVM.S3",
"StorageType": 5,
"Volume": 100,
"SpecName": ""
},
"CommonResourceSpec": {
"CPUCores": 0,
"DiskType": "",
"Memory": 0,
"RootDiskVolume": 0,
"Spec": "",
"StorageType": 0,
"Volume": 0,
"SpecName": ""
},
"Oncos": false,
"COSSettings": {
"LogOnCosPath": "",
"CosSecretId": "",
"CosSecretKey": ""
}
},
"MasterIp": "118.24.246.22",
"EmrVersion": "EMR-V2.0.1",
"ChargeType": 1
}
]
},
"RequestId": "e83dffa2-34be-4069-bb35-5a62f11e6d45"
}
}
```

5. Developer Resources

API Explorer

This tool provides various capabilities such as online call, signature verification, SDK code generation, and quick API retrieval that significantly reduce the difficulty of using TencentCloud API.

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SDK

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

TCCLI

- [Tencent Cloud CLI 3.0](#)

6. Error Codes

The following error codes are API business logic-related. For other error codes, see [Common Error Codes](#).

Error Code	Description
InternalError.Test	The selected spec is sold out.

InquiryPriceCreateInstance

Last updated : 2019-07-22 16:53:16

1. API Description

API domain name: emr.tencentcloudapi.com.

This API inquires about the price of creating an instance

Default API request rate limit: 20 requests/sec.

2. Input Parameters

The following parameters are required for requesting this API, including action-specific parameters and common parameters. For more information about common parameters for all requests, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The name of this API: InquiryPriceCreateInstance
Version	Yes	String	Common parameter. The version of this API: 2019-01-03
Region	Yes	String	Common parameter. For more information, see the list of regions supported by the product.
TimeUnit	Yes	String	Time unit
TimeSpan	Yes	Integer	Time span
ResourceSpec	Yes	ResourceSpec	Description of the inquired resource
Currency	Yes	String	Currency
PayMode	Yes	Integer	Billing method
SupportHA	Yes	Integer	Whether HA is supported. 1: yes; 0: no
Software.N	Yes	Array of String	Software list
Placement	Yes	Placement	Location information
VPCSettings	Yes	VPCSettings	VPC information

3. Output Parameters

Parameter name	Type	Description
Result	InquiryPriceResult	Price inquiry result

Parameter name	Type	Description
RequestId	String	The ID of the request. Each request returns a unique ID. The RequestId is required to troubleshoot issues.

4. Examples

Example 1. Inquiring About the Price of Creating an Instance

Input Sample Code

```
https://emr.tencentcloudapi.com/?Action=InquiryPriceCreateInstance
&Region=ap-beijing
&TimeUnit=m
&TimeSpan=1
&Placement.Zone=ap-chongqing-1
&Currency=CNY
&PayMode=1
&SupportHA=0
&Software.0=hadoop-2.7.3
&Software.1=zookeeper-3.4.9
&ResourceSpec.MasterResourceSpec.Memory=8192
&ResourceSpec.MasterResourceSpec.CPUCores=4
&ResourceSpec.MasterResourceSpec.Volume=100
&ResourceSpec.MasterResourceSpec.DiskType=CLOUD_PREMIUM
&ResourceSpec.MasterResourceSpec.Spec=CVM.S3
&ResourceSpec.MasterResourceSpec.RootDiskVolume=100
&ResourceSpec.MasterResourceSpec.StorageType=5
&ResourceSpec.CoreResourceSpec.Memory=8192
&ResourceSpec.CoreResourceSpec.CPUCores=4
&ResourceSpec.CoreResourceSpec.Volume=100
&ResourceSpec.CoreResourceSpec.DiskType=CLOUD_PREMIUM
&ResourceSpec.CoreResourceSpec.Spec=CVM.S3
&ResourceSpec.CoreResourceSpec.RootDiskVolume=100
&ResourceSpec.CoreResourceSpec.StorageType=5
&ResourceSpec.MasterCount=1
&ResourceSpec.CoreCount=2
&VPCSettings.VpId=vpc-5p4i6ned
&VPCSettings.SubnetId=subnet-r19p3f8k
&<Common request parameter>
```

Output Sample Code

```
{
  "Response": {
    "Result": {
      "OriginalCost": 1557.99,
      "DiscountCost": 1049.44,
      "TimeUnit": "m",
      "TimeSpan": 1
    },
    "RequestId": "df9bfbd5-f182-446c-8827-56bff931e343"
  }
}
```

```
}  
}
```

5. Developer Resources

API Explorer

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- [Tencent Cloud SDK 3.0 for NodeJS](#)
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6. Error Codes

The following error codes are API business logic-related. For other error codes, see [Common Error Codes](#).

Error Code	Description
FailedOperation	Operation failed.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
MissingParameter	A parameter is missing.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.

InquiryPriceScaleOutInstance

Last updated : 2019-07-22 16:53:15

1. API Description

API domain name: emr.tencentcloudapi.com.

This API inquires about the price of scaling out the specified instance

Default API request rate limit: 20 requests/sec.

2. Input Parameters

The following parameters are required for requesting this API, including action-specific parameters and common parameters. For more information about common parameters for all requests, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The name of this API: InquiryPriceScaleOutInstance
Version	Yes	String	Common parameter. The version of this API: 2019-01-03
Region	Yes	String	Common parameter. For more information, see the list of regions supported by the product.
TimeUnit	Yes	String	Time unit, which is second in pay-as-you-go use cases.
TimeSpan	Yes	Integer	Time span, which is 3,600 in pay-as-you-go use cases.
Zoneld	Yes	Integer	Zone ID
PayMode	Yes	Integer	Billing method
Instanceld	Yes	String	Instance ID
CoreCount	Yes	Integer	Number of core nodes to add
TaskCount	Yes	Integer	Number of task nodes to add
Currency	Yes	String	Currency

3. Output Parameters

Parameter name	Type	Description
Result	InquiryPriceResult	Scale-out price
RequestId	String	The ID of the request. Each request returns a unique ID. The RequestId is required to troubleshoot issues.

4. Examples

Example 1. Inquiring About the Price of Scale-out

Input Sample Code

```
https://emr.tencentcloudapi.com/?Action=InquiryPriceScaleOutInstance
&TimeUnit=m
&TimeSpan=1
&ZoneId=190001
&Currency=CNY
&PayMode=0
&CoreCount=0
&TaskCount=1
&InstanceId=emr-amz3wvz1
&<Common request parameter>
```

Output Sample Code

```
{
  "Response": {
    "Result": {
      "OriginalCost": 0.09,
      "DiscountCost": 0.09,
      "TimeUnit": "m",
      "TimeSpan": 1
    },
    "RequestId": "40c941da-fe3e-4f52-b816-dbddff308c47"
  }
}
```

5. Developer Resources

API Explorer

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- [Tencent Cloud SDK 3.0 for NodeJS](#)
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6. Error Codes

The following error codes are API business logic-related. For other error codes, see [Common Error Codes](#).

Error Code	Description
InternalError.Test	The selected spec is sold out.

Scaling APIs

ScaleOutInstance

Last updated : 2019-07-22 16:53:15

1. API Description

API domain name: emr.tencentcloudapi.com.

This API scales out the specified instance.

Default API request rate limit: 20 requests/sec.

2. Input Parameters

The following parameters are required for requesting this API, including action-specific parameters and common parameters. For more information about common parameters for all requests, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The name of this API: ScaleOutInstance
Version	Yes	String	Common parameter. The value used for this API: 2019-01-03
Region	Yes	String	Common parameter. For more information, see the list of regions supported by the product.
ClientToken	Yes	String	Token
TimeUnit	Yes	String	Time unit
TimeSpan	Yes	Integer	Time span
InstanceId	Yes	String	ID of the instance for scale-out
PayMode	Yes	Integer	Payment method
PreExecutedFileSettings	No	PreExecuteFileSettings	Pre-execution script settings
TaskCount	No	Integer	Number of task nodes to add
CoreCount	No	Integer	Number of core nodes to add

3. Output Parameters

Parameter name	Type	Description
Result	ScaleOutInstanceResult	Scale-out result

Parameter name	Type	Description
RequestId	String	The unique ID of a request, which is required for each troubleshooting case.

4. Examples

Example 1. Scaling out an Instance

Input Sample Code

```
https://emr.tencentcloudapi.com/?Action=ScaleOutInstance
&ClientToken=jaco3
&TimeUnit=m
&TimeSpan=1
&TaskCount=1
&InstanceId=emr-b3zor8nr
&PayMode=0
&<Common request parameter>
```

Output Sample Code

```
{
  "Response": {
    "Result": {
      "ClientToken": "jaco3",
      "InstanceId": "emr-b3zor8nr",
      "DealNames": [
        "20190314262369",
        "20190314262370",
        "20190314262371",
        "20190314262372"
      ]
    },
    "RequestId": "e00a062d-dfea-4e6e-9de7-8fbc8c7971ab"
  }
}
```

5. Developer Resources

API Explorer

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

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- [Tencent Cloud CLI 3.0](#)

6. Error Codes

This API has no error codes related to business logic. For other error codes, see [Common Error Codes](#).

TerminateTasks

Last updated : 2019-07-22 16:53:15

1. API Description

API domain name: emr.tencentcloudapi.com.

This API terminates one or more task nodes.

Default API request rate limit: 20 requests/sec.

2. Input Parameters

The following parameters are required for requesting this API, including action-specific parameters and common parameters. For more information about common parameters for all requests, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The name of this API: TerminateTasks
Version	Yes	String	Common parameter. The version of this API: 2019-01-03
Region	Yes	String	Common parameter. For more information, see the list of regions supported by the product.
InstanceId	Yes	String	ID of the instance to which the terminated node belongs
ResourceIds.N	Yes	Array of String	ID of the terminated node

3. Output Parameters

Parameter name	Type	Description
Result	TerminateResult	Termination result
RequestId	String	The ID of the request. Each request returns a unique ID. The RequestId is required to troubleshoot issues.

4. Examples

Example 1. Terminating a Node

Terminate a task node

Input Sample Code

```
https://emr.tencentcloudapi.com/?Action=TerminateTasks
&InstanceId=emr-4slr7ad7
&ResourceIds.0=emr-vm-xxx33tg
&<Common request parameter>
```

Output Sample Code

```
{
  "Response": {
    "Result": {
      "InstanceId": "emr-4slr7ad7",
      "ResourceIds": [
        "emr-vm-xxx33tg"
      ]
    },
    "RequestId": "4d701c1e-8507-47e1-8c69-a8f06a236f24"
  }
}
```

5. Developer Resources

API Explorer

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SDK

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- [Tencent Cloud SDK 3.0 for NodeJS](#)
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6. Error Codes

This API has no error codes related to business logic. For other error codes, see [Common Error Codes](#).

Cluster Lifecycle APIs

CreateInstance

Last updated : 2019-07-22 16:53:15

1. API Description

API domain name: emr.tencentcloudapi.com.

This API creates an EMR instance.

Default API request rate limit: 20 requests/sec.

2. Input Parameters

The following parameters are required for requesting this API, including action-specific parameters and common parameters. For more information about common parameters for all requests, see [Common Request Parameters](#).

Parameter name	Required	Type	Description
Action	Yes	String	Common parameter. The name of this API: CreateInstance
Version	Yes	String	Common parameter. The version of this API: 2019-01-03
Region	Yes	String	Common parameter. For more information, see the list of regions supported by the product.
ProductId	Yes	Integer	Product ID
VPCSettings	Yes	VPCSettings	VPC settings parameter
Software.N	Yes	Array of String	Software list
ResourceSpec	Yes	ResourceSpec	Resource description
SupportHA	Yes	Integer	Support for HA
InstanceName	Yes	String	Instance name
PayMode	Yes	Integer	Billing method
Placement	Yes	Placement	Cluster location information
TimeSpan	Yes	Integer	Time span
TimeUnit	Yes	String	Time unit
LoginSettings	Yes	LoginSettings	Login configuration
ClientToken	Yes	String	Client token
COSSettings	No	COSSettings	COS settings parameter
SgId	No	String	Security group ID

Parameter name	Required	Type	Description
PreExecutedFileSettings	No	PreExecuteFileSettings	Pre-execution script settings
AutoRenew	No	Integer	Auto-renewal
NeedMasterWan	No	String	Whether a public IP is needed. If yes, enter NEED_MASTER_WAN; if no, enter NOT_NEED_MASTER_WAN. NEED_MASTER_WAN by default

3. Output Parameters

Parameter name	Type	Description
Result	CreateInstanceResult	Instance creation result
RequestId	String	The ID of the request. Each request returns a unique ID. The RequestId is required to troubleshoot issues.

4. Examples

Example 1 Create an instance

Input Sample Code

```
https://emr.tencentcloudapi.com/?Action=CreateInstance
&ProductId=2
&SupportHA=0
&InstanceName=jaco2
&PayMode=1
&Placement.Zone=ap-chongqing-1
&Placement.ProjectId=0
&AutoRenew=0
&Software.0=hadoop-2.7.3
&Software.1=zookeeper-3.4.9
&ResourceSpec.MasterResourceSpec.Memory=8192
&ResourceSpec.MasterResourceSpec.CPUCores=4
&ResourceSpec.MasterResourceSpec.Volume=100
&ResourceSpec.MasterResourceSpec.DiskType=CLOUD_PREMIUM
&ResourceSpec.MasterResourceSpec.Spec=CVM.S3
&ResourceSpec.MasterResourceSpec.RootDiskVolume=100
&ResourceSpec.MasterResourceSpec.StorageType=5
&ResourceSpec.CoreResourceSpec.Memory=8192
&ResourceSpec.CoreResourceSpec.CPUCores=4
&ResourceSpec.CoreResourceSpec.Volume=100
&ResourceSpec.CoreResourceSpec.DiskType=CLOUD_PREMIUM
&ResourceSpec.CoreResourceSpec.Spec=CVM.S3
&ResourceSpec.CoreResourceSpec.RootDiskVolume=100
&ResourceSpec.CoreResourceSpec.StorageType=5
&ResourceSpec.MasterCount=1
```

```
&ResourceSpec.CoreCount=2
&VPCSettings.VpId=vpc-5p4i6ned
&VPCSettings.SubnetId=subnet-r19p3f8k
&LoginSettings.Password=emr@cloud
&ClientToken=jaco1
&TimeSpan=1
&TimeUnit=m
&<Common request parameter>
```

Output Sample Code

```
{
  "Response": {
    "Result": {
      "ClientToken": "jaco1",
      "InstanceName": "jaco2",
      "DealNames": [
        "20190314261409",
        "20190314261410",
        "20190314261411",
        "20190314261412",
        "20190314261413",
        "20190314261414"
      ]
    },
    "RequestId": "701453be-7257-40e6-b5fd-4bbb01baae36"
  }
}
```

5. Developer Resources

API Explorer

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- [Tencent Cloud CLI 3.0](#)

6. Error Codes

The following error codes are API business logic-related. For other error codes, see (</document/api/589/15694#.E5.85.AC.E5.85.B1.E9.94.99.E8.AF.AF.E7.A0.81>).

Error Code	Description
InternalError	Internal error.

TerminateInstance

Last updated : 2019-07-22 16:53:15

1. API Description

API domain name: emr.tencentcloudapi.com.

This API terminates the specified EMR instance.

Default API request rate limit: 20 requests/sec.

2. Input Parameters

The following parameters are required for requesting this API, including action-specific parameters and common parameters. For more information about common parameters for all requests, see [Common Request Parameters](#).

Parameter Name	Required	Type	Description
Action	Yes	String	Common parameter. The name of this API: TerminateInstance
Version	Yes	String	Common parameter. The version of this API: 2019-01-03
Region	Yes	String	Common parameter. For more information, see the list of regions supported by the product.
InstanceId	Yes	String	ID of the terminated instance

3. Output Parameters

Parameter name	Type	Description
Result	TerminateResult	Termination description
RequestId	String	The unique ID of a request, which is required for each troubleshooting case.

4. Examples

Example 1. Terminating an Instance

Terminate the entire cluster

Input Sample Code

```
https://emr.tencentcloudapi.com/?Action=TerminateInstance
&InstanceId=emr-4slr7ad7
&<Common request parameter>
```

Output Sample Code

```
{
  "Response": {
    "Result": {
      "Instanceld": "emr-4slr7ad7",
      "ResourceIds": []
    },
    "RequestId": "4d701c1e-8507-47e1-8c69-a8f06a236f24"
  }
}
```

5. Developer Resources

API Explorer

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6. Error Codes

This API has no error codes related to business logic. For other error codes, see [Common Error Codes](#).

Data Types

Last updated : 2019-07-22 16:53:16

COSSettings

COS-related Settings

Referenced by API: CreateInstance, DescribeInstances.

Name	Type	Required	Description
LogOnCosPath	String	Yes	COS path of the log
CosSecretId	String	Yes	COS SecretId
CosSecretKey	String	Yes	COS SecretKey

ClusterInfoResult

Query result

Referenced by API: DescribeInstances.

Name	Type	Description
TotalCnt	Integer	Quantity Note: This field may return null, indicating that no valid values can be obtained.
ClusterList	Array of ClusterInstanceInfo	Cluster information list Note: This field may return null, indicating that no valid values can be obtained.

ClusterInstanceInfo

Instance information

Referenced by API: DescribeInstances.

Name	Type	Description
ClusterId	String	clusterId
StatusDesc	String	Status description Note: This field may return null, indicating that no valid values can be obtained.
ClusterName	String	Cluster name Note: This field may return null, indicating that no valid values can be obtained.
ZoneId	Integer	Cluster region

Name	Type	Description
AppId	Integer	User APPID
Addtime	String	Creation time Note: This field may return null, indicating that no valid values can be obtained.
Runtime	String	Running duration Note: This field may return null, indicating that no valid values can be obtained.
Config	EMRProductConfigSettings	Cluster configuration Note: This field may return null, indicating that no valid values can be obtained.
MasterIp	String	Cluster IP
EmrVersion	String	Cluster version
ChargeType	Integer	Cluster billing method

CreateInstanceResult

Return value of the creation API

Referenced by API: CreateInstance.

Name	Type	Description
ClientToken	String	Client token
InstanceName	String	Cluster name
DealNames	Array of String	Order list

EMRProductConfigSettings

config information of the cluster

Referenced by API: DescribeInstances.

Name	Type	Description
SoftInfo	Array of String	Cluster software information Note: This field may return null, indicating that no valid values can be obtained.
MasterNodeSize	Integer	Number of master nodes Note: This field may return null, indicating that no valid values can be obtained.
CoreNodeSize	Integer	Number of core nodes Note: This field may return null, indicating that no valid values can be obtained.

Name	Type	Description
TaskNodeSize	Integer	Number of task nodes Note: This field may return null, indicating that no valid values can be obtained.
ComNodeSize	Integer	Number of common nodes Note: This field may return null, indicating that no valid values can be obtained.
MasterResourceSpec	NodeSpec	Master node specification Note: This field may return null, indicating that no valid values can be obtained.
CoreResourceSpec	NodeSpec	Core node specification Note: This field may return null, indicating that no valid values can be obtained.
TaskResourceSpec	NodeSpec	Task node specification Note: This field may return null, indicating that no valid values can be obtained.
CommonResourceSpec	NodeSpec	Common node specification Note: This field may return null, indicating that no valid values can be obtained.
Oncos	Boolean	Whether to use COS Note: This field may return null, indicating that no valid values can be obtained.
COSSettings	COSSettings	COS configuration Note: This field may return null, indicating that no valid values can be obtained.

InquiryPriceResult

Price inquiry output

Referenced by API: [InquiryPriceCreateInstance](#), [InquiryPriceScaleOutInstance](#).

Name	Type	Description
OriginalCost	Float	Original price
DiscountCost	Float	Discounted price
TimeUnit	String	Time unit
TimeSpan	Integer	Time span

LoginSettings

Login settings

Referenced by API: [CreateInstance](#).

Name	Type	Required	Description
Password	String	No	Password
PublicKeyId	String	No	Public Key

MultiDisk

Multi-cloud disk parameters

Referenced by API: CreateInstance, DescribeInstances, InquiryPriceCreateInstance.

Name	Type	Required	Description
DiskType	String	Yes	Cloud disk type; value range: "CLOUD_PREMIUM", "CLOUD_SSD", or "CLOUD_BASIC"
Volume	Integer	Yes	Cloud disk size

NodeSpec

Node description

Referenced by API: CreateInstance, DescribeInstances, InquiryPriceCreateInstance.

Name	Type	Required	Description
Memory	Integer	Yes	Memory size in MB Note: This field may return null, indicating that no valid values can be obtained.
CPUcores	Integer	Yes	Number of CPU cores Note: This field may return null, indicating that no valid values can be obtained.
Volume	Integer	Yes	Data disk size Note: This field may return null, indicating that no valid values can be obtained.
DiskType	String	Yes	Disk type Note: This field may return null, indicating that no valid values can be obtained.
Spec	String	Yes	Node specification description Note: This field may return null, indicating that no valid values can be obtained.
RootDiskVolume	Integer	Yes	System disk size Note: This field may return null, indicating that no valid values can be obtained.
StorageType	Integer	Yes	Storage type Note: This field may return null, indicating that no valid values can be obtained.
SpecName	String	No	Specification name Note: This field may return null, indicating that no valid values can be obtained.
MultiDisks	Array of MultiDisk	No	Multi-cloud disk parameter Note: This field may return null, indicating that no valid values can be obtained.

Placement

Location information of the cluster instance

Referenced by API: CreateInstance, InquiryPriceCreateInstance.

Name	Type	Required	Description
ProjectId	Integer	Yes	ID of the project to which the instance belongs, which can be obtained in the projectId field returned by calling the DescribeProject API. If this is left empty, default project is used.
Zone	String	Yes	ID of the availability zone where the instance is located, which can be obtained in the Zone field returned by calling the DescribeZones API.

PreExecuteFileSettings

Pre-execution script configuration

Referenced by API: CreateInstance, ScaleOutInstance.

Name	Type	Required	Description
Path	String	Yes	COS path of the script
Args	Array of String	Yes	Execution script parameter
Bucket	String	Yes	COS bucket name
Region	String	Yes	COS region name
Domain	String	Yes	COS domain data

ResourceSpec

Resource description

Referenced by API: CreateInstance, InquiryPriceCreateInstance.

Name	Type	Required	Description
CommonCount	Integer	Yes	Number of common nodes
MasterResourceSpec	NodeSpec	No	Description of master node resources
CoreResourceSpec	NodeSpec	No	Description of core node resources
TaskResourceSpec	NodeSpec	No	Description of task node resources
MasterCount	Integer	No	Number of master nodes
CoreCount	Integer	No	Number of core nodes
TaskCount	Integer	No	Number of task nodes

Name	Type	Required	Description
CommonResourceSpec	NodeSpec	No	Description of common node resources

ScaleOutInstanceResult

Instance scale-out result

Referenced by API: ScaleOutInstance.

Name	Type	Description
ClientToken	String	The token passed in during client call
InstanceId	String	ID of the instance for scale-out
DealNames	Array of String	Order name

TerminateResult

Termination request description

Referenced by API: TerminateInstance, TerminateTasks.

Name	Type	Description
InstanceId	String	ID of the terminated cluster
ResourceIds	Array of String	Resource ID

VPCSettings

VPC parameters

Referenced by API: CreateInstance, InquiryPriceCreateInstance.

Name	Type	Required	Description
VpcId	String	Yes	VPC ID
SubnetId	String	Yes	Subnet ID

Error Codes

Last updated : 2019-07-22 16:53:16

Feature Description

If the Error field exists in the returned result, it means the API call failed. For example:

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

In Error message, Code indicates the error code; Message contains the detailed information of the error.

Error Code List

Common Error Codes

Error Code	Description
AuthFailure.InvalidSecretId	Invalid key (not TencentCloud API key type).
AuthFailure.MFAFailure	MFA failure.
AuthFailure.SecretIdNotFound	Key does not exist. Please check whether the key has been deleted or disabled in the console. If the status is normal, please check whether the key is entered correctly. Please note that there must be no leading or trailing spaces.
AuthFailure.SignatureExpire	Signature expired. Timestamp and server time cannot differ by more than five minutes. Please check whether the local time matches the standard time.
AuthFailure.SignatureFailure	Invalid signature. Signature calculation error. Please check the signature calculation process against the API authentication document in Calling Methods.
AuthFailure.TokenFailure	Token error.
AuthFailure.UnauthorizedOperation	The request is not authorized. For more information, see the authentication description in the CAM documentation.
DryRunOperation	DryRun operation, which means the request will succeed, but an unnecessary DryRun parameter is passed in.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidAction	API does not exist.

Error Code	Description
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	Quota limit is exceeded.
MissingParameter	A parameter is missing.
NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The request rate limit is exceeded.
ResourceInUse	Resource is occupied.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	Resource does not exist.
ResourceUnavailable	Resource is unavailable.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	Unsupported HTTP(S) request protocol. Only GET and POST requests are supported.
UnsupportedRegion	Unsupported region.

Business Error Codes

Error Code	Description
FailedOperation	Operation failed.
InternalError	Internal error.
InternalError.Test	The alternative spec is sold out.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
MissingParameter	A parameter is missing.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.