Resource Management

Product Documentation

Contents

Resource Management ... 3
- Product Introduction ... 3
  - Product Overview ... 3
  - Product Strengths ... 4
  - Product Architecture ... 5
  - Use Cases ... 6
  - Features ... 7
  - Usage Recommendations ... 8
- Operation Guide ... 9
  - Project Management ... 9
  - Project Directory Management ... 12
- API Documentation ... 15
  - Organization and project.(tpo) ... 15
    - version(2020-09-20) ... 15
      - API overview ... 15
      - CallingMethod ... 17
        - signaturev1 ... 17
        - signaturev3 ... 25
        - request ... 34
        - result ... 35
        - PublicParameter ... 38
      - Project APIs ... 40
        - AddProjectMemberPolicy ... 40
        - AddProjectQuota ... 42
        - AddProjectResource ... 45
        - ApplyProjectQuota ... 47
        - BatchAddProjectQuota ... 50
        - CheckActionPermission ... 52
        - CheckProjectQuotas ... 54
        - CreateProject ... 56
        - DeleteProject ... 58
        - DeleteProjectQuota ... 60
        - DeleteProjectResource ... 62
        - DescribeApplyProjectQuotaHistory ... 64
        - DescribeProductTree ... 66
        - DescribeProjectMemberPolicies ... 67
        - DescribeProjectMembers ... 69
        - DescribeProjectNonMembers ... 71
        - DescribeProjectPolicies ... 73
        - DescribeProjectQuotas ... 75
        - DescribeProjectResources ... 77
        - DescribeProjects ... 79
        - DescribeResourceAdminProjects ... 81
        - DescribeResourceRegions ... 83
        - ModifyProjectMemberPolicy ... 85
        - ModifyProjectName ... 87
        - ModifyProjectQuota ... 89
        - MoveProjectResource ... 91
        - ProjectNameExists ... 93
        - RemoveProjectMember ... 95
      - Data structure ... 97
      - ErrorCode ... 108
  - Project directory management.(org) ... 111
    - version(2021-10-01) ... 111
      - API overview ... 111
      - CallingMethod ... 112
        - signaturev1 ... 112
        - signaturev3 ... 120
        - request ... 129
        - result ... 130
        - PublicParameter ... 133
      - Organization management APIs ... 135
        - AddOrganization ... 135
        - AddOrganizationMemberPolicy ... 137
        - DeleteOrganization ... 139
        - DeleteOrganizationMembers ... 141
        - DescribeOrganizationMembers ... 143
        - DescribeOrganizationNonMembers ... 145
        - DescribeOrganizationPoliciesTemplate ... 147
        - DescribeOrganizationProjects ... 149
        - DescribeOrganizationQuotas ... 151
        - DescribeOrganizationResources ... 153
        - DescribeOrganizations ... 155
        - ModifyOrganization ... 157
        - ModifyOrganizationMemberPolicy ... 159
        - ModifyOrganizationProjects ... 161
      - Data structure ... 163
      - ErrorCode ... 168

Product Introduction
Product Overview

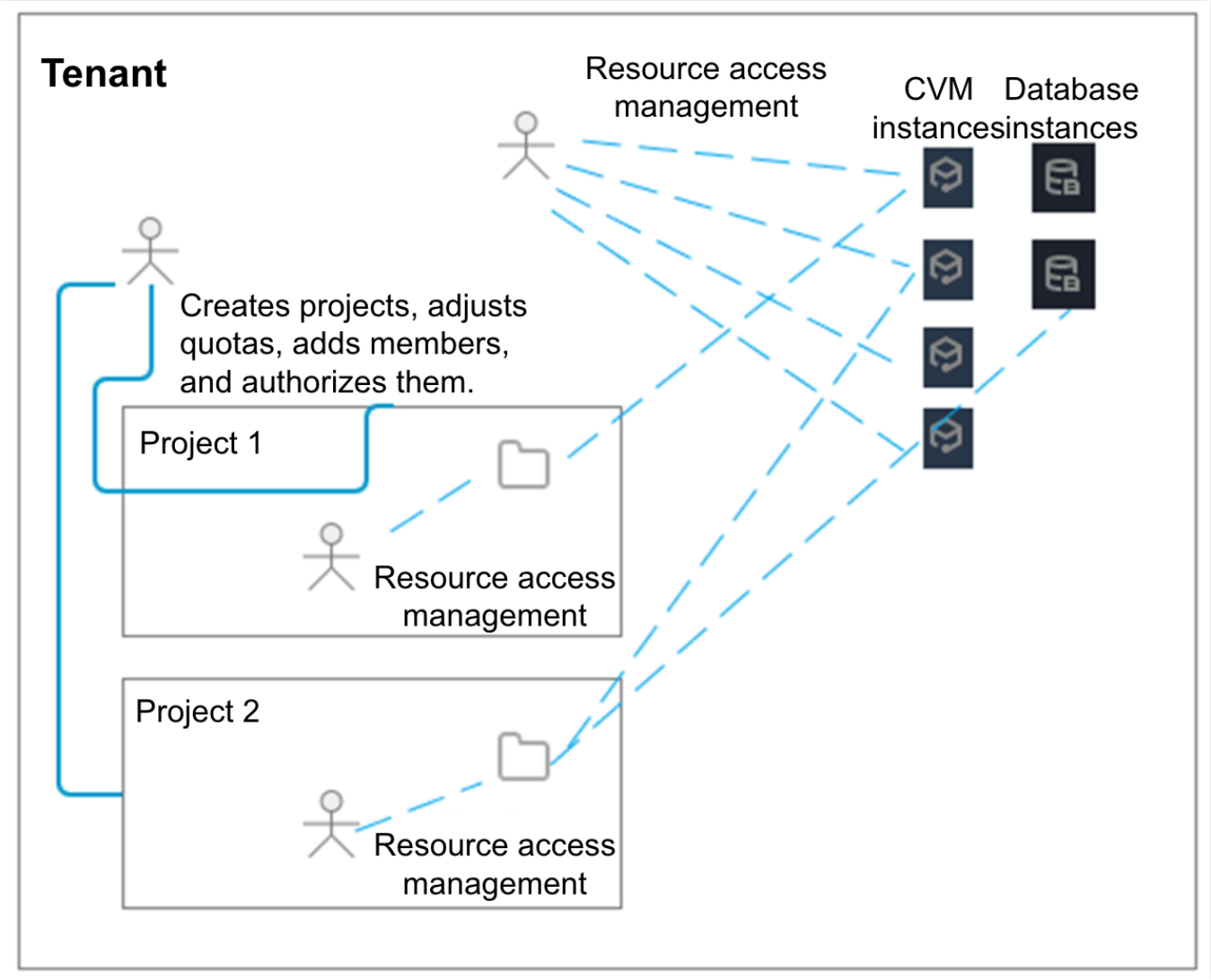
Project Management is a mechanism for resource grouping management within a cloud account. Resource groups can help you resolve complex issues such as resource grouping, authorization management, and quota management within a single cloud account.

Product Strengths

Project Management supports grouping resources within a single account based on dimensions such as departments and projects, thereby resolving complex issues such as fine-grained authorization, cost allocation, and quota management of resources, and improving the efficiency and experience of resource management.

Product Architecture

- The platform provides a feature for tenant resource grouping management. A project is a virtual organization with three main attributes: resources, quotas, as well as personnel and permissions.
- A resource instance can only join one project. If the ownership changes, the resource instance can be migrated to another project.
- A user can join multiple projects and can be granted different permissions in each project.
- A resource quota can be set for each project. If the quota for a project has been used up, new resources cannot be assigned to the project.



Use Cases

Categorizing Projects by Business

If your enterprise has a large number of cloud resources on the platform, and different resources belong to different departments or projects, you can manage them through projects, and different resources can be assigned to different projects:

- Resource management can be performed based on the organizational relationships of multiple branches and departments of the enterprise. Enterprise production security can be managed through resource configuration, access permissions, and operation tracing.
- The directory structure can be configured based on the projects required by the business to enable the enterprise to manage projects, including unified quota management and unified permission management.

Features

- Resource grouping
  You can perform centralized grouping management for multiple cloud resources across multiple regions under a single cloud account. You can group resources based on dimensions such as departments and projects, and transfer resources in and out within projects.
- Resource grouping authorization
  You can assign resource group permissions to users, enabling different users within the account to have permissions for resources in different resource groups.
- Resource cost allocation
  You can view your bill consumption data by resource group to resolve cost allocation issues for different businesses.
- Quota management
  A resource quota can be set for each project. If the quota for a project has been used up, new resources cannot be assigned to the project.

Usage Recommendations

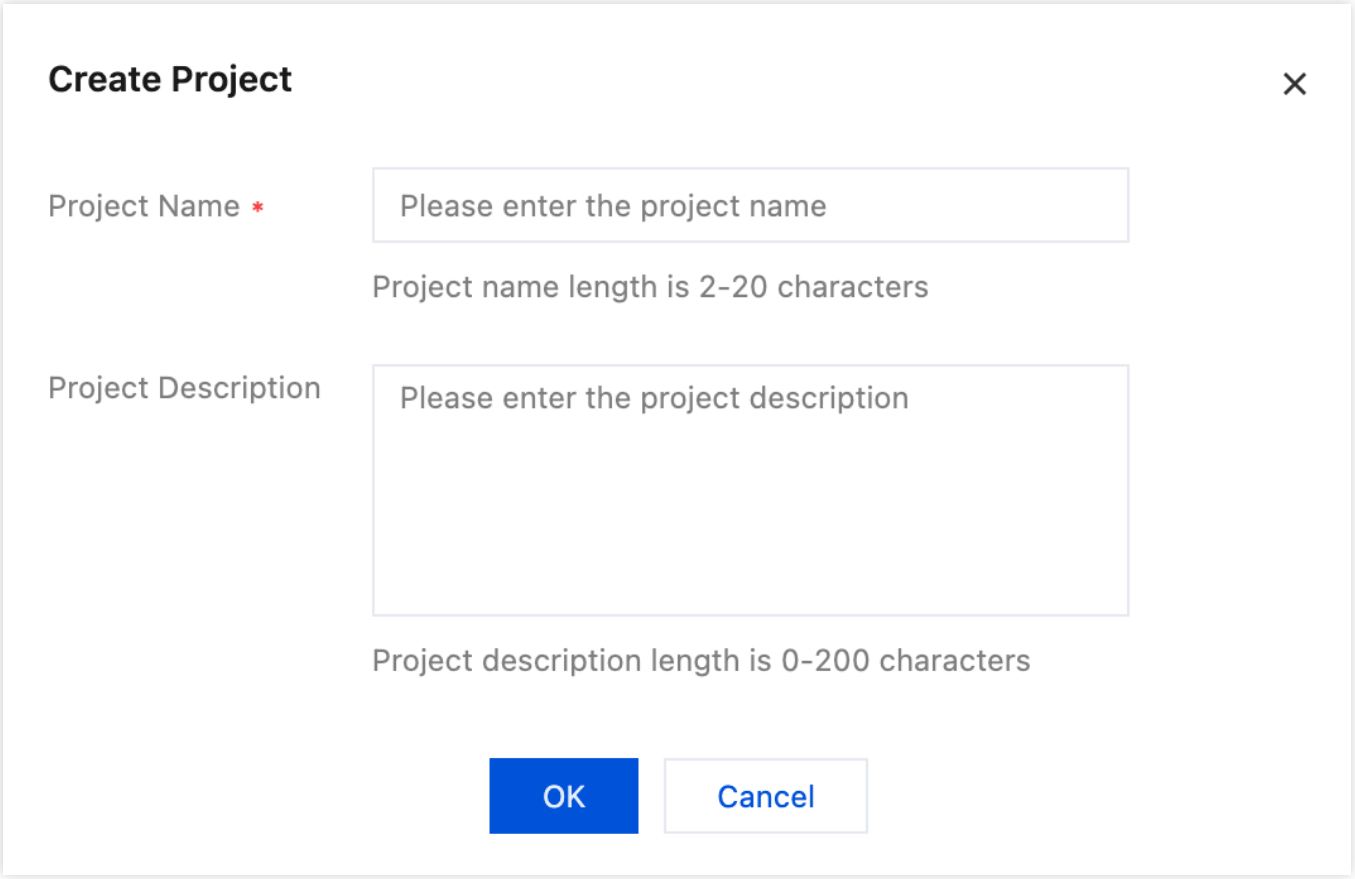
The scope of products integrated into project management is as follows.

Cloud Product	Resource Type
Cloud Virtual Machine (CVM)	Cloud virtual machine
Cloud File Storage (CFS)	File system
Cloud Block Storage (CBS)	Cloud disk
	Snapshot
Cloud Storage Private (CSP)	Bucket
Cloud Object Storage (COS)	Bucket
CloudDB for Redis® (Redis®)	Instance
TDSQL for MySQL	Instance
TDSQL for PostgreSQL	Instance
Cloud Load Balancer (CLB)	LB instance
Distributed Transaction Framework (DTF)	Transaction
TDMQ for CKafka (CKafka)	Instance
Cloud Task (TCT)	Deployment group
Big Data Suite (TBDS)	Instance

Operation Guide
Project Management

Creating a Project

1. Choose Resource Management Project Management.
2. Click New, and enter the project name and project description.
3. Click OK.



Modifying a Project

1. Choose Resource Management > Project Management.
2. On the Project List page, click Edit in the Operation column, and enter the project name and project description.
3. Click OK.

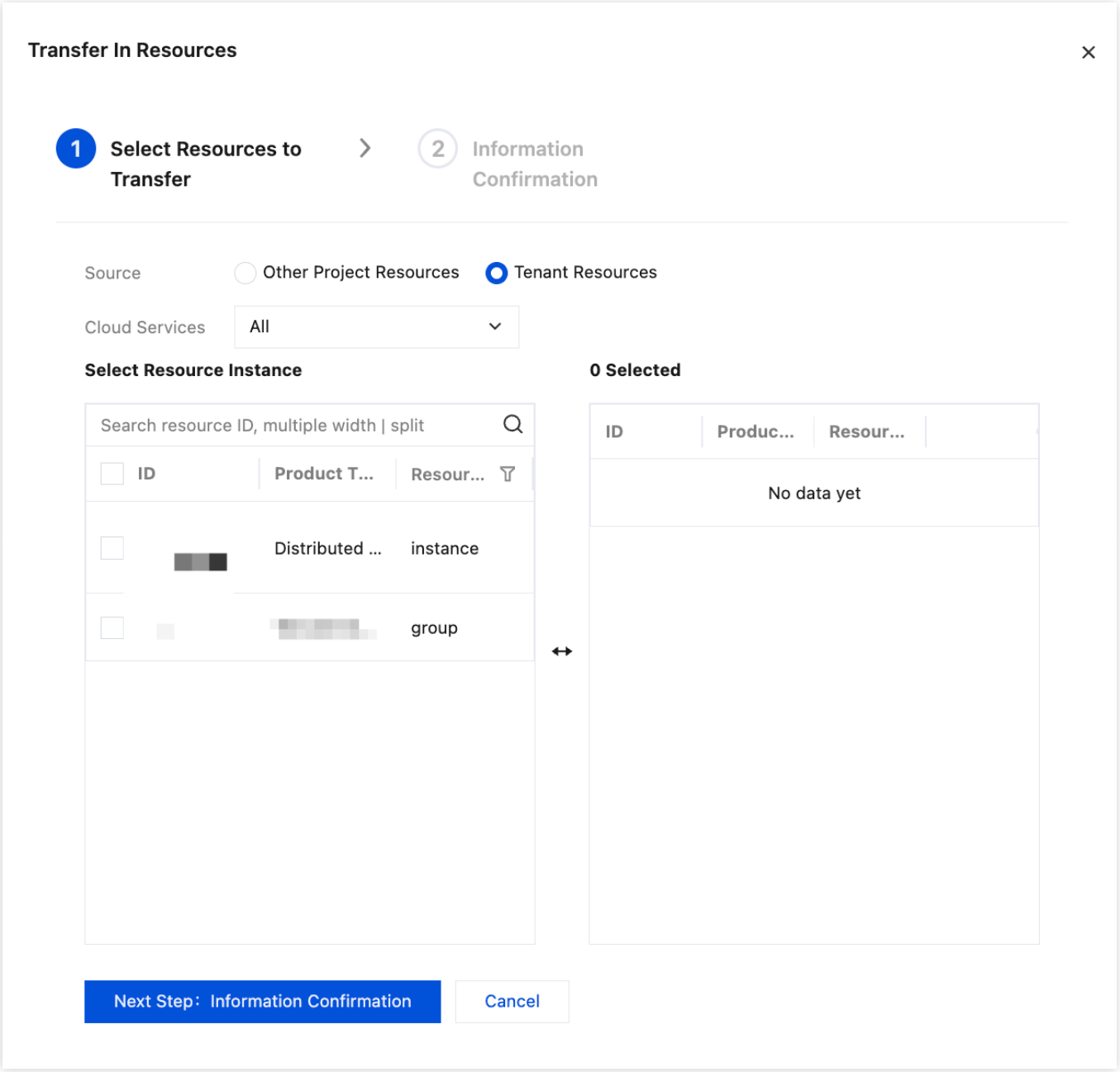
Deleting a Project

1. Choose Resource Management > Project Management.
2. On the Project List page, click Delete in the Operation column of the target project to delete it.

> Note:
>
> Before deleting a project, you should migrate all resources out of it. Otherwise, it cannot be deleted.

Migrating Resources into a Project

1. On the Project List page, select the project to be operated, and click its name to go to the Project Details page.
2. Click Transfer Resources and select the resource instances to be migrated into this project.
3. Click Next to confirm the resources to be migrated in.



Migrating Resources Out of a Project

1. On the Project List page, select the project to be operated, and click its name to go to the Project Details page.
2. Select the resources to be migrated out.
3. Click Transfer Out Resources.
4. In the pop-up box, you can choose to migrate resources out to a tenant or to a specified project.

Adding a User to a Project

1. On the Project List page, select the project to be operated, and click its name to go to the Project Details page.
2. Select the Member Management tab, and click Add Member and Grant Permissions.
3. In the pop-up box, select one or more users to be added to the project.
4. Click Next to select permission policies in the project for the user.
5. Click Next to confirm the information.

Removing a User from a Project

1. On the Project List page, select the project to be operated, and click its name to go to the Project Details page.
2. Select the Member Management tab, and check the members to be removed from the project.
3. Click Remove.

Editing Permissions for Users in a Project

1. On the Project List page, select the project to be operated, and click its name to go to the Project Details page.
2. Select the Member Management tab, and in the member list, click Edit in the Operation column.
3. In the pop-up box, select permission policies for users, and click OK.

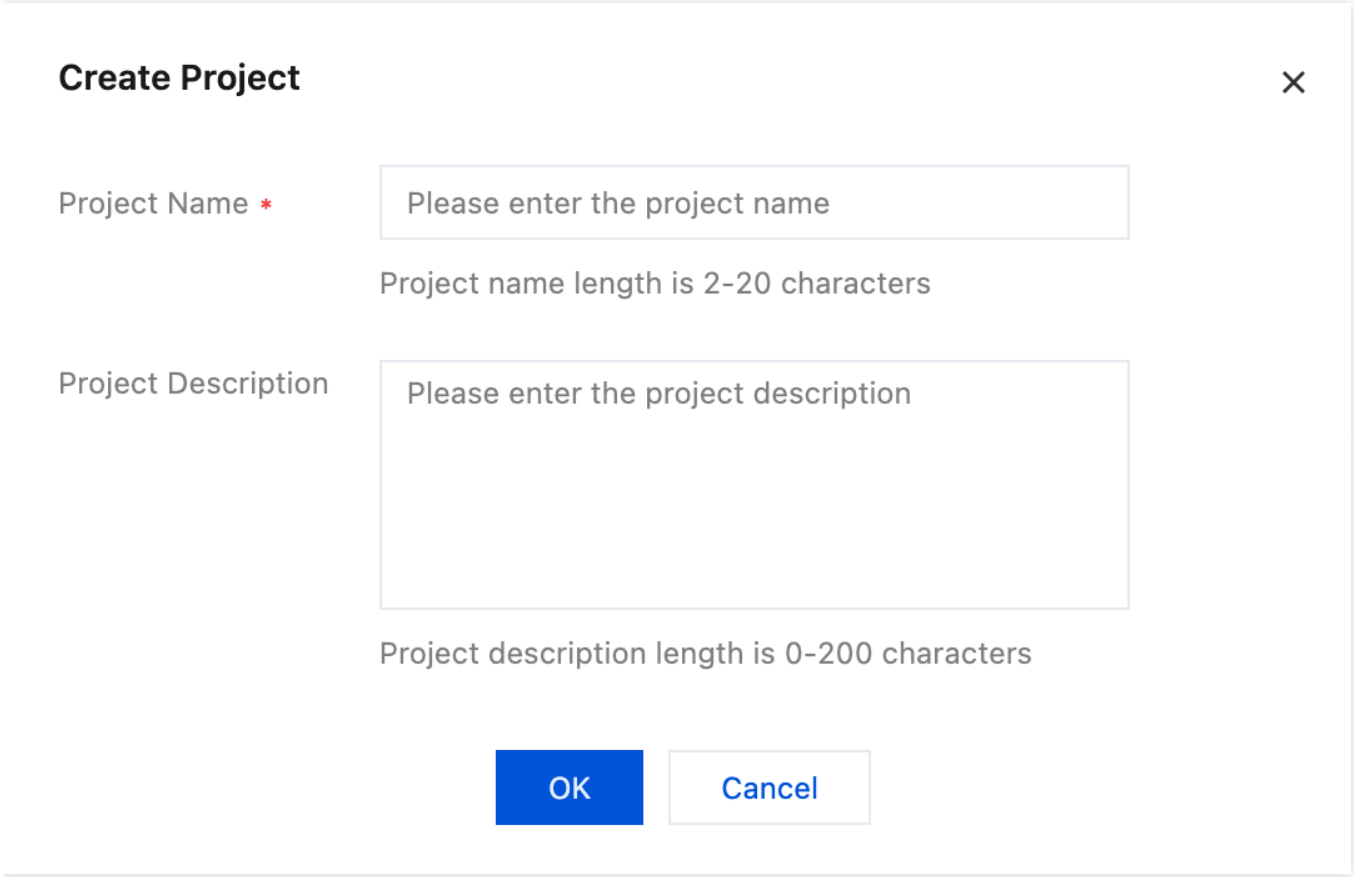
Viewing Project Quotas

1. On the Project List page, select the project to be operated, and click its name to go to the Project Details page.
2. Select the Quota Management tab to view the quota details of the products in the project.

Project Directory Management

Creating a Project Directory

1. Choose Resource Management Project Management.
2. Click New, select what the project directory is affiliated to, and enter the project directory name.



Deleting a Project Directory

1. Choose Resource Management Project Management.
2. Select the project directory to be deleted and click Delete.

Adding a Project to a Project Directory

1. Choose Resource Management Project Management.
2. In the project directory list on the left, select the project directory to be operated.
3. Click Add, and in the pop-up box, select the project to be added.

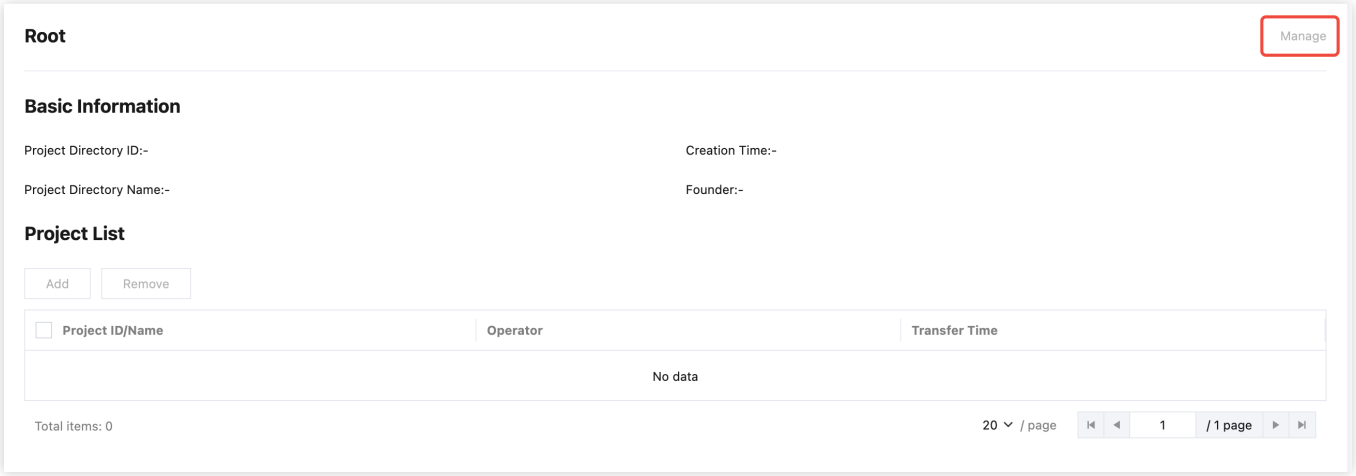
> Note:
>
> A project can be affiliated to at most one project directory.

Removing a Project from a Project Directory

1. Choose Resource Management Project Management.
2. In the project directory list on the left, select the project directory to be operated.
3. In the project list, select the project to be removed from the project directory.
4. Click Remove.

Viewing Projects in a Project Directory

1. Click the project directory node to be viewed.
2. Click Manage in the upper-right corner.



- Select the Project View tab, and in the search box in the upper-right corner, select the project directory node to be viewed. The list will display the directory list under the corresponding project directory node.

Viewing Resources in a Project Directory

1. Click the project directory node to be viewed.
2. Click Manage in the upper-right corner.
3. Select the Resource View tab, and in the search box in the upper-right corner, select the project directory node to be viewed. The list will display the resource list under the corresponding project directory node.

Viewing Quotas in a Project Directory

1. Click the project directory node to be viewed.
2. Click Manage in the upper-right corner.
3. Select the Project Quota View tab, and in the search box in the upper-right corner, select the project directory nodes to be viewed. The list will display the project quota list under the corresponding project directory node.

API Documentation
Organization and project.(tpo)
version(2020-09-20)
API overview

API version

V3

Project APIs

Interface name	Interface function
AddProjectMemberPolicy	AddProjectMemberPolicy
AddProjectQuota	AddProjectQuota
AddProjectResource	AddProjectResource
ApplyProjectQuota	ApplyProjectQuota
BatchAddProjectQuota	BatchAddProjectQuota
CheckActionPermission	CheckActionPermission
CheckProjectQuotas	CheckProjectQuotas
CreateProject	CreateProject
DeleteProject	DeleteProject
DeleteProjectQuota	DeleteProjectQuota
DeleteProjectResource	DeleteProjectResource
DescribeApplyProjectQuotaHistory	DescribeApplyProjectQuotaHistory
DescribeProductTree	DescribeProductTree
DescribeProjectMemberPolicies	DescribeProjectMemberPolicies

Interface name	Interface function
DescribeProjectMembers	DescribeProjectMembers
DescribeProjectNonMembers	DescribeProjectNonMembers
DescribeProjectPolicies	DescribeProjectPolicies
DescribeProjectQuotas	DescribeProjectQuotas
DescribeProjectResources	DescribeProjectResources
DescribeProjects	DescribeProjects
DescribeResourceAdminProjects	DescribeResourceAdminProjects
DescribeResourceRegions	DescribeResourceRegions
ModifyProjectMemberPolicy	ModifyProjectMemberPolicy
ModifyProjectName	ModifyProjectName
ModifyProjectQuota	ModifyProjectQuota
MoveProjectResource	MoveProjectResource
ProjectNameExists	ProjectNameExists
RemoveProjectMember	RemoveProjectMember

CallingMethod signaturev1

Converge Cloud 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 API Key page to apply for them; otherwise, you cannot invoke the API.

1. Applying for Security Credentials

Before using the API for the first time, go to the 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 Converge Cloud Console.
2. Go to the Cloud API Key page.
3. On the API Key Management page, click Create Key to create a SecretId/SecretKey pair.

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

2. Generating a Signature

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

Assume that the SecretId and SecretKey are:

- SecretId: AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
- SecretKey: Gu5t9xGARNpq86cd98joQYCN3EXAMPLE

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

Take the Cloud Virtual Machine's request to view the instance list (DescribeInstances) as an example. When

you invoke this API, the request parameters may be as follows:

Parameter name	Description	Parameter value
Action	Method name	DescribeInstances
SecretId	Key ID	AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
Timestamp	Current timestamp	1465185768
Nonce	Random positive integer	11886
Region	Region where the instance is located	luzon
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' : 'luzon',
    'SecretId' : 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE',
    'Timestamp' : 1465185768,
    'Version': '2017-03-12',
}
```

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

2.2. Concatenating a Request String

This step generates a request string.
Format the request parameters sorted in the previous step into the form of "parameter name"="parameter value". For example, for the Action parameter, its parameter name is "Action" and its parameter value is "DescribeInstances", so it will become Action=DescribeInstances after formatted.
Note: The "parameter value" is the original value but not the value after URL encoding.

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

```
Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Timestamp=1465185768&Version=2017-03-12
```

2.3. Concatenating the Signature Original String

This step generates a signature original string.
The signature original string consists of the following parameters:

1. HTTP method: POST and GET modes are supported, and GET is used here for the request. Please note that the method name should be in all capital letters.
2. Request host: the domain name of the request to view the list of instances (DescribeInstances) is cvm.convergecloud.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 Cloud 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.convergecloud.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Timestamp=1465185768&Version=2017-03-12
```

2.4. Generating a Signature String

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

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

```
$secretKey = 'Gu5t9xGARNpq86cd98joQYCN3EXAMPLE';
$srcStr = 'GETcvm.convergecloud.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit
=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPL
E&Timestamp=1465185768&Version=2017-03-12';
$signStr = base64_encode(hash_hmac('sha1', $srcStr, $secretKey, true));
echo $signStr;
```

The final signature is:

```
EliP9YW3pW28FpsEdkXt/+WcGeI=
```

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

3. Encoding a Signature String

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

For example, if the signature string generated in the previous step is EliP9YW3pW28FpsEdkXt/+WcGeI= , the final signature string request parameter (Signature) is EliP9YW3pW28FpsEdkXt%2f%2bWcGeI%3d, which will be used to generate the final request URL.

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

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

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

4. Signature Failure

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

Error code	Error description
AuthFailure.SignatureExpire	The signature is expired

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

5. Signature Demo

When calling API 3.0, you are recommended to use the corresponding Converge Cloud SDK 3.0, Swhich 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
- Node

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.convergecloud.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Signature=EliP9YW3pW28FpsEdkXt%2F%2BWcGeI%3D&Timestamp=1465185768&Version=2017-03-12

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

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

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

Java

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

public class CloudAPIDemo {
    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.convergecloud.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.convergecloud.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 valu
e is URL encoded here.
            url.append(k).append("=").append(URLEncoder.encode(params.get(k).toString(), CHARSET)).app
end("&");
        }
        return url.toString().substring(0, url.length() - 1);
```

```
    }

    public static void main(String[] args) throws Exception {
        TreeMap<String, Object> params = new TreeMap<String, Object>(); // TreeMap enables automati
c 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 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", "luzon"); // 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.convergecloud.com"
    data = {
        'Action' : 'DescribeInstances',
        'InstanceIds.0' : 'ins-09dx96dg',
        'Limit' : 20,
        'Nonce' : 11886,
        'Offset' : 0,
        'Region' : 'luzon',
        '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"])
    # n actual invocation would occur here, which may incur fees after success
    # resp = requests.get("https://" + endpoint, params=data)
    # print(resp.url)
```

signaturev3

Converge Cloud The API will authenticate each access request, meaning that each request must include signature information (Signature) in the public request parameters to verify the requester's identity.
The signature information is generated by the security credentials, which include SecretId and SecretKey . If the user does not have security credentials, please apply for them on the Cloud API Key page, otherwise they cannot call the Cloud API interfaces.

1. Apply for security credentials.

Before using the Cloud API for the first time, please go to the Cloud API Key page to apply for a security credential.
Security credentials include SecretId and SecretKey:

- SecretId The security credentials are used to identify the identity of the API caller.
- SecretKey The secret key is used to encrypt and sign the string for server-side verification of the signature.
- Users must strictly protect their security credentials and avoid disclosure them.

The specific steps to apply for security credentials are as follows:

1. Log in to Converge Cloud Administration Center Console
2. Go to the console page for cloud API keys
3. On the Cloud API Key page, click New to create a pair of SecretId/SecretKey

Note: Developer accounts can have up to two pairs SecretId / SecretKey.

2. TC3-HMAC-SHA256 signature method

Note: For GET method, only Content-Type: application/x-www-form-urlencoded protocol format is supported. For POST method, Content-Type: application/json and Content-Type: multipart/form-data are currently supported. By default, all business interfaces are supported in json format. Only specific business interfaces are supported in multipart format. In this case, the interface cannot be called in json format. Refer to the specific business interface document description.

The following takes Cloud Virtual Machine querying Region-1 instance list as an example to introduce the signature calculation process step by step. We only use two parameters for the query instance list: Limit and Offset, called using the GET method.

Assume that the SecretId and SecretKey of the user are AKIDz 8krbsJ 5yKBZQpn 74WFkmLPx 3EXAMPLE and Gu 5t9xGARNpq 86cd 98joQYCN3EXAMPLE, respectively.

2.1. splice specification request string

Concatenate CanonicalRequest strings in the following format:

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

- HTTPRequestMethod: HTTP request methods (GET, POST), GET in this example;
- CanonicalURI: URI parameter, API 3.0 fixed to forward slash (/);
- CanonicalQueryString: Query string in the URL that initiates the HTTP request. For POST requests, it is fixed as an empty string. For GET requests, it is the question mark (?) in the URL. The following string content, this example value is: Limit=10&Offset=0. Note: CanonicalQueryString needs to be URL encoded.
- CanonicalHeaders: The header information of participating signature, at least including host and content-type, can also be added with customized header to improve the uniqueness and security of its own request. Splicing rules: 1) head key and value are uniformly converted to lowercase, and the first and last spaces are removed, and spliced according to the format of key:value\n;2) multiple heads are spliced according to the dictionary sorting of head key (lowercase). In this example: content-type: application/x-www-form-urlencoded\nhost: cvm.convergecloud.com\n
- SignedHeaders: The header information involved in the signature indicates which headers participate in the signature of this request, and the header content contained in CanonicalHeaders is one-to-one corresponding. content-type and host are required headers. constructed as: 1) The head key is uniformly converted to lowercase; 2) Multiple header keys (lowercase) are concatenated according to dictionary sorting and separated by semicolons (;). In this case: content-type;host
- HashedRequestPayload: The hash value of the request body, calculated as Lowercase(HexEncode(Hash.SHA256(RequestPayload))), SHA256 hash the entire payload of the HTTP request body, then hexadecimal encoding, and finally converting the encoding string to lowercase letters. Note: For GET requests, RequestPayload is fixed as an empty string. For POST requests, RequestPayload is the payload of the HTTP request body.

According to the above rules, the resulting canonical request string in the example is as follows (for clarity, \nnewlines are replaced by a new line printed separately):

```
GET
```

```
/
Limit=10&Offset=0
content-type:application/x-www-form-urlencoded
host:cvm.convergecloud.com

content-type;host
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
```

2.2. Concatenate the string to be signed

Concatenate the string to be signed in the following format:

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

- Algorithm: Signature algorithm, currently fixed as TC3-HMAC-SHA256;
- RequestTimestamp: Request timestamp, i.e. the X-TC-Timestamp value of the request header. The request in the example above is 1539084154;
- CredentialScope: Credential range in the format Date/service/tc3_request, containing date, requested service and termination string (tc3_request). **Date is the date of UTC standard time, the value needs to be consistent with UTC standard time converted by common parameter X-TC-Timestamp **;service is the product name, which must be consistent with the product domain name called, such as cvm. The above example request, the value is 2018-10-09/cvm/tc3_request;
- HashedCanonicalRequest: The hash value of the canonical request string obtained by concatenating the above steps is calculated by Lowercase(HexEncode(Hash.SHA256(CanonicalRequest))).

note:

> 1. Date must be calculated from timestamp X-TC-Timestamp and time zone UTC+0. Adding local time zone information to the system, such as East Zone 8, will cause calls to succeed during the day and night, but calls to fail in the early hours of the morning. Assuming the timestamp is 1551113065, the time in the East Eight District is 2019-02-26 00:44:25, but the calculated Date with UTC+0 should be 2019-02-25 instead of 2019-02-26.
> 2. Timestamp must be the current system time and ensure that the system time and standard time are synchronized. If the difference exceeds five minutes, it will fail. If it is not synchronized with the standard time for a long time, it may cause the request to fail after running for a period of time (return signature expiration error).

According to the above rules, the string to be signed in the example is as follows (for clarity,\nnewlines are

replaced by new lines printed):

```
TC3-HMAC-SHA256
1539084154
2018-10-09/cvm/tc3_request
91c9c192c14460df6c1ffc69e34e6c5e90708de2a6d282cccf957dbf1aa7f3a7
```

2.3. calculate the signature

1. Compute the derived signature key, pseudocode as follows

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

- SecretKey: Original SecretKey;
- Date: That is, the Date field information in Credential, as shown in the example above, is 2018-10-09.;
- Service: That is, the Service field information in Credential, as shown in the example above, is cvm;

2. Calculate the signature, pseudocode as follows

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

- SecretSigning: That is, the derivative signature key calculated above;
- StringToSign: That is, the character string to be signed calculated in step 2;

2.4. Splicing Authorization

Splice as follows Authorization:

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

- Algorithm: Signature method, fixed as TC3-HMAC-SHA256;
- SecretId: SecretId in key pair;
- CredentialScope: See above, Scope of Voucher;
- SignedHeaders: See above, header information for participating signatures;
- Signature: signature value

According to the above rules, the values obtained in the example are:

```
TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_request, SignedHeaders=content-type;host, Signature=5da7a33f6993f0614b047e5df4582db9e9bf4672ba50567dba16c6ccf174c474
```

The final complete invocation information is as follows:

```
https://cvm.convergecloud.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.convergecloud.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1539084154
X-TC-Region: luzon
```

3. signing failed

According to the actual situation, there are the following signature failure error codes, please handle according to the actual situation

error code	error description
AuthFailure.SignatureExpire	signature expiration
AuthFailure.SecretIdNotFound	key is not present
AuthFailure.SignatureFailure	signature error
AuthFailure.TokenFailure	token error
AuthFailure.InvalidSecretId	Illegal key (not cloud API key type)

4. Signature Demo

Java

```
import java.io.BufferedReader;
import java.io.InputStream;
```

```
import java.io.InputStreamReader;
import java.net.URL;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.Map;
import java.util.TimeZone;
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.net.ssl.HttpsURLConnection;
import javax.xml.bind.DatatypeConverter;

import org.apache.commons.codec.digest.DigestUtils;

public class CloudAPITC3Demo {
    private final static String CHARSET = "UTF-8";
    private final static String ENDPOINT = "cvm.convergecloud.com";
    private final static String PATH = "/";
    private final static String SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE";
    private final static String SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE";
    private final static String CT_X_WWW_FORM_URLENCODED = "application/x-www-form-urlencode
d";
    private final static String CT_JSON = "application/json";
    private final static String CT_FORM_DATA = "multipart/form-data";

    public static byte[] sign256(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(CHARSET));
    }

    public static void main(String[] args) throws Exception {
        String service = "cvm";
        String host = "cvm.convergecloud.com";
        String region = "luzon";
        String action = "DescribeInstances";
        String version = "2017-03-12";
        String algorithm = "TC3-HMAC-SHA256";
        String timestamp = "1539084154";
        //String timestamp = String.valueOf(System.currentTimeMillis() / 1000);
        SimpleDateFormat sdf = new SimpleDateFormat("yyyy-MM-dd");
        // Pay attention to the time zone, otherwise it is easy to make mistakes.
        sdf.setTimeZone(TimeZone.getTimeZone("UTC"));
        String date = sdf.format(new Date(Long.valueOf(timestamp + "000")));

        // ************* Step 1: Assemble the specification request string *************
```

```
        String httpRequestMethod = "GET";
        String canonicalUri = "/";
        String canonicalQueryString = "Limit=10&Offset=0";
        String canonicalHeaders = "content-type:application/x-www-form-urlencoded\n" + "host:" + host
+ "\n";
        String signedHeaders = "content-type;host";
        String hashedRequestPayload = DigestUtils.sha256Hex("");
        String canonicalRequest = httpRequestMethod + "\n" + canonicalUri + "\n" + canonicalQueryStri
ng + "\n"
                + canonicalHeaders + "\n" + signedHeaders + "\n" + hashedRequestPayload;
        System.out.println(canonicalRequest);

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

        // ************* Step 3: Calculate the signature *************
        byte[] secretDate = sign256(("TC3" + SECRET_KEY).getBytes(CHARSET), date);
        byte[] secretService = sign256(secretDate, service);
        byte[] secretSigning = sign256(secretService, "tc3_request");
        String signature = DatatypeConverter.printHexBinary(sign256(secretSigning, stringToSign)).toLow
erCase();
        System.out.println(signature);

        // ************* Step 4: Splicing 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("Host", host);
        headers.put("Content-Type", CT_X_WWW_FORM_URLENCODED);
        headers.put("X-TC-Action", action);
        headers.put("X-TC-Timestamp", timestamp);
        headers.put("X-TC-Version", version);
        headers.put("X-TC-Region", region);
    }
}
```

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.convergecloud.com"
endpoint = "https://" + host
region = "luzon"
action = "DescribeInstances"
version = "2017-03-12"
algorithm = "TC3-HMAC-SHA256"
timestamp = 1539084154
date = datetime.utcfromtimestamp(timestamp).strftime("%Y-%m-%d")
params = {"Limit": 10, "Offset": 0}

# ************* Step 1: Assemble the specification request string *************
http_request_method = "GET"
canonical_uri = "/"
canonical_querystring = "Limit=10&Offset=0"
ct = "x-www-form-urlencoded"
payload = ""
if http_request_method == "POST":
    canonical_querystring = ""
    ct = "json"
    payload = json.dumps(params)
canonical_headers = "content-type:application/%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: Stitching 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 *************
# Compute signature digest 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: Splicing Authorization *************
authorization = (algorithm + " " +
                 "Credential=" + secret_id + "/" + credential_scope + ", " +
                 "SignedHeaders=" + signed_headers + ", " +
                 "Signature=" + signature)
print(authorization)

# Common parameters added to request header
headers = {
    "Authorization": authorization,
    "Host": host,
    "Content-Type": "application/%s" % ct,
    "X-TC-Action": action,
    "X-TC-Timestamp": str(timestamp),
    "X-TC-Version": version,
    "X-TC-Region": region,
}
```

request

1. Service Address

Region refers to the geographical area of a physical data center. Converge Cloud ensures complete isolation between different regions, providing maximum stability and fault tolerance. To reduce access latency and improve download speed, it is recommended to choose the region closest to your customers.

You can view the complete region list by using the API interface "DescribeRegions".

2. Communications Protocol

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

3. Request Methods

Supported HTTP request methods:

- POST (recommended)
- GET

PThe 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.

result

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 check your signature is cor
rect."
        },
        "RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
    }
}
```

- The presence of the Error field indicates that the request has failed. A response for a failed request will include Error, Code and Message fields.

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

Common Error Codes

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

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

Error Code	Description
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	hHTTPS request method error. Only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

PublicParameter

Common parameters are parameters used to identify users and interface authentication purposes. If not necessary, these parameters are not described in the separate interface document of each interface, but these parameters need to be carried in each request before the request can be normally initiated.

signature method v3

When using TC3-HMAC-SHA256 signature method, the common parameters need to be uniformly placed in the HTTP Header request header, as follows:

parameter name	type	required	described
X-TC-Action	String	Yes	The name of the operation interface. Refer to the description of the public parameter Action in the input parameters of the interface documentation for the value. For example, the value for the query instance list interface of the cloud server is DescribeInstances.
X-TC-Region	String	Yes	region parameters, Data used to identify which region you wish to operate on. The region value accepted by the interface refers to the description of the input parameter common parameter Region in the interface document. Note: Some interfaces do not need to pass this parameter, which is specifically stated in the interface documentation. In this case, even passing this parameter will not take effect.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp, which records the time when the API request was initiated. for example 1529223702. Note: If the time difference from the server exceeds 5 minutes, it will cause a signature expiration error.
X-TC-Version	String	Yes	Version of API for operation. Refer to the description of the public parameter Version in the interface document for the value. For example, the version of the cloud server. 2017-03-12.
Authorization	String	Yes	HTTP The standard authentication header field is "Authorization". 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: Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is a date in UTC time, and this value must match the value of X-TC-Timestamp (a common parameter) in UTC time format; service is the name of the product/service, and is generally a domain name prefix. For example,cvm; - SignedHeaders: The headers that contains the authentication information; content-type and host are the required headers; - Signature: Signature digest.
X-TC-Token	String	No	The token used for temporary certificates needs to be used in conjunction with a temporary key. Temporary keys and tokens need to be obtained by calling the access management service interface. Long-term keys do not require tokens.

signature method v1

When using HmacSHA1 and HmacSHA256 signature methods, common parameters need to be placed uniformly in the request string, as follows

parameter name	type	required	described
Action	String	Yes	The name of the interface to be operated. The value refers to the explanation of the public parameter Action in the interface documentation. For example, for the cloud server's query instance list interface, the value is DescribeInstances .
Region	String	Yes	The region parameter is used to identify which region's data you want to operate on. The region value accepted by the interface is specified in the input parameter of the public parameter Region in the interface documentation. Note: Some interfaces do not require this parameter to be passed, which will be specifically mentioned in the interface documentation. Even if this parameter is passed, it will not take effect in this case.
Timestamp	Integer	Yes	The current UNIX timestamp, which can record the time when the API request is initiated. For example, 1529223702. If the difference between the current time is too large, it will cause a signature expiration error.
Nonce	Integer	Yes	A random positive integer combined with Timestamp is used to prevent replay attacks.
SecretId	String	Yes	The SecretId is an identifier applied for the cloud API key to identify the user's identity. A SecretId corresponds to a unique SecretKey , and the SecretKey is used to generate the request signature Signature .
Signature	String	Yes	Request signature is used to verify the legitimacy of this request. Users need to calculate it based on the actual input parameters. The specific calculation method can be found in the interface authentication documentation.
Version	String	Yes	The version of the API being operated on. The value refers to the description of the public parameter Version in the interface documentation. For example, the version of the cloud server. 2017-03-12.
SignatureMethod	String	No	Signature method, currently supports HmacSHA256 and HmacSHA1. HmacSHA256 algorithm is used to verify signatures only if this parameter is specified as HmacSHA 256, otherwise HmacSHA1 is used to verify signatures.
Token	String	No	Token used for temporary certificate needs to be used together with temporary key. The temporary key and Token need to be obtained from the Access Management service invocation interface. Long-term keys do not require tokens.

zone list

A region (Region) refers to the geographical area of a physical data center. Converge Cloud Translation: To deliver verification that completely isolates different regions, ensuring maximum stability and fault tolerance between regions. In order to reduce access latency and improve download speed, it is recommended that you choose the region closest to your customers.

You can view the complete region list by using the API interface Query Region List.

Project APIs
AddProjectMemberPolicy

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for adding users and granting permissions

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: AddProjectMemberPolicy
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
Uins	Yes	No	Array of Uint64	User ID list. Example: [1000,1001]
PolicyNames	Yes	No	Array of String	Name of policy that you want to add. Example: ["policygen-20141112201913","policygen-20141112201914"]

3. Output Parameters

Parameter name	Type	Description
SuccessfulUins	Array of UinPolicy	Success list. Example:View
FailedUins	Array of UinPolicy	Failure list. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InternalError.DatabaseError	Internal database error.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
UnauthorizedOperation.AuthFailedError	Authentication failed.

AddProjectQuota

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for adding a quota to a project

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: AddProjectQuota
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
ProductCode	Yes	No	String	Definition of a level-1 product. Example: p_cvm
SubProductCode	No	No	String	Definition of a level-2 product. Example: sp_cvm_sh1
BillingItemCode	No	No	String	Definition of a level-3 product. Example: v_cvm_cpu

Parameter name	Required	Allow NULL	Type	Description
SubBillingItemCode	No	No	String	Definition of a level-4 product. Example: sv_cbs_memspace_common
ProductQuota	No	No	Uint64	Quota of a level-1 product. Example: 100
SubProductQuota	No	No	Uint64	Quota of a level-2 product. Example: 0
BillingItemQuota	No	No	Uint64	Quota of a level-3 product. Example: 100
SubBillingItemQuota	No	No	Uint64	Quota of a level-4 product. Example: 0

3. Output Parameters

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

Error Code	Description
InvalidParameter.InvalidProjectQuota	Invalid quota.

AddProjectResource

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

Adds resources to a project.

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: AddProjectResource
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
ResourceList	Yes	No	Array of TransferResource	List of resources to be added. Example:View

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.
InvalidParameter.UnsupportedProductCodeError	Unsupported ProductCode value.
ResourceNotFound.ProjectResourceNotFound	No project resource exists.

ApplyProjectQuota

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

This API is used to apply for project quotas.

Default interface request rate limit: 20 times per second.

Interface update time: 2023-05-12 16:52:18.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ApplyProjectQuota
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
ProductCode	Yes	No	String	Product Code Example: p_tct
ProductName	Yes	No	String	Product Name Example: tct
QuotaKey	Yes	No	String	Quota key Example: p_cvm###
QuotaName	Yes	No	String	Quota name Example: CloudDB for Redis

Parameter name	Required	Allow NULL	Type	Description
QuotaValue	Yes	No	Uint64	Quota value. Example: 100
QuotaUsed	Yes	No	Uint64	Used quota quantity Example: 100
ApplyQuotaValue	Yes	No	Uint64	Requested quota quantity Example: 100
Reason	Yes	No	String	Application Reasons Example: Application for 100 CVMs.

3. Output Parameters

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InvalidParameter.EmptyParameter	A parameter is not specified.
InvalidParameter.InvalidParameter	Invalid parameter.
InvalidParameter.InvalidProjectQuota	Invalid quota.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.UnsupportedProductCodeError	Unsupported ProductCode value.
InvalidParameter.UsedQuotaNotEnough	The new quota must be greater than the used quota.

Error Code	Description
ResourceNotFound.ProjectNotFoundError	The project does not exist.
UnauthorizedOperation.AuthFailedError	Authentication failed.
InternalError.DatabaseError	Internal database error.

BatchAddProjectQuota

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for importing quotas in batches

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-21 16:55:24.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: BatchAddProjectQuota
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
QuotaSet	Yes	No	Array of AddQuota	Quota that you want to add. Example:View

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
AddList	Array of AddQuota	Add to a list Example:View
AddSuccess	Bool	Whether the addition is successful. 1: yes; 0: no. Example: true
UpdateList	Array of AddQuota	Update list Example:View
UpdateSuccess	Bool	Whether the update is successful. 1: yes; 0: no. Example: true
ErrorList	Array of AddQuota	Error list Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

CheckActionPermission

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

This API is used to check API permissions.

Default interface request rate limit: 20 times per second.

Interface update time: 2023-05-12 16:52:28.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: CheckActionPermission
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
CheckAction	Yes	No	String	API to be checked Example: ""
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InvalidParameter.EmptyParameter	A parameter is not specified.
InvalidParameter.InvalidParameter	Invalid parameter.
InvalidParameter.InvalidProjectQuota	Invalid quota.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.UnsupportedProductCodeError	Unsupported ProductCode value.
InvalidParameter.UsedQuotaNotEnough	The new quota must be greater than the used quota.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
UnauthorizedOperation.AuthFailedError	Authentication failed.
InternalError.DatabaseError	Internal database error.

CheckProjectQuotas

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for checking whether a quota is valid.

Default interface request rate limit: 20 times per second.

Interface update time: 2023-03-07 11:20:32.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: CheckProjectQuotas
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
QuotaSet	No	No	Array of QuotaNames	Quota name. Example:View

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
QuotaSet	Array of QuotaChecking	List of quotas. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

CreateProject

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for creating a project

Default interface request rate limit: 20 times per second.

Interface update time: 2023-07-24 14:40:24.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: CreateProject
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectName	Yes	No	String	Project name. Example: pr1
Organization	No	No	String	Corresponding organization. Example: org1
ProjectDescription	No	No	String	Project description Example: prdesc

3. Output Parameters

Parameter name	Type	Description
ProjectId	String	Project ID Example: pr-dcd34c11
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InvalidParameter.ProjectNameTooLong	The project name includes excessive characters.
InvalidParameter.EmptyParameter	A parameter is not specified.
InternalError.ComponentFail	Failed to call an API of other components.

DeleteProject

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for deleting projects

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DeleteProject
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11

3. Output Parameters

Parameter name	Type	Description
ProjectId	String	Project ID Example: pr-dcd34c11

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.DatabaseError	Internal database error.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
FailedOperation.ProjectResourceNotEmpty	Project resources are not empty.
FailedOperation.ProjectQuotaNotEmpty	The project quota is not empty.

DeleteProjectQuota

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for deleting a project quota

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DeleteProjectQuota
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
ResourceList	Yes	No	Array of DeleteQuota	Resource list Example:View

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

DeleteProjectResource

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for transferring a resource from a project.

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DeleteProjectResource
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
ResourceList	Yes	No	Array of TransferResource	Resource list Example:View

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.
InvalidParameter.UnsupportedProductCodeError	Unsupported ProductCode value.
FailedOperation.ProjectCountError	Excessive number of projects corresponding to resources.
ResourceNotFound.ProjectResourceNotFound	No project resource exists.

DescribeApplyProjectQuotaHistory

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

This API is used to query the project quota application history.

Default interface request rate limit: 20 times per second.

Interface update time: 2023-05-12 16:52:11.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeApplyProjectQuotaHistory
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
PageNumber	No	No	Uint64	Page number. Example: 100
PageSize	No	No	Uint64	Number of entries per page Example: 100

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
ApplyProjectQuotaHistorySet	ApplyProjectQuotaHistory	Quota application history list Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InvalidParameter.EmptyParameter	A parameter is not specified.
InvalidParameter.InvalidParameter	Invalid parameter.
InvalidParameter.InvalidProjectQuota	Invalid quota.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.UnsupportedProductCodeError	Unsupported ProductCode value.
InvalidParameter.UsedQuotaNotEnough	The new quota must be greater than the used quota.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
UnauthorizedOperation.AuthFailedError	Authentication failed.
InternalError.DatabaseError	Internal database error.

DescribeProductTree

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying products in each level

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProductTree
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProductCode	No	No	String	Level-1 product. Example: p_cvm
SubProductCode	No	No	String	Level-2 product. Example: sp_cvm_vself2
BillingItemCode	No	No	String	Level-3 product. Example: v_eip_hour
SubBillingItemCode	No	No	String	Level-4 product. Example: sv_eip_hour
AccessTypes	No	No	Array of String	Method to obtain resource IDs. Valid values: billing and local. billing: synchronizes resource IDs from resource billing. local: synchronizes resource IDs from vertical products. Example: ["local"]
Status	No	No	String	Quota Status. Example: 1

3. Output Parameters

Parameter name	Type	Description
ProductSet	Array of Product	List of level-1 products. Example:View
SubProductSet	Array of Product	List of level-2 products. Example:View
BillingItemSet	Array of Product	List of level-3 products. Example:View
SubBillingItemSet	Array of Product	List of level-4 products. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.

DescribeProjectMemberPolicies

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying a list of user's project policies

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProjectMemberPolicies
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
AccountUin	Yes	No	Uint64	User UIN. Example: 100
Filter	No	No	PolicyFilter	Filter parameter Example:View

3. Output Parameters

Parameter name	Type	Description
OwnedPolicies	Array of Policy	Added Policies. Example:View
Policies	Array of Policy	Policies that are not added. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

DescribeProjectMembers

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying project members

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProjectMembers
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
PageNumber	No	No	Uint64	Page number. Example: 100
PageSize	No	No	Uint64	Number of entries per page. Example: 100
Filter	No	No	ProjectMemberFilter	Search conditions Example:View

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
MemberSet	Array of ProjectMember	List of members. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.DatabaseError	Internal database error.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
UnauthorizedOperation.AuthFailedError	Authentication failed.

DescribeProjectNonMembers

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying all non-project members associated with a tenant

Default interface request rate limit: 20 times per second.

Interface update time: 2024-10-14 15:04:32.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProjectNonMembers
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
PageNumber	No	No	Uint64	Page number. Example: 100
PageSize	No	No	Uint64	Number of entries per page. Example: 100
Filter	No	No	ProjectMemberFilter	Search parameters. Example:View

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
MemberSet	Array of ProjectMember	List of members. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.
ResourceNotFound.ProjectNotFoundError	The project does not exist.

DescribeProjectPolicies

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying a list of all policies on a project

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProjectPolicies
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
PageNumber	No	No	Uint64	Page number. Example: 100
PageSize	No	No	Uint64	Number of entries per page. Example: 100
Filter	No	No	PolicyFilter	Fuzzy matching. Example:View

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
PolicySet	Array of Policy	Policy list Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.DatabaseError	Internal database error.

DescribeProjectQuotas

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying a project quota

Default interface request rate limit: 20 times per second.

Interface update time: 2024-10-10 20:03:50.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProjectQuotas
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
PageNumber	No	No	Uint64	Page number. Example: 100
PageSize	No	No	Uint64	Number of entries per page. Example: 100
Filter	No	No	ProjectQuotaFilter	Search conditions Example:View

Parameter name	Required	Allow NULL	Type	Description
Status	No	No	String	Quota Status. Example: 1

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
QuotaSet	Array of ProjectQuota	List of quotas. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

DescribeProjectResources

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying a project resource list

Default interface request rate limit: 20 times per second.

Interface update time: 2023-10-13 11:18:22.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProjectResources
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
PageNumber	No	No	Uint64	Page number. Example: 100
PageSize	No	No	Uint64	Number of entries per page. Example: 100
Filter	No	No	ProjectResourceFilter	Search conditions Example:View

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
ResourceSet	Array of ProjectResource	Resource list Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

DescribeProjects

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying a project list

Default interface request rate limit: 20 times per second.

Interface update time: 2023-07-24 14:42:18.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeProjects
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
PageNumber	No	No	Uint64	Page number. Example: 100
PageSize	No	No	Uint64	Number of entries per page. Example: 100
Filter	No	No	DescribeProjectsFilter	Filter Example:View
MemberUin	No	No	String	Member UIN. Example: 100

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
ProjectSet	Array of Project	List of projects. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.DatabaseError	Internal database error.

DescribeResourceAdminProjects

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying a list of projects with permissions on resource transfer

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeResourceAdminProjects
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.

3. Output Parameters

Parameter name	Type	Description
TotalCount	Uint64	Total. Example: 100
ProjectSet	Array of ResourceAdminProject	List of projects. Example:View

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

DescribeResourceRegions

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying all resource regions

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeResourceRegions
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.

3. Output Parameters

Parameter name	Type	Description
RegionSet	Array of Region	The regions. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.

ModifyProjectMemberPolicy

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for modifying the authorization policy of a user

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ModifyProjectMemberPolicy
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
AccountUin	Yes	No	Uint64	User UID. Example: 100
PolicyNames	Yes	No	Array of String	List of policy names that you want to add. Example: ["policygen-20141112201913","policygen-20141112201914"]

3. Output Parameters

Parameter name	Type	Description
PolicyNames	Array of	List of policy names.

Parameter name	Type	Description
	String	Example: ["policygen-20141112201913","policygen-20141112201914"]
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

ModifyProjectName

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for modifying a project name

Default interface request rate limit: 20 times per second.

Interface update time: 2023-07-24 14:39:49.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ModifyProjectName
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID. Example: pr-dcd34c11
ProjectName	Yes	No	String	Project Name Example: pr1
ProjectDescription	No	No	String	Project description Example: prdesc

3. Output Parameters

Parameter name	Type	Description
ProjectId	String	Project ID. Example: pr-dcd34c11
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InvalidParameter.ProjectNameTooLong	The project name includes excessive characters.
InternalError.ComponentFail	Failed to call an API of other components.
InvalidParameter.EmptyParameter	A parameter is not specified.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

ModifyProjectQuota

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for modifying a project quota.

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ModifyProjectQuota
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
ProductCode	Yes	No	String	Definition of a level-1 product. Example: p_cvm
QuotaKey	Yes	No	String	Quota key-value pair. Example: p_cvm###
QuotaValue	Yes	No	String	Quota value. Example: 100

3. Output Parameters

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InvalidParameter.EmptyParameter	A parameter is not specified.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
InvalidParameter.InvalidParameter	Invalid parameter.
InvalidParameter.UsedQuotaNotEnough	The new quota must be greater than the used quota.
UnauthorizedOperation.AuthFailedError	Authentication failed.

MoveProjectResource

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

None

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: MoveProjectResource
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OldProjectId	Yes	No	String	Original project. Example: pr-dcd34c11
NewProjectId	Yes	No	String	New project. Example: pr-dcd34c11
ResourceList	Yes	No	Array of TransferResource	Resource Example:View

3. Output Parameters

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.
InvalidParameter.UnsupportedProductCodeError	Unsupported ProductCode value.
ResourceNotFound.ProjectResourceNotFound	No project resource exists.
FailedOperation.ProjectCountError	Excessive number of projects corresponding to resources.
FailedOperation.ProjectResourceNotEmpty	Project resources are not empty.

ProjectNameExists

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for querying whether project names are unique

Default interface request rate limit: 20 times per second.

Interface update time: 2022-12-09 16:15:26.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ProjectNameExists
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectName	Yes	No	String	Project name. Example: pr1

3. Output Parameters

Parameter name	Type	Description
Exist	Bool	Whether it exists. Example: true

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.DatabaseError	Internal database error.

RemoveProjectMember

1. Interface Description

Interface request domain name: tpo.api3.convergecloud.com.

API for removing members from a project

Default interface request rate limit: 20 times per second.

Interface update time: 2022-11-18 17:30:37.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: RemoveProjectMember
Version	Yes	No	String	Public parameter, The value of this interface: 2020-09-20
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ProjectId	Yes	No	String	Project ID Example: pr-dcd34c11
Uins	Yes	No	Array of Uint64	List of UIDs that you want to remove. Example: [1000,1001]

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
Uins	Array of Uint64	List of UINs of users that are removed. Example: [1000,1001]
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InternalError.ComponentFail	Failed to call an API of other components.
InternalError.InvalidHTTPCode	Invalid HTTP code.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InternalError.DatabaseError	Internal database error.
UnauthorizedOperation.AuthFailedError	Authentication failed.

Data structure

ProjectMemberFilter

Query.

Referenced by the following interfaces: DescribeProjectMembers, DescribeProjectNonMembers

name	required	NULL allowed	type	description
Keyword	no	no	String	User ID or user name that serves as a fuzzy search condition. Example: ""

ProjectResourceFilter

Conditions for a resource list search.

Referenced by the following interfaces: DescribeProjectResources

name	required	NULL allowed	type	description
ResourceId	no	no	String	Resource ID. Example: ins-abzttwhl
RegionId	no	no	Uint64	Region Example: 5000001
ProductCode	no	no	String	Product ID Example: p_cvm
ResourceType	no	no	String	Resource type. This parameter is not supported. Example: cvm
Keyword	no	no	String	Resource ID or resource name that serves as a fuzzy search condition. Example: ins-dsad12
Product	no	no	String	Product ID Example: p_cvm
ServiceType	no	no	String	Service Type Example: cvm

DescribeProjectsFilter

API for querying list search conditions for a project

Referenced by the following interfaces: DescribeProjects

name	required	NULL allowed	type	description

name	required	NULL allowed	type	description
Keyword	no	no	String	Project ID or project name that serves as a fuzzy search condition. Example: ""
Type	no	no	Uint64	Match type Example: 1

Products

Product.

Referenced by the following interfaces: DescribeProducts

name	required	NULL allowed	type	description
ProductName	yes	no	String	Product name Example: cvm
ResourceTypes	yes	no	Array of Resource	Resource type. Example:View

Resource

Resource Type

Referenced by the following interfaces: DescribeProducts

name	required	NULL allowed	type	description
ProductCode	yes	no	String	Product ID Example: p_cvm
ResourceType	yes	no	String	Resource type. Example: volume
ServiceType	yes	no	String	Service type, corresponding to CAM serviceType Example: cvm

TransferResource

Resource transfer.

Referenced by the following interfaces: AddProjectResource, DeleteProjectResource, MoveProjectResource

name	required	NULL allowed	type	description
ProductCode	yes	no	String	Product Code Example: p_cvm

name	required	NULL allowed	type	description
RegionId	yes	no	String	Region ID Example: 500001
ResourceId	yes	no	String	Resource ID. Example: ins-abzttwhl
Uin	no	no	String	User UIN. Example: 1000
Region	no	no	String	Region Example: region1

QuotaChecking

Quota verification result

Referenced by the following interfaces: CheckProjectQuotas

name	required	NULL allowed	type	description
BillingItemCode	yes	no	String	Level-3 product. Example: v_cvm_cpu
BillingItemName	yes	no	String	Product item Example: Storage Space
Error	yes	no	String	Error Content Example: operation error
Exists	yes	no	Bool	Whether there is a quota. true: yes; false: no. Example: true
ProductCode	yes	no	String	Product Code Example: p_cvm
ProductName	yes	no	String	Product name. Example: cvm
QuotaKey	yes	no	String	Quota key. Example: p_cvm###
QuotaLeft	yes	no	String	The remaining quota. Example: 100
QuotaUsed	yes	no	String	Used Quota Example: 100
QuotaValue	yes	no	String	Quota Example: 100
SubBillingItemCode	yes	no	String	Level-4 product. Example: sv_cbs_memspace_common

name	required	NULL allowed	type	description
SubBillingItemName	yes	no	String	Product details Example: SSD cloud disk - storage space.
SubProductCode	yes	no	String	Level-2 product. Example: sp_cvm_sh1
SubProductName	yes	no	String	Sub-product name Example: SSD Cloud Disk
Success	yes	no	Bool	Whether it is valid. 1: yes; 0: no, Example: true

ProjectQuotaFilter

Quota query conditions.

Referenced by the following interfaces: DescribeProjectQuotas

name	required	NULL allowed	type	description
ProductCode	yes	no	String	Level-1 product. Example: p_cvm
SubProductCode	no	no	String	Level-2 product. Example: sp_cvm_sh1
BillingItemCode	no	no	String	Level-3 product. Example: v_cvm_cpu
SubBillingItemCode	no	no	String	Level-4 product. Example: sv_cbs_memspace_common
Keyword	no	no	String	Quota item name that serves as a fuzzy query condition. Example: cvm

ApplyProjectQuotaHistory

Project quota application history

Referenced by the following interfaces: DescribeApplyProjectQuotaHistory

name	required	NULL allowed	type	description
PaperID	yes	no	Uint64	Approval form ID Example: 1
ApplicantUin	yes	no	String	Applicant UIN Example: 1000
Applicant	yes	no	String	Applicant Example: admin

name	required	NULL allowed	type	description
CTime	yes	no	String	Application time Example: 2014-10-09T14:43:49+08:00
QuotaKey	yes	no	String	Quota key Example: p_cvm###
QuotaName	yes	no	String	Quota name Example: CVM
QuotaValue	yes	no	Uint64	Quota quantity Example: 1000
ApplyQuotaValue	yes	no	Uint64	Requested quota quantity Example: 100
Status	yes	no	Uint64	Approval Status Example: 14

Region

Region

Referenced by the following interfaces: DescribeResourceRegions

name	required	NULL allowed	type	description
RegionId	yes	no	Uint64	Region ID Example: 5000001
RegionName	yes	no	String	Region name. Example: region1

ProjectMember

Project Members

Referenced by the following interfaces: DescribeProjectMembers, DescribeProjectNonMembers

name	required	NULL allowed	type	description
Uin	yes	no	Uint64	User UIN. Example: 1000
Uid	yes	no	Uint64	User UID. Example: 1000
Name	yes	no	String	User Name Example: member1
Policies	yes	yes	Array of Policy	Associated policies. Example:View

PolicyFilter

Policy

Referenced by the following interfaces: DescribeProjectMemberPolicies, DescribeProjectPolicies

name	required	NULL allowed	type	description
Keyword	no	no	String	Policy name that serves as a fuzzy query condition. Example: 1

ResourceAdminProject

Project

Referenced by the following interfaces: DescribeResourceAdminProjects

name	required	NULL allowed	type	description
ProjectId	yes	no	String	Project ID Example: pr-dcd34c11
ProjectName	yes	no	String	Project Name Example: pro1
Organization	yes	no	String	Project name. Example: org1

ProjectQuota

Project quota.

Referenced by the following interfaces: DescribeProjectQuotas

name	required	NULL allowed	type	description
ProjectId	yes	no	String	Project ID Example: pr-dcd34c11
ProductName	yes	no	String	Product name. Example: cvm
ProductCode	yes	no	String	Product ID Example: p_cvm
SubProductCode	yes	yes	String	Level-2 product. Example: sp_cvm_sh1
BillingItemCode	yes	yes	String	Level-3 product. Example: v_cvm_cpu
SubBillingItemCode	yes	yes	String	Level-4 product. Example: sv_cbs_memspace_common

name	required	NULL allowed	type	description
QuotaKey	yes	no	String	Quota key. Example: p_cvm###
QuotaName	yes	yes	String	Quota Item Name Example: CloudDB for Redis
QuotaValue	yes	no	String	Total Quota Example: 100
QuotaLeft	yes	no	Int64	The remaining quota. Example: 100
QuotaUsed	yes	no	Int64	Used Quota Example: 100
CreateTime	yes	no	String	Creation time. Example: 2014-08-03 12:00:00
UpdateTime	yes	no	String	Update time. Example: 2014-08-03 12:00:00
BillingItemName	yes	no	String	Product item Example: Storage Space
SubBillingItemName	yes	no	String	Product details Example: SSD cloud disk - storage space.
SubProductName	yes	no	String	Sub-product name Example: SSD Cloud Disk
Unit	yes	no	String	Unit Example: 1

ProjectResource

Project Resources

Referenced by the following interfaces: DescribeProjectResources, DescribeResources

name	required	NULL allowed	type	description
ProjectId	yes	no	String	Project ID Example: pr-dcd34c11
ResourceId	yes	no	String	Resource ID. Example: ins-abzttwhl
ResourceName	yes	no	String	Resource Name Example: cvm
ProductCode	yes	no	String	Product ID Example: p_cvm

name	required	NULL allowed	type	description
ProductName	yes	no	String	Product name. Example: cvm
ProductGroupName	yes	no	String	Product category name. Example: cvm
RegionId	yes	no	Int64	Region ID Example: 5000001
ProjectName	yes	no	String	Project Name Example: pr1
RegionEnName	yes	no	String	English name of the region. Example: region1
RegionName	yes	no	String	Region name. Example: region1
ResourceType	yes	no	String	Resource type. Example: cvm
ServiceType	yes	no	String	Service type that corresponds to a product. Example: cvm
Product	no	no	String	Product name. Example: cvm
Uin	no	no	Uint64	User ID Example: 100

Policy

Policy

Referenced by the following interfaces: DescribeProjectMemberPolicies, DescribeProjectMembers, DescribeProjectNonMembers, DescribeProjectPolicies

name	required	NULL allowed	type	description
PolicyName	yes	no	String	Policy name. Example: policygen-20141112201913
Description	yes	no	String	Policy description. Example: desc
PolicyId	no	no	Uint64	Policy ID. Example: 1000

Project

Project

Referenced by the following interfaces: DescribeProjects

name	required	NULL allowed	type	description
ProjectId	yes	no	String	Project ID Example: pr-dcd34c11
ProjectName	yes	no	String	Project Name Example: pr1
Organization	yes	no	String	Organization Example: org1
Creator	yes	no	String	Created By Example: admin
CreateTime	yes	no	Datetime	Creation time. Example: 2014-08-03 12:00:00
CreatorUin	yes	no	Uint64	Creator UIN. Example: 1000
OrgId	yes	no	String	Organization ID. Example: org-231
OrgName	yes	no	String	Organization Name Example: org1
OrgOperationTime	yes	no	String	Time when a project is included in a project directory. Example: 2014-08-03 12:00:00
OrgOperator	yes	no	String	Operator who includes a project in a project directory. Example: admin
ProjectDescription	no	no	String	Project description Example: desc
Uin	no	no	String	User ID Example: 100
AppId	no	no	Uint64	AppId Example: 100

AddQuota

Added quota.

Referenced by the following interfaces: BatchAddProjectQuota

name	required	NULL allowed	type	description
ProductCode	yes	no	String	Code of a level-1 product. Example: p_cvm
SubProductCode	no	no	String	Code of a level-2 product. Example: sp_cvm_sh1

name	required	NULL allowed	type	description
BillingItemCode	no	no	String	Code of a level-3 product. Example: v_cvm_cpu
SubBillingItemCode	no	no	String	Code of a level-4 product. Example: sv_cbs_memspace_common
QuotaValue	yes	no	Int64	Quota Example: 100
QuotaKey	no	no	String	Quota key. Example: p_cvm###

DeleteQuota

API for deleting a quota.

Referenced by the following interfaces: DeleteProjectQuota

name	required	NULL allowed	type	description
ProductCode	yes	no	String	Product ID Example: p_cvm
QuotaKey	yes	no	String	Quota key. Example: p_cvm###

Product

Product.

Referenced by the following interfaces: DescribeProductTree

name	required	NULL allowed	type	description
ProductCode	yes	no	String	Product ID Example: p_cvm
ProductName	yes	no	String	Product name. Example: cvm
Unit	yes	no	String	Unit Example: 1

QuotaNames

Product name.

Referenced by the following interfaces: CheckProjectQuotas

name	required	NULL allowed	type	description
ProductName	yes	no	String	Name of a level-1 product. Example: cvm
SubProductName	no	no	String	Name of a level-2 product. Example: SSD Cloud Disk
BillingItemName	no	no	String	Name of a level-3 product. Example: Storage Space
SubBillingItemName	no	no	String	Name of a level-4 product. Example: SSD cloud disk - storage space.

UinPolicy

Policy associated with the user with a UIN.

Referenced by the following interfaces: AddProjectMemberPolicy

name	required	NULL allowed	type	description
Uin	yes	no	Uint64	Account ID Example: 1000
PolicyName	yes	no	String	Policy name. Example: policygen-20141112201913

ErrorCode

Feature Description

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

```
{
    "Response": {
        "Error": {
            "Code": "AuthFailure.SignatureFailure",
            "Message": "The provided credentials could not be validated. Please check your signature is cor
rect."
        },
        "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 codes	Description
AuthFailure.InvalidSecretId	Invalid key (not a Cloud API key type).
AuthFailure.MFAFailure	MFA failed.
AuthFailure.SecretIdNotFound	Key does not exist. Check if the key has been deleted or disabled in the console, and if not, check if the key is correctly entered. Note that whitespaces should not exist before or after the key.
AuthFailure.SignatureExpire	Signature expired. Timestamp and server time cannot differ by more than five minutes. Please ensure your current local time matches the standard time.
AuthFailure.SignatureFailure	Invalid signature. Signature calculation error. Please ensure you've followed the signature calculation process described in the Signature API documentation.
AuthFailure.TokenFailure	Token error.

Error codes	Description
AuthFailure.UnauthorizedOperation	The request does not have CAM authorization.
DryRunOperation	DryRun Operation. It means that the request would have succeeded, but the DryRun parameter was used.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidAction	The API does not exist.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	Quota limit exceeded.
MissingParameter	A parameter is missing.
NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	Resource is in use.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	Resource is unavailable.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	HTTPS request method error. Only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

Service Error Codes

Error codes	Description
InternalError.DatabaseError	Internal database error.

Error codes	Description
InvalidParameter.EmptyParameter	A parameter is not specified.
InternalError.ComponentFail	Failed to call an API of other components.
ResourceNotFound.ProjectNotFoundError	The project does not exist.
InvalidParameter.UnsupportedProductCodeError	Unsupported ProductCode value.
InvalidParameter.InvalidProjectQuota	Invalid quota.
InvalidParameter.UsedQuotaNotEnough	The new quota must be greater than the used quota.
FailedOperation.ProjectQuotaNotEmpty	The project quota is not empty.
FailedOperation.ProjectResourceNotEmpty	Project resources are not empty.
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
FailedOperation.ProjectCountError	Excessive number of projects corresponding to resources.
InvalidParameter.ProjectNameTooLong	The project name includes excessive characters.
ResourceNotFound.ProjectResourceNotFound	No project resource exists.
UnauthorizedOperation.AuthFailedError	Authentication failed.
InternalError.InvalidHTTPCode	Invalid HTTP code.
InvalidParameter.InvalidParameter	Invalid parameter.

Project directory management.(org) version(2021-10-01) API overview

API version

V3

Organization management APIs

Interface name	Interface function
AddOrganization	AddOrganization
AddOrganizationMemberPolicy	AddOrganizationMemberPolicy
DeleteOrganization	DeleteOrganization
DeleteOrganizationMembers	DeleteOrganizationMembers
DescribeOrganizationMembers	DescribeOrganizationMembers
DescribeOrganizationNonMembers	DescribeOrganizationNonMembers
DescribeOrganizationPoliciesTemplate	DescribeOrganizationPoliciesTemplate
DescribeOrganizationProjects	DescribeOrganizationProjects
DescribeOrganizationQuotas	DescribeOrganizationQuotas
DescribeOrganizationResources	DescribeOrganizationResources
DescribeOrganizations	DescribeOrganizations
ModifyOrganization	ModifyOrganization
ModifyOrganizationMemberPolicy	ModifyOrganizationMemberPolicy
ModifyOrganizationProjects	ModifyOrganizationProjects

CallingMethod signaturev1

Converge Cloud 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 API Key page to apply for them; otherwise, you cannot invoke the API.

1. Applying for Security Credentials

Before using the API for the first time, go to the 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 Converge Cloud Console.
2. Go to the Cloud API Key page.
3. On the API Key Management page, click Create Key to create a SecretId/SecretKey pair.

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

2. Generating a Signature

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

Assume that the SecretId and SecretKey are:

- SecretId: AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
- SecretKey: Gu5t9xGARNpq86cd98joQYCN3EXAMPLE

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

Take the Cloud Virtual Machine's request to view the instance list (DescribeInstances) as an example. When

you invoke this API, the request parameters may be as follows:

Parameter name	Description	Parameter value
Action	Method name	DescribeInstances
SecretId	Key ID	AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE
Timestamp	Current timestamp	1465185768
Nonce	Random positive integer	11886
Region	Region where the instance is located	luzon
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' : 'luzon',
    'SecretId' : 'AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE',
    'Timestamp' : 1465185768,
    'Version': '2017-03-12',
}
```

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

2.2. Concatenating a Request String

This step generates a request string.
Format the request parameters sorted in the previous step into the form of "parameter name"="parameter value". For example, for the Action parameter, its parameter name is "Action" and its parameter value is "DescribeInstances", so it will become Action=DescribeInstances after formatted.
Note: The "parameter value" is the original value but not the value after URL encoding.

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

```
Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Timestamp=1465185768&Version=2017-03-12
```

2.3. Concatenating the Signature Original String

This step generates a signature original string.
The signature original string consists of the following parameters:

1. HTTP method: POST and GET modes are supported, and GET is used here for the request. Please note that the method name should be in all capital letters.
2. Request host: the domain name of the request to view the list of instances (DescribeInstances) is cvm.convergecloud.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 Cloud 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.convergecloud.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Timestamp=1465185768&Version=2017-03-12
```

2.4. Generating a Signature String

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

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

```
$secretKey = 'Gu5t9xGARNpq86cd98joQYCN3EXAMPLE';
$srcStr = 'GETcvm.convergecloud.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit
=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPL
E&Timestamp=1465185768&Version=2017-03-12';
$signStr = base64_encode(hash_hmac('sha1', $srcStr, $secretKey, true));
echo $signStr;
```

The final signature is:

```
EliP9YW3pW28FpsEdkXt/+WcGeI=
```

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

3. Encoding a Signature String

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

For example, if the signature string generated in the previous step is EliP9YW3pW28FpsEdkXt/+WcGeI= , the final signature string request parameter (Signature) is EliP9YW3pW28FpsEdkXt%2f%2bWcGeI%3d, which will be used to generate the final request URL.

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

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

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

4. Signature Failure

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

Error code	Error description
AuthFailure.SignatureExpire	The signature is expired

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

5. Signature Demo

When calling API 3.0, you are recommended to use the corresponding Converge Cloud SDK 3.0, Swhich 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
- Node

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.convergecloud.com/?Action=DescribeInstances&InstanceIds.0=ins-09dx96dg&Limit=20&Nonce=11886&Offset=0&Region=luzon&SecretId=AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE&Signature=EliP9YW3pW28FpsEdkXt%2F%2BWcGeI%3D&Timestamp=1465185768&Version=2017-03-12

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

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

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

Java

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

public class CloudAPIDemo {
    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.convergecloud.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.convergecloud.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 valu
e is URL encoded here.
            url.append(k).append("=").append(URLEncoder.encode(params.get(k).toString(), CHARSET)).app
end("&");
        }
        return url.toString().substring(0, url.length() - 1);
```

```
    }

    public static void main(String[] args) throws Exception {
        TreeMap<String, Object> params = new TreeMap<String, Object>(); // TreeMap enables automati
c 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 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", "luzon"); // 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.convergecloud.com"
    data = {
        'Action' : 'DescribeInstances',
        'InstanceIds.0' : 'ins-09dx96dg',
        'Limit' : 20,
        'Nonce' : 11886,
        'Offset' : 0,
        'Region' : 'luzon',
        '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"])
    # n actual invocation would occur here, which may incur fees after success
    # resp = requests.get("https://" + endpoint, params=data)
    # print(resp.url)
```

signaturev3

Converge Cloud The API will authenticate each access request, meaning that each request must include signature information (Signature) in the public request parameters to verify the requester's identity.
The signature information is generated by the security credentials, which include SecretId and SecretKey . If the user does not have security credentials, please apply for them on the Cloud API Key page, otherwise they cannot call the Cloud API interfaces.

1. Apply for security credentials.

Before using the Cloud API for the first time, please go to the Cloud API Key page to apply for a security credential.
Security credentials include SecretId and SecretKey:

- SecretId The security credentials are used to identify the identity of the API caller.
- SecretKey The secret key is used to encrypt and sign the string for server-side verification of the signature.
- Users must strictly protect their security credentials and avoid disclosure them.

The specific steps to apply for security credentials are as follows:

1. Log in to Converge Cloud Administration Center Console
2. Go to the console page for cloud API keys
3. On the Cloud API Key page, click New to create a pair of SecretId/SecretKey

Note: Developer accounts can have up to two pairs SecretId / SecretKey.

2. TC3-HMAC-SHA256 signature method

Note: For GET method, only Content-Type: application/x-www-form-urlencoded protocol format is supported. For POST method, Content-Type: application/json and Content-Type: multipart/form-data are currently supported. By default, all business interfaces are supported in json format. Only specific business interfaces are supported in multipart format. In this case, the interface cannot be called in json format. Refer to the specific business interface document description.

The following takes Cloud Virtual Machine querying Region-1 instance list as an example to introduce the signature calculation process step by step. We only use two parameters for the query instance list: Limit and Offset, called using the GET method.

Assume that the SecretId and SecretKey of the user are AKIDz 8krbsJ 5yKBZQpn 74WFkmLPx 3EXAMPLE and Gu 5t9xGARNpq 86cd 98joQYCN3EXAMPLE, respectively.

2.1. splice specification request string

Concatenate CanonicalRequest strings in the following format:

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

- HTTPRequestMethod: HTTP request methods (GET, POST), GET in this example;
- CanonicalURI: URI parameter, API 3.0 fixed to forward slash (/);
- CanonicalQueryString: Query string in the URL that initiates the HTTP request. For POST requests, it is fixed as an empty string. For GET requests, it is the question mark (?) in the URL. The following string content, this example value is: Limit=10&Offset=0. Note: CanonicalQueryString needs to be URL encoded.
- CanonicalHeaders: The header information of participating signature, at least including host and content-type, can also be added with customized header to improve the uniqueness and security of its own request. Splicing rules: 1) head key and value are uniformly converted to lowercase, and the first and last spaces are removed, and spliced according to the format of key:value\n;2) multiple heads are spliced according to the dictionary sorting of head key (lowercase). In this example: content-type: application/x-www-form-urlencoded\nhost: cvm.convergecloud.com\n
- SignedHeaders: The header information involved in the signature indicates which headers participate in the signature of this request, and the header content contained in CanonicalHeaders is one-to-one corresponding. content-type and host are required headers. constructed as: 1) The head key is uniformly converted to lowercase; 2) Multiple header keys (lowercase) are concatenated according to dictionary sorting and separated by semicolons (;). In this case: content-type;host
- HashedRequestPayload: The hash value of the request body, calculated as Lowercase(HexEncode(Hash.SHA256(RequestPayload))), SHA256 hash the entire payload of the HTTP request body, then hexadecimal encoding, and finally converting the encoding string to lowercase letters. Note: For GET requests, RequestPayload is fixed as an empty string. For POST requests, RequestPayload is the payload of the HTTP request body.

According to the above rules, the resulting canonical request string in the example is as follows (for clarity, \nnewlines are replaced by a new line printed separately):

```
GET
```

```
/
Limit=10&Offset=0
content-type:application/x-www-form-urlencoded
host:cvm.convergecloud.com

content-type;host
e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855
```

2.2. Concatenate the string to be signed

Concatenate the string to be signed in the following format:

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

- Algorithm: Signature algorithm, currently fixed as TC3-HMAC-SHA256;
- RequestTimestamp: Request timestamp, i.e. the X-TC-Timestamp value of the request header. The request in the example above is 1539084154;
- CredentialScope: Credential range in the format Date/service/tc3_request, containing date, requested service and termination string (tc3_request). **Date is the date of UTC standard time, the value needs to be consistent with UTC standard time converted by common parameter X-TC-Timestamp **;service is the product name, which must be consistent with the product domain name called, such as cvm. The above example request, the value is 2018-10-09/cvm/tc3_request;
- HashedCanonicalRequest: The hash value of the canonical request string obtained by concatenating the above steps is calculated by Lowercase(HexEncode(Hash.SHA256(CanonicalRequest))).

note:

> 1. Date must be calculated from timestamp X-TC-Timestamp and time zone UTC+0. Adding local time zone information to the system, such as East Zone 8, will cause calls to succeed during the day and night, but calls to fail in the early hours of the morning. Assuming the timestamp is 1551113065, the time in the East Eight District is 2019-02-26 00:44:25, but the calculated Date with UTC+0 should be 2019-02-25 instead of 2019-02-26.
> 2. Timestamp must be the current system time and ensure that the system time and standard time are synchronized. If the difference exceeds five minutes, it will fail. If it is not synchronized with the standard time for a long time, it may cause the request to fail after running for a period of time (return signature expiration error).

According to the above rules, the string to be signed in the example is as follows (for clarity,\nnewlines are

replaced by new lines printed):

```
TC3-HMAC-SHA256
1539084154
2018-10-09/cvm/tc3_request
91c9c192c14460df6c1ffc69e34e6c5e90708de2a6d282cccf957dbf1aa7f3a7
```

2.3. calculate the signature

1. Compute the derived signature key, pseudocode as follows

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

- SecretKey: Original SecretKey;
- Date: That is, the Date field information in Credential, as shown in the example above, is 2018-10-09.;
- Service: That is, the Service field information in Credential, as shown in the example above, is cvm;

2. Calculate the signature, pseudocode as follows

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

- SecretSigning: That is, the derivative signature key calculated above;
- StringToSign: That is, the character string to be signed calculated in step 2;

2.4. Splicing Authorization

Splice as follows Authorization:

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

- Algorithm: Signature method, fixed as TC3-HMAC-SHA256;
- SecretId: SecretId in key pair;
- CredentialScope: See above, Scope of Voucher;
- SignedHeaders: See above, header information for participating signatures;
- Signature: signature value

According to the above rules, the values obtained in the example are:

```
TC3-HMAC-SHA256 Credential=AKIDEXAMPLE/Date/service/tc3_request, SignedHeaders=content-type;host, Signature=5da7a33f6993f0614b047e5df4582db9e9bf4672ba50567dba16c6ccf174c474
```

The final complete invocation information is as follows:

```
https://cvm.convergecloud.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.convergecloud.com
X-TC-Action: DescribeInstances
X-TC-Version: 2017-03-12
X-TC-Timestamp: 1539084154
X-TC-Region: luzon
```

3. signing failed

According to the actual situation, there are the following signature failure error codes, please handle according to the actual situation

error code	error description
AuthFailure.SignatureExpire	signature expiration
AuthFailure.SecretIdNotFound	key is not present
AuthFailure.SignatureFailure	signature error
AuthFailure.TokenFailure	token error
AuthFailure.InvalidSecretId	Illegal key (not cloud API key type)

4. Signature Demo

Java

```
import java.io.BufferedReader;
import java.io.InputStream;
```

```
import java.io.InputStreamReader;
import java.net.URL;
import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.Map;
import java.util.TimeZone;
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import javax.net.ssl.HttpsURLConnection;
import javax.xml.bind.DatatypeConverter;

import org.apache.commons.codec.digest.DigestUtils;

public class CloudAPITC3Demo {
    private final static String CHARSET = "UTF-8";
    private final static String ENDPOINT = "cvm.convergecloud.com";
    private final static String PATH = "/";
    private final static String SECRET_ID = "AKIDz8krbsJ5yKBZQpn74WFkmLPx3EXAMPLE";
    private final static String SECRET_KEY = "Gu5t9xGARNpq86cd98joQYCN3EXAMPLE";
    private final static String CT_X_WWW_FORM_URLENCODED = "application/x-www-form-urlencode
d";
    private final static String CT_JSON = "application/json";
    private final static String CT_FORM_DATA = "multipart/form-data";

    public static byte[] sign256(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(CHARSET));
    }

    public static void main(String[] args) throws Exception {
        String service = "cvm";
        String host = "cvm.convergecloud.com";
        String region = "luzon";
        String action = "DescribeInstances";
        String version = "2017-03-12";
        String algorithm = "TC3-HMAC-SHA256";
        String timestamp = "1539084154";
        //String timestamp = String.valueOf(System.currentTimeMillis() / 1000);
        SimpleDateFormat sdf = new SimpleDateFormat("yyyy-MM-dd");
        // Pay attention to the time zone, otherwise it is easy to make mistakes.
        sdf.setTimeZone(TimeZone.getTimeZone("UTC"));
        String date = sdf.format(new Date(Long.valueOf(timestamp + "000")));

        // ************* Step 1: Assemble the specification request string *************
```

```
        String httpRequestMethod = "GET";
        String canonicalUri = "/";
        String canonicalQueryString = "Limit=10&Offset=0";
        String canonicalHeaders = "content-type:application/x-www-form-urlencoded\n" + "host:" + host
+ "\n";
        String signedHeaders = "content-type;host";
        String hashedRequestPayload = DigestUtils.sha256Hex("");
        String canonicalRequest = httpRequestMethod + "\n" + canonicalUri + "\n" + canonicalQueryStri
ng + "\n"
                + canonicalHeaders + "\n" + signedHeaders + "\n" + hashedRequestPayload;
        System.out.println(canonicalRequest);

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

        // ************* Step 3: Calculate the signature *************
        byte[] secretDate = sign256(("TC3" + SECRET_KEY).getBytes(CHARSET), date);
        byte[] secretService = sign256(secretDate, service);
        byte[] secretSigning = sign256(secretService, "tc3_request");
        String signature = DatatypeConverter.printHexBinary(sign256(secretSigning, stringToSign)).toLow
erCase();
        System.out.println(signature);

        // ************* Step 4: Splicing 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("Host", host);
        headers.put("Content-Type", CT_X_WWW_FORM_URLENCODED);
        headers.put("X-TC-Action", action);
        headers.put("X-TC-Timestamp", timestamp);
        headers.put("X-TC-Version", version);
        headers.put("X-TC-Region", region);
    }
}
```

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.convergecloud.com"
endpoint = "https://" + host
region = "luzon"
action = "DescribeInstances"
version = "2017-03-12"
algorithm = "TC3-HMAC-SHA256"
timestamp = 1539084154
date = datetime.utcfromtimestamp(timestamp).strftime("%Y-%m-%d")
params = {"Limit": 10, "Offset": 0}

# ************* Step 1: Assemble the specification request string *************
http_request_method = "GET"
canonical_uri = "/"
canonical_querystring = "Limit=10&Offset=0"
ct = "x-www-form-urlencoded"
payload = ""
if http_request_method == "POST":
    canonical_querystring = ""
    ct = "json"
    payload = json.dumps(params)
canonical_headers = "content-type:application/%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: Stitching 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 *************
# Compute signature digest 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: Splicing Authorization *************
authorization = (algorithm + " " +
                 "Credential=" + secret_id + "/" + credential_scope + ", " +
                 "SignedHeaders=" + signed_headers + ", " +
                 "Signature=" + signature)
print(authorization)

# Common parameters added to request header
headers = {
    "Authorization": authorization,
    "Host": host,
    "Content-Type": "application/%s" % ct,
    "X-TC-Action": action,
    "X-TC-Timestamp": str(timestamp),
    "X-TC-Version": version,
    "X-TC-Region": region,
}
```

request

1. Service Address

Region refers to the geographical area of a physical data center. Converge Cloud ensures complete isolation between different regions, providing maximum stability and fault tolerance. To reduce access latency and improve download speed, it is recommended to choose the region closest to your customers.

You can view the complete region list by using the API interface "DescribeRegions".

2. Communications Protocol

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

3. Request Methods

Supported HTTP request methods:

- POST (recommended)
- GET

PThe 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.

result

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 check your signature is cor
rect."
        },
        "RequestId": "ed93f3cb-f35e-473f-b9f3-0d451b8b79c6"
    }
}
```

- The presence of the Error field indicates that the request has failed. A response for a failed request will include Error, Code and Message fields.

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

Common Error Codes

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

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

Error Code	Description
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	hHTTPS request method error. Only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

PublicParameter

Common parameters are parameters used to identify users and interface authentication purposes. If not necessary, these parameters are not described in the separate interface document of each interface, but these parameters need to be carried in each request before the request can be normally initiated.

signature method v3

When using TC3-HMAC-SHA256 signature method, the common parameters need to be uniformly placed in the HTTP Header request header, as follows:

parameter name	type	required	described
X-TC-Action	String	Yes	The name of the operation interface. Refer to the description of the public parameter Action in the input parameters of the interface documentation for the value. For example, the value for the query instance list interface of the cloud server is DescribeInstances.
X-TC-Region	String	Yes	region parameters, Data used to identify which region you wish to operate on. The region value accepted by the interface refers to the description of the input parameter common parameter Region in the interface document. Note: Some interfaces do not need to pass this parameter, which is specifically stated in the interface documentation. In this case, even passing this parameter will not take effect.
X-TC-Timestamp	Integer	Yes	The current UNIX timestamp, which records the time when the API request was initiated. for example 1529223702. Note: If the time difference from the server exceeds 5 minutes, it will cause a signature expiration error.
X-TC-Version	String	Yes	Version of API for operation. Refer to the description of the public parameter Version in the interface document for the value. For example, the version of the cloud server. 2017-03-12.
Authorization	String	Yes	HTTP The standard authentication header field is "Authorization". 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: Credential: Signature credential; AKIDEXAMPLE is the SecretId; Date is a date in UTC time, and this value must match the value of X-TC-Timestamp (a common parameter) in UTC time format; service is the name of the product/service, and is generally a domain name prefix. For example,cvm; - SignedHeaders: The headers that contains the authentication information; content-type and host are the required headers; - Signature: Signature digest.
X-TC-Token	String	No	The token used for temporary certificates needs to be used in conjunction with a temporary key. Temporary keys and tokens need to be obtained by calling the access management service interface. Long-term keys do not require tokens.

signature method v1

When using HmacSHA1 and HmacSHA256 signature methods, common parameters need to be placed uniformly in the request string, as follows

parameter name	type	required	described
Action	String	Yes	The name of the interface to be operated. The value refers to the explanation of the public parameter Action in the interface documentation. For example, for the cloud server's query instance list interface, the value is DescribeInstances .
Region	String	Yes	The region parameter is used to identify which region's data you want to operate on. The region value accepted by the interface is specified in the input parameter of the public parameter Region in the interface documentation. Note: Some interfaces do not require this parameter to be passed, which will be specifically mentioned in the interface documentation. Even if this parameter is passed, it will not take effect in this case.
Timestamp	Integer	Yes	The current UNIX timestamp, which can record the time when the API request is initiated. For example, 1529223702. If the difference between the current time is too large, it will cause a signature expiration error.
Nonce	Integer	Yes	A random positive integer combined with Timestamp is used to prevent replay attacks.
SecretId	String	Yes	The SecretId is an identifier applied for the cloud API key to identify the user's identity. A SecretId corresponds to a unique SecretKey , and the SecretKey is used to generate the request signature Signature .
Signature	String	Yes	Request signature is used to verify the legitimacy of this request. Users need to calculate it based on the actual input parameters. The specific calculation method can be found in the interface authentication documentation.
Version	String	Yes	The version of the API being operated on. The value refers to the description of the public parameter Version in the interface documentation. For example, the version of the cloud server. 2017-03-12.
SignatureMethod	String	No	Signature method, currently supports HmacSHA256 and HmacSHA1. HmacSHA256 algorithm is used to verify signatures only if this parameter is specified as HmacSHA 256, otherwise HmacSHA1 is used to verify signatures.
Token	String	No	Token used for temporary certificate needs to be used together with temporary key. The temporary key and Token need to be obtained from the Access Management service invocation interface. Long-term keys do not require tokens.

zone list

A region (Region) refers to the geographical area of a physical data center. Converge Cloud Translation: To deliver verification that completely isolates different regions, ensuring maximum stability and fault tolerance between regions. In order to reduce access latency and improve download speed, it is recommended that you choose the region closest to your customers.

You can view the complete region list by using the API interface Query Region List.

Organization management APIs
AddOrganization

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for adding an organization

Default interface request rate limit: 20 times per second.

Interface update time: 2022-12-09 16:59:51.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: AddOrganization
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
ParentId	Yes	No	String	Parent organization ID. Example: root
OrgName	Yes	No	String	Organization name. The maximum length of the value is 64 characters. Example: org1

3. Output Parameters

Parameter name	Type	Description
OrgId	String	Organization ID. For example, you can set the value to org-7737f12a. Example: org-9842cb32
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.EmptyParameter	There is an empty parameter.
InvalidParameter.OrganizationNameTooLong	Name too long.
UnauthorizedOperation.AuthFailedError	Authentication failed
InternalError.DatabaseError	DB error.

AddOrganizationMemberPolicy

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for adding a user to an organization and granting permissions to the user

Default interface request rate limit: 20 times per second.

Interface update time: 2021-11-11 15:10:44.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: AddOrganizationMemberPolicy
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
Uins	Yes	No	Array of Uint64	List of user UINs. Example: [111,112]
PolicyNames	Yes	No	Array of String	List of policy names. Example: ["policygen-20141112201913","policygen-20141112201914"]

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
FailedUins	Array of AddOrgMemberPolicyRes	List of users that the system fails to add. Example:View
SuccessfulUins	Array of AddOrgMemberPolicyRes	List of users that the system successfully add. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.

DeleteOrganization

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for deleting an organization. You cannot delete an organization if the organization has projects associated with the subordinate organizations.

Default interface request rate limit: 20 times per second.

Interface update time: 2022-12-09 17:00:47.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DeleteOrganization
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32

3. Output Parameters

Parameter name	Type	Description
OrgId	String	Organization ID. Example: org-9842cb32

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.EmptyParameter	There is an empty parameter.
UnauthorizedOperation.AuthFailedError	Authentication failed
InternalError.DatabaseError	DB error.
FailedOperation.OrganizationProjectNotEmpty	Error of still associated project.

DeleteOrganizationMembers

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for deleting an organization member

Default interface request rate limit: 20 times per second.

Interface update time: 2021-11-11 15:10:44.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DeleteOrganizationMembers
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
Uins	Yes	No	Array of Uint64	List of UINs. Example: [111,112]

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
Uins	Array of Uint64	List of UINs. Example: [111,112]
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.

DescribeOrganizationMembers

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for querying an organization member

Default interface request rate limit: 20 times per second.

Interface update time: 2024-10-14 19:37:38.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeOrganizationMembers
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
PageNumber	No	No	Uint64	Number of the page to return. Example: 100
PageSize	No	No	Uint64	Items per page. Example: 100
Filter	No	No	Filter	Filter Example:View
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32

3. Output Parameters

Parameter name	Type	Description
MemberSet	Array of OrganizationMember	Organization member. Example:View
TotalCount	Uint64	Total. Example: 100
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.

DescribeOrganizationNonMembers

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for querying non-organization members

Default interface request rate limit: 20 times per second.

Interface update time: 2024-10-14 19:32:17.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeOrganizationNonMembers
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
PageNumber	No	No	Uint64	Number of the page to return. Example: 100
PageSize	No	No	Uint64	Items per page. Example: 100
Filter	No	No	Filter	Filter Example:View

3. Output Parameters

Parameter name	Type	Description
MemberSet	Array of OrganizationNonMember	Non-organization member. Example:View
TotalCount	Uint64	Total. Example: 100
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.

DescribeOrganizationPoliciesTemplate

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for querying a general policy template of an organization

Default interface request rate limit: 20 times per second.

Interface update time: 2024-10-14 19:32:05.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeOrganizationPoliciesTemplate
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
PageNumber	No	No	Uint64	Number of the page to return. Example: 100
PageSize	No	No	Uint64	Items per page. Example: 100

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
PolicySet	Array of Policy	Policy list Example:View
TotalCount	Uint64	Total. Example: 100
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.

DescribeOrganizationProjects

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for querying the project list of an organization

Default interface request rate limit: 20 times per second.

Interface update time: 2022-12-09 16:57:10.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeOrganizationProjects
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
PageNumber	No	No	Uint64	Number of pages. You can set the value to 1. Example: 100
PageSize	No	No	Uint64	Items per page. Example: 100
Filter	No	No	Filter	Filter Example:View
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32

3. Output Parameters

Parameter name	Type	Description
ProjectSet	Array of Project	List of projects. Example:View
TotalCount	Uint64	Total. Example: 100
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
UnauthorizedOperation.AuthFailedError	Authentication failed
InternalError.DatabaseError	DB error.
InvalidParameter.EmptyParameter	There is an empty parameter.

DescribeOrganizationQuotas

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for querying the project quota of an organization

Default interface request rate limit: 20 times per second.

Interface update time: 2023-03-07 14:51:47.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeOrganizationQuotas
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
PageNumber	No	No	Uint64	Number of the page to return. Example: 100
PageSize	No	No	Uint64	Items per page. Example: 100
Filter	No	No	ProjectQuotaFilter	Filter Example:View

3. Output Parameters

Parameter name	Type	Description
QuotaSet	Array of ProjectQuota	List of quotas. Example:View
TotalCount	Uint64	Total. Example: 100
ProductSet	Array of ProductInfo	Product Information List Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.EmptyParameter	There is an empty parameter.
UnauthorizedOperation.AuthFailedError	Authentication failed
InternalError.DatabaseError	DB error.

DescribeOrganizationResources

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for querying the project resource list of an organization

Default interface request rate limit: 20 times per second.

Interface update time: 2024-10-14 19:31:52.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeOrganizationResources
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
PageNumber	Yes	No	Uint64	Number of the page to return. Example: 100
PageSize	Yes	No	Uint64	Entries per page. Example: 100
Filter	Yes	No	ProjectResourceFilter	Filter Example:View

3. Output Parameters

Parameter name	Type	Description
ResourceSet	Array of Resource	Resource list Example:View
TotalCount	Uint64	Total. Example: 100
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
UnauthorizedOperation.AuthFailedError	Authentication failed
InternalError.DatabaseError	DB error.
InvalidParameter.EmptyParameter	There is an empty parameter.

DescribeOrganizations

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for querying an organization

Default interface request rate limit: 20 times per second.

Interface update time: 2022-12-09 17:00:25.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: DescribeOrganizations
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
Filter	No	No	DescribeOrganizationsFilter	Filter Example:View
MemberUin	No	No	String	Member UIN. Example: 100

3. Output Parameters

Parameter	Type	Description

name		
OrgSet	Array of Organization	List of organizations. Example:View
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.EmptyParameter	There is an empty parameter.
UnauthorizedOperation.AuthFailedError	Authentication failed
InternalError.DatabaseError	DB error.

ModifyOrganization

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for modifying an organization

Default interface request rate limit: 20 times per second.

Interface update time: 2022-12-09 17:00:10.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ModifyOrganization
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
OrgName	Yes	No	String	Organization Name Example: org1

3. Output Parameters

Parameter name	Type	Description

Parameter name	Type	Description
OrgId	String	Organization ID. Example: org-9842cb32
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.
InvalidParameter.EmptyParameter	There is an empty parameter.
InvalidParameter.OrganizationNameTooLong	Name too long.
UnauthorizedOperation.AuthFailedError	Authentication failed
InternalError.DatabaseError	DB error.

ModifyOrganizationMemberPolicy

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for modifying a policy on organization members

Default interface request rate limit: 20 times per second.

Interface update time: 2021-11-11 15:10:44.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ModifyOrganizationMemberPolicy
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
AccountUin	Yes	No	Uint64	Account UIN. Example: 100
PolicyNames	Yes	No	Array of String	Required policy list. Example: ["policygen-20141112201913","policygen-20141112201914"]

3. Output Parameters

Parameter name	Type	Description
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to

Parameter name	Type	Description
		be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.

ModifyOrganizationProjects

1. Interface Description

Interface request domain name: org.api3.convergecloud.com.

API for adding or removing organization projects.

Default interface request rate limit: 20 times per second.

Interface update time: 2021-11-11 15:10:44.

The interface only verifies the signature but does not authenticate.

2. Input Parameters

The following list of request parameters only lists interface request parameters and some public parameters, For a complete list of public parameters see public request parameters.

Parameter name	Required	Allow NULL	Type	Description
Action	Yes	No	String	Public parameter, The value of this interface: ModifyOrganizationProjects
Version	Yes	No	String	Public parameter, The value of this interface: 2021-10-01
Region	No	No	String	Public parameter,Regional information This interface does not need to pass this parameter.
OrgId	Yes	No	String	Organization ID. Example: org-9842cb32
Operate	Yes	No	String	Operation type. Valid values: Add and Move. Example: Add
Projects	Yes	No	Array of String	Project that you want to add or remove. Example: ["pr-dcd34c11","pr-dcd34c12"]

3. Output Parameters

Parameter name	Type	Description
FailedProjects	Array of String	List of projects that the system fails to add or remove. Example: ["pr-dcd34c11","pr-dcd34c12"]
SuccessfulProjects	Array of String	List of projects that the system successfully add or remove. Example: ["pr-dcd34c11","pr-dcd34c12"]
RequestId	String	Unique request id, Each request will return. The RequestId of the request needs to be provided when locating the problem.

4. Error Code

The following lists only the error codes related to the interface business logic, For other error codes, see public ErrorCode.

Error Code	Description
InternalError.ThirdPartServiceBadRequest	Failed to call the service.

Data structure

Organization

Organization

Referenced by the following interfaces: DescribeOrganizations

name	required	NULL allowed	type	description
Id	no	no	Uint64	Id Example: 100
OrgId	no	no	String	Organization ID. Example: org-9842cb32
OrgName	no	no	String	Organization Name Example: org-9842cb32
CreatorUin	no	no	String	UIN of the creator. Example: 100
Creator	no	no	String	Created By Example: admin
CreateTime	no	no	String	Creation time. Example: 2014-08-03 12:00:00
Children	no	no	Array of Organization	Subordinate organization. Example:View

Project

Project

Referenced by the following interfaces: DescribeOrganizationProjects

name	required	NULL allowed	type	description
ProjectId	yes	no	String	Project ID Example: pr-9842cb32
ProjectName	yes	no	String	Project Name Example: pr1
Creator	yes	no	String	Created By Example: admin
CreateTime	yes	no	Datetime	Creation time. Example: 2014-08-03 12:00:00
CreatorUin	yes	no	Uint64	Creator UIN. Example: 100
OrgId	yes	no	String	Organization ID — non-empty value indicates the user is already in another organization. Example: org-9842cb32
OrgName	yes	no	String	Organization Name Example: org1
OrgOperator	yes	no	String	Operator for transferring a project to an organization. Example: admin
OrgOperationTime	yes	no	Datetime	Time when a project is transferred to an organization. Example: 2014-08-03 12:00:00

OrganizationNonMember

Non-organization member.

Referenced by the following interfaces: DescribeOrganizationNonMembers

name	required	NULL allowed	type	description
Uin	yes	no	Uint64	User UIN. Example: 100
Name	yes	no	String	User Name Example: admin

ProjectQuota

Project quota.

Referenced by the following interfaces: DescribeOrganizationQuotas

name	required	NULL allowed	type	description
ProjectId	yes	no	String	Project ID. Example: pr-9842cb32
ProjectName	yes	no	String	Project Name Example: pr1
ProductName	yes	no	String	Product name. Example: cvm
ProductCode	yes	no	String	Product Code Example: p_cvm
SubProductCode	yes	yes	String	Level-2 product. Example: sp_cvm_vself2
BillingItemCode	yes	yes	String	Level-3 product. Example: v_cvm_cpu
SubBillingItemCode	yes	yes	String	Level-4 product. Example: sv_cvm_mem_s3
QuotaKey	yes	no	String	Quota key. Example: p_cvm###
QuotaName	yes	yes	String	Quota Item Name Example: u4e91u786cu76d8CBS-u5e26u5bbdu6027u80fd
QuotaValue	yes	no	String	Total Quota Example: 100
QuotaLeft	yes	no	Uint64	The remaining quota. Example: 100
QuotaUsed	yes	no	Uint64	Used Quota Example: 100
CreateTime	yes	no	String	Creation time. Example: 2014-08-03 12:00:00
UpdateTime	yes	no	String	Update time. Example: 2014-08-03 12:00:00
SubProductName	yes	no	String	Subproduct Name Example: eip_hour
Unit	yes	no	String	Unit Example: 100
BillingItemName	yes	no	String	Product item Example: CPU
SubBillingItemName	yes	no	String	Product details Example: TDSQL for MySQL - I/O Edition - CPU - Single

AddOrgMemberPolicyRes

Result of user addition and authorization within the organization.

Referenced by the following interfaces: AddOrganizationMemberPolicy

name	required	NULL allowed	type	description
Uin	yes	no	Uint64	User UIN. Example: 100
PolicyName	yes	no	String	Policy name Example: policy1

ProjectResourceFilter

Filter conditions for project resources.

Referenced by the following interfaces: DescribeOrganizationResources

name	required	NULL allowed	type	description
ProductCode	no	no	String	Product Code Example: p_cvm
OrgIds	no	no	Array of String	List of organization IDs. Example: ["org-9842cb32","org-9842cb33"]
Product	no	no	String	Product name. Example: cvm

ProductInfo

Product Information

Referenced by the following interfaces: DescribeOrganizationQuotas

name	required	NULL allowed	type	description
ProductCode	no	no	String	Product Code Example: p_cvm
ProductName	no	no	String	Product name. Example: cvm

Resource

Resource

Referenced by the following interfaces: DescribeOrganizationResources

name	required	NULL allowed	type	description
ProductCode	yes	no	String	Product Code Example: p_cvm
ProductGroupName	yes	no	String	Product category name. Example: cvm
ProductName	yes	no	String	Product name. Example: cvm
ProjectId	yes	no	String	Project ID. Example: pr-dcd34c11
ProjectName	yes	no	String	Project Name Example: pr1
RegionId	yes	no	Uint64	Region ID Example: 5000001
RegionName	yes	no	String	Region name. Example: region1
RegionEnName	yes	no	String	English name of the region. Example: region1
ResourceId	yes	no	String	Resource ID. Example: ins-asd223
ResourceName	yes	no	String	Resource Name Example: ins1
ResourceType	yes	no	String	Resource type. Example: cvm
ServiceType	yes	no	String	ServiceType Example: cvm

ProjectQuotaFilter

Quota query conditions.

Referenced by the following interfaces: DescribeOrganizationQuotas

name	required	NULL allowed	type	description
ProductCode	no	no	String	Level-1 product. Example: p_cvm

name	required	NULL allowed	type	description
OrgIds	no	no	Array of String	List of organization IDs. Example: ["org-9842cb32","org-9842cb33"]

Policy

Organization policy.

Referenced by the following interfaces: DescribeOrganizationPoliciesTemplate

name	required	NULL allowed	type	description
PolicyName	yes	no	String	Policy name Example: policygen-1
Description	yes	no	String	Policy description. Example: policydesc

Filter

Filter

Referenced by the following interfaces: DescribeOrganizationMembers, DescribeOrganizationNonMembers, DescribeOrganizationProjects

name	required	NULL allowed	type	description
Keyword	no	no	String	Filter Example: 100
OrgIds	no	no	Array of String	List of organization IDs. Example: ["org-9842cb32","org-9842cb33"]

DescribeOrganizationsFilter

Queries conditions for querying organizations.

Referenced by the following interfaces: DescribeOrganizations

name	required	NULL allowed	type	description
Level	no	no	Uint64	Level. Default value: 3. The value 3 specifies that the system searches organizations that meet the search conditions in level 1,2, and 3. Example: 3
Keyword	no	no	String	Search conditions Example: 100
OrgId	no	no	String	Organization ID. Example: org-9842cb32

OwnedPolicies

Associated policy.

Referenced by the following interfaces: DescribeOrganizationMembers

name	required	NULL allowed	type	description
PolicyId	yes	no	Uint64	Policy ID. Example: 100
PolicyName	yes	no	String	Policy name Example: policygen-1
Description	yes	no	String	Policy description. Example: policydesc

OrganizationMember

Organization member.

Referenced by the following interfaces: DescribeOrganizationMembers

name	required	NULL allowed	type	description

name	required	NULL allowed	type	description
Uin	yes	no	Uint64	User UIN. Example: 100
Name	yes	no	String	User Name Example: admin
OwnedPolicies	yes	no	Array of OwnedPolicies	Associated policy. Example:View
JoinTime	yes	no	Datetime	Time when a user joins an organization. Example: 2014-08-03 12:00:00

ErrorCode

Feature Description

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

```
{
    "Response": {
        "Error": {
            "Code": "AuthFailure.SignatureFailure",
            "Message": "The provided credentials could not be validated. Please check your signature is cor
rect."
        },
        "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 codes	Description
AuthFailure.InvalidSecretId	Invalid key (not a Cloud API key type).
AuthFailure.MFAFailure	MFA failed.
AuthFailure.SecretIdNotFound	Key does not exist. Check if the key has been deleted or disabled in the console, and if not, check if the key is correctly entered. Note that whitespaces should not exist before or after the key.
AuthFailure.SignatureExpire	Signature expired. Timestamp and server time cannot differ by more than five minutes. Please ensure your current local time matches the standard time.
AuthFailure.SignatureFailure	Invalid signature. Signature calculation error. Please ensure you've followed the signature calculation process described in the Signature API documentation.
AuthFailure.TokenFailure	Token error.

Error codes	Description
AuthFailure.UnauthorizedOperation	The request does not have CAM authorization.
DryRunOperation	DryRun Operation. It means that the request would have succeeded, but the DryRun parameter was used.
FailedOperation	Operation failed.
InternalError	Internal error.
InvalidAction	The API does not exist.
InvalidParameter	Incorrect parameter.
InvalidParameterValue	Invalid parameter value.
LimitExceeded	Quota limit exceeded.
MissingParameter	A parameter is missing.
NoSuchVersion	The API version does not exist.
RequestLimitExceeded	The number of requests exceeds the frequency limit.
ResourceInUse	Resource is in use.
ResourceInsufficient	Insufficient resource.
ResourceNotFound	The resource does not exist.
ResourceUnavailable	Resource is unavailable.
UnauthorizedOperation	Unauthorized operation.
UnknownParameter	Unknown parameter.
UnsupportedOperation	Unsupported operation.
UnsupportedProtocol	HTTPS request method error. Only GET and POST requests are supported.
UnsupportedRegion	API does not support the requested region.

Service Error Codes

Error codes	Description
FailedOperation.OrganizationProjectNotEmpty	Error of still associated project.

Error codes	Description
UnauthorizedOperation.AuthFailedError	Authentication failed
InvalidParameter.OrganizationNameTooLong	Name too long.
InvalidParameter.EmptyParameter	There is an empty parameter.
InternalError.DatabaseError	DB error.
InternalError.ThirdPartServiceBadRequest	Failed to call the service.