# Alibaba Cloud

API Gateway Quick Start

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C-J Alibaba Cloud

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# **Document conventions**

Style	Description	Example
<u>↑</u> Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	Danger: Resetting will result in the loss of user configuration data.
O Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
C) Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	Notice: If the weight is set to 0, the server no longer receives new requests.
? Note	A note indicates supplemental instructions, best practices, tips, and other content.	Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type.
Bold	Bold formatting is used for buttons , menus, page names, and other UI elements.	Click OK.
Courier font	Courier font is used for commands	Run the cd /d C:/window command to enter the Windows system folder.
Italic	Italic formatting is used for parameters and variables.	bae log listinstanceid Instance_ID
[] or [a b]	This format is used for an optional value, where only one item can be selected.	ipconfig [-all -t]
{} or {alb}	This format is used for a required value, where only one item can be selected.	switch {active stand}

# Table of Contents

1.Use a backend service to create and manage APIs	05
2.Create an API with OSS as the backend service	15
3.Create an API operation with a resource in a VPC as the back	20
4.Create an API operation with HTTP as the backend service	30
5.Create an API operation with Function Compute as the backen	38
6.Access a domain name by using HTTPS	46

# 1.Use a backend service to create and manage APIs

This topic describes how to create a backend service in the API Gateway console. This topic also describes how to use the created backend service to create, publish, and manage APIs.

# Overview

To help you efficiently manage a growing number of APIs, API Gateway abstracts backend services as resources in regions. In the API Gateway console, you can create a backend service and define different URLs for the backend service in different environments. Then, you can select the backend service when you create an API that uses the backend service. This way, requests to call the API are routed to the corresponding URL of the backend service based on the environment to which the API is published. You can also manage all the published APIs that use a backend service in a centralized manner on the page for configuring the backend service. For example, the following scenarios are supported:

Scenario 1: After you change the URL of a backend service in the test environment, all the published APIs that use the backend service in the test environment are automatically updated without requiring you to republish the APIs. Requests to call the APIs are then routed to the new URL of the backend service in the test environment.

Scenario 2: After you delete the URL that is no longer needed for a backend service in the test environment, all the published APIs that use the backend service in the test environment are unpublished.

For more information, see the following text.

# Procedure

- 1. Create a backend service.
- 2. Define different URLs for the backend service in different environments.
- 3. Create and define an API.
- 4. Create an app and grant the app the permissions to call the API.
- 5. Debug the API.
- 6. Manage all the published APIs that use the backend service in a specific environment.

# Create a backend service

1. Log on to the API Gateway console. In the left-side navigation pane, choose Open API > Backend Services. The Backend Services page appears.

Api Gateway	Backend Services					
	Backand Senice Name 8			Search		Create Backand Service
Instances						
♥ Open API	Backend Service Name	Type	Description	Created At	Modified At	Actions
API Groups	ventest	VPC		Mar 01,2022 10:57:00	Mar 01,2022 10:57:00	Edit Name and Description   Configure Backend Service and View Associated APIs   Delete
APts Backend Services	oss1	OSS		Jan 25,2022 19:22:29	Jan 25,2002 19:22:29	Edit Name and Description   Configure Backend Service and View Associated APIs   Delete
Plug-ins						Total Items: 2, Items per Page: 10 10 0 - 1
VPC Access Autho						
Logs						
SDKs						
Gall API						
Documentation						

2. Click Create Backend Service in the upper-right corner of the page. In the Create Backend Service dialog box, create a backend service. In this example, the Type parameter is set to HTTP/HTTPS Service.

Create Backend S	Service X	
Region:	China (Hangzhou)	
*Name:		
	The backend service name must be unique and must be 4 to 50 characters in length. The name can contain letters, digits, and underscores (_) and must start with a letter.	
*Type:	HTTP/HTTPS Service \$	
Description:	Enter a value that cannot exceed 180 characters in length.	
	<i>h</i>	
	Confirm Cancel	

You must specify a type for each backend service, as shown in the preceding figure. After a backend service is created, you cannot change its type. However, you can change the name and description of the backend service as required. The valid values of the Type parameter are HTTP/HTTPS Service, VPC, Function Compute, OSS, and MOCK.

#### ♥ Notice

API Gateway of the current version does not support Object Storage Service (OSS) as the backend service on Finance Cloud or Alibaba Gov Cloud. API Gateway of future versions will allow you to create APIs that use OSS as the backend service on Finance Cloud and Alibaba Gov Cloud.

# Define different URLs for the backend service in different environments

1. Find the backend service that you created and click Configure Backend Service and View Associated APIs in the Actions column. The Backend Service Definition page appears. The page contains four tabs, as shown in the preceding figure. On the Draft tab, you can view all the APIs that use the backend service. On each of the Test, Pre, and Production tabs, you can define a URL for the backend service and view all the published APIs that use the backend service.

Api Gatoway	testHttp - Backend Service Definition t Back to Backend Services Page				Refresh
Instances	Draft Test Pre Production				
✓ Open AP1	Basic Information				Deals
API Groups APIs	No data is configured.				
Backend Services	Associated APIs in Pre Environment				
Plug-ins	API Name	Method Path	Group	Description	
VPC Access Autho			API is not found.		
Logs					
SDKs					
Call AP1					Total Items: 0, Items per Page: 10 30 0 + 1 + +
Documentation					

2. Click one of the Test, Pre, and Production tabs. In this example, click the Test tab. Click Create in the upper-right corner. On the Define Backend Service page, enter a URL for the backend service and click Publish, as shown in the preceding figure. The Published message appears. Then, you can create an API.

testHttp - Define Backend Service to Backend Service Definition Page		
Basic Information		
Environment	Pre	
Туре	HTTP/HTTPS Service	
Backend Service URL	Format: http(s)://host.port.	
	A backend service URL contains a domain name or an IP address that is called by API Gateway and does not contain the parameter path. Why am I unable to enable my backend service?	
Description	A description must be 1 to 180 characters in length.	
	Publish Back	

3. Take note of the following description when you define URLs for different types of backend services.

#### ? Note

If you use an HTTP or HTTPS backend service, you need only to enter the URL of the backend service.

If you use a resource in a virtual private cloud (VPC) as the backend service, you must select an authorization rule that you create when you authorize API Gateway to access the VPC. Select Use HTTPS as required. If you select Use HTTPS, the HTTPS protocol is used to request the backend service.

If you use Function Compute as the backend service, you must specify whether to select Event Function or HTTP Function for the Function Type parameter. If you select Event Function, configure the parameters as required. If you select HTTP Function, specify a trigger path.

If you use OSS as the backend service, you must authorize API Gateway to access objects in your OSS bucket. To grant the read permissions to API Gateway, allow API Gateway to perform the oss:GetObject operation on the OSS bucket. To grant the write permissions to API Gateway, allow API Gateway to perform the oss:PutObject and oss:DeleteObject operations on the OSS bucket. To revoke the permissions granted to API Gateway, you can manually delete the relevant authorization policies from the OSS bucket.

# Create and define an API

1. In the left-side navigation pane, choose Open API > APIs. On the APIs page, click Create API in the upper-right corner. The Create API page appears.

2. In the Basic Information step, configure the basic information about the API to be created, including the group to which the API belongs and the name, authentication method, type, and description of the API. Select a group, configure the other parameters, and then click Next. To facilitate subsequent testing, set the AppCode Authentication parameter to Enable AppCode Authentication (Header & Query).

Create API t Back to APIs Page		
Basic Information	Define API Request	Define Backend Service
Name and Description		
Group	testBugForParam v	Create Group
API Name	testHttpBackend	0
Security Authentication	Alibaba Cloud App	
AppCode Authentication	Enable AppCode Authentication (Header & Query)	AppCode Certification Usage and Risk Warning
Signature Algorithm	HmacSHA256	
API Option	Anti-replay Protection (X-Ga-Nonce Header Required) Porbid Internet Access Apply for VPC Endpoint Allow API Publish to Alibaba Cloud Marketplace	
Description	The description must be 1 to 2,000 characters in length.	
	Next	

3. In the Define API Request step, define how a client, such as a browser, a mobile app, or a business system, sends a request for the API. Configure the Request Type, Protocol, Request Path, HTTP Method, and Request Mode parameters and add parameters in the Request Parameters section. Then, click Next. In this example, set the HTTP Method parameter to GET and the Request Mode parameter to Pass-through. A value of Pass-through indicates that API Gateway passes the received parameters to the backend service without processing.

Create API t Back to APIs Page			
Basic Information	Define API Request	Define Bac	xend Service
Request Basic Settings			
Request Type	O Common Request Logon Request (Bidirectional Communication) Logoff Request (Bidirectional Communication)	onal Communication) O Server-to-Client Notificat	on (Bidirectional Communication)
Protocol	V HTTP HTTPS WEBSOCKET		
Custom Domain Name	Bind Domain Name to API Group		
Second-level Domain	89a ifoe n-hangzhou.alicloudapi.com		
BasePath:			
Request Path	/test/path	Match All Subpaths	
	The request path must contain the parameter path that is enclosed in brackets [] in request parameters, f	or example, /getUserInfo/[userId].	
HTTP Method	GET		
Request Mode	Map (Filter Out Unknown Parameters)		
The names of all request parameters, including the dynamic parameters, header parameters,	query parameters, and body parameters that are transferred by using forms, must be unique		
Request Parameters			
No. Parameter Name Parameter Location Type Required Default Val	Je Example		Description
+ Add			
	Previous Next		

4. In the Define Backend Service step, configure the type and URL of the backend service to which API Gateway sends the requests received from a client and how parameters are mapped and processed. The following example describes how to use an existing backend service. Select Use Existing Backend Service for the Configuration Mode parameter and HTTP/HTTPS Service for the Backend Service Type parameter. The console automatically searches for backend services of the selected type. Select the testHttp backend service that you create from the Backend Service drop-down list. To view the URLs of the backend service in different environments, move the pointer over View Environment Configurations and click the corresponding tabs. After you select a backend service. To create an API that uses an HTTP or HTTPS backend service, you must set the Backend Request Path, HTTP Method, and Backend Service Timeout Period parameters.

Create API t Back to APIs Page		
Basic Information	Define API Request	Define Backend Service
Basic Settings for Backend Service		
Configuration Mode	Customize Backend Service	
Backend Service Type	O HTTP/HTTPS Service VPC Function Compute OSS Mcck	
Backend Service	testHtm	View Environment Configurations
	tean mh	
backeria request Pain	The backend request path must contain the backend service parameter path that is enclosed in bracket	s [] in request parameters, for example, /getUserinto/juserid].
HTTP Method	GET	
Backend Service Timeout Period	10000 ms	
Backend Service Parameters		
No. Backend Parameter Name Backen	Parameter Location Request Parameter Name	e Request Parameter Location
Constant Parameters		
Backend Parameter Name Parameter Value	Parameter Location	Description
+ Add		
System Parameters		
System Parameter Name Backend Parameter	Name Parameter Location	Description
+ Add		
	Previous Next	1

- 5. In the Define Response step, configure response information to generate API documentation. The documentation helps API callers better understand the API. You can configure the Response ContentType, Response Example, and Error Response Example parameters. In this example, this step is skipped. Click Create.
- 6. After you click Create, a message appears to inform you to publish the API. API Gateway provides three environments to which you can publish an API: Production, Pre, and Test. All configurations that you perform on an API can take effect only after you publish the API to a required environment.

#### ♥ Notice

Before you publish an API that uses a backend service to an environment, make sure that the backend service is defined in the environment. Otherwise, you cannot publish the API.

# Create an app and grant the app the permissions to call the API

1. An app is an identity that you use to call the API. In the preceding step for creating the API, the Security Authentication parameter is set to Alibaba Cloud App. After you publish the API, you must create an app and grant the app the permissions to call the API.

2. In the left-side navigation pane, choose Call API > Apps. On the Apps page, click Create App in the upper-right corner. In the Create App dialog box, enter an app name and click Confirm. In the app list, click the name of the created app. The App Details page appears, as shown in the following figure. Two authentication modes are provided for the security authentication method Alibaba Cloud App: an AppKey and AppSecret pair and AppCode. In this example, the AppCode mode is used to authenticate the app. For more information about the security authentication method Alibaba Cloud App, see Call an API operation by using an AppCode.

App Details t Back to Apps Page	Rebush
Basic Information	Modily
App Name 話編成词	App D: 1
Description:	
Authorized APIs AppKey AppCoon	
AppCode	
081	

3. In the left-side navigation pane, choose Open API > APIs. On the APIs page, find the created API and choose More > Authorize in the Actions column. The Authorize dialog box appears, as shown in the following figure. Set the Stage parameter to the environment to which you publish the API. Enter the name of the app that you created in the search bar of the Choose Apps for Authorization section. In the search result, select the created app, click Add in the Actions column, and then click Confirm. A message appears to inform you that the app is authorized to call the API.

thorize				
s: testHttpBackend				
ge: Production Pre	Test Authorization Validity Period: O Sho	ort-term To	Dong-term	
oose Apps for Authorization:	My Apps 🛟 🌑 Tag 后端应用		Search	1
App ID	App Name	Actions	elected Apps: 1	
110865210	后端应用	+_Add Æ	后端应用	× Remove
Add Selected	Total Items: 1, Items per Page: 10			
			_	
			0	O

# Debug the API

Debug the API after the authorization is successful. API Gateway supports online debugging. We recommend that you use this feature to check whether an API is correctly configured before you call the API on a client. On the APIs page, click the name of the created API. On the API details page, click Debug API in the left-side navigation pane. The following figure shows the page that appears. If you have defined request parameters for the API, you can enter different values for the request parameters to check whether the API is correctly configured. When you debug the API, make sure that the App Name parameter is set to the authorized app. The environment for debugging must be the one in which the app is authorized to call the API. Otherwise, the debugging may fail.

-1	
- 1	
	•

testHttpBackend - Debug API (Th	APIST	hat are bound to the JWT authentication plug-in cann	ot be tested on this page.)	
Production Pre Test				Doctoging Information Trace Logens
UNL				Regues:
HITP # W 9		3b4-cn-hangzhou alicioudapi.com	•	Unit report in a second processing of the seco
BasePath: /				2004 4504 (2004) 120 (
HTTP Method: GET			Path: Antipath	Lamon (upplote has university) or the second s
Certificate				Reported:
Writication Method:		Use AppCode	•	200 Date: Marx, 07 Mar 2022 De:12 29: GMT
App Name		后端应用	8	Content-hyper upplication/bid-atmen Content-hyper upplication/bid-atmen Content-hyper upplication/bid-atmen
AppCode				Contextury (Angolane) Koop Aller, Stronger St. K. C. Steward and A. S. C. Start, Steward St. Steward St.
				Context Calgorithm attactment, Binamesu/pillegonal ontwo Context
Request Parameters				l segarat
Headers				"Headan"/i "contart-langth"/0",
No parameters configured.				h - ca-dishbash - dislon ' 10 MUC', h - diversities pour ("http://
Query				* readabloard with" * readabloard with "ISBP",
no parametri congres.				Treat/Tre * ce request-d* CoCOUPTC-039-401-000-750-750-71-00-77-
		Send Request		"content-type" "applications: www-form-witercoded, character.ut-til", "connection", "kegn-Alaw",
Note:				" is formation for " 1 "some agent "Apache Http://keni4.5.6 (Jave 7.8.0, 1727); Subjects
<ol> <li>You can view the error code table. (The 3.The maximum size of a request packet</li> </ol>	X-Ca-	Friends. Error-Message field is the error code field.) In the debugging page is 512 KB. If your request pack	set is larger than 512 KB in size, we recommend that you use SDK for	debugena bi

Manage all the published APIs that use the backend service in a specific environment

If you modify the definition of the backend service in a specific environment, all the published APIs
that use the backend service in the environment are automatically updated. The following figure
shows an example.Multiple APIs that use the testHttp backend service are published to the test
environment, as shown in the preceding figure. Click Modify in the upper-right corner of the Basic
Information section. On the Define Backend Service page, change the backend service URL and click
Publish. A message appears to inform you that the backend service URL will be updated for all the
published APIs that use the backend service in the test environment.

testHttp - Backend Service Definition to Back to Backend Services Page					Retresh
Draft Test Pre Production					
Basic Information					Modity Delete
Type: HTTP Back	kend Service UPL:http://	pi.com/8080			
Description:					
Associated APIs in Test Environment					
API Name	Method	Path	Group	Descriptio	n .
testHTtp	GET	Attp			
testBackend	GET	/test/yc/1	10000		
testHttpBackend	GET	Assipath			Total hems: 3, items per Page: 10 10 0 + 1 + >
Edit Backend Service	Definition			×	
*Environment:	Test				
	The backend	d definition of	the current environment is as	ssociated with 3	
	APIs. After e	diting, the ass	sociated APIs will be publishe	ed synchronously. Are	
	you sure you	want to edit?	?		
			Co	Cancel	

After you confirm to modify the definition of the backend service, you can see that the published APIs in the API list are updated. When you send requests to call the APIs again, the requests are routed to the new backend service URL.

Group	API Name	Stage	Status	Cause of Failure	
testgroup	testHTtp	Test	Updated		
testgroup	testBackend	Test	Updated		
testBugForParam	testHttpBackend	Test	Updated		

2. If the backend service URL that you define for a specific environment is no longer needed, you can delete the definition of the backend service in the environment. If you delete the definition of the backend service in the environment, all the published APIs that use the backend service in the environment are unpublished. The following figure shows an example.

nation	Backnot Senira (D) *	2007-0030				
ABle in Test Environment						
Aris in rescentrolment	Method	Path	Group		Description	
	GET	/http	ing and the second s			
	GET	/test/yc/1				
h I lanuklink						Total Items: 3, Items per Page: 10
al APIs in the Test E	Environment: 3, Successfu	I APIs: 3, APIs Being Unpu	blished: 0, APIs to B	e Unpublished: 0, Fa	ailed APIs: 0	
Group		API Name		Status	Cause of Failure	
Group		API Name		Status	Cause of Failure	
Group testgroup		API Name testHTtp		Status Unpublished	Cause of Failure	
Group testgroup		API Name testHTtp		Status Unpublished	Cause of Failure	
Group testgroup testgroup		API Name testHTtp testBackend		Status Unpublished Unpublished	Cause of Failure	
Group testgroup testgroup		API Name testHTtp testBackend		Status Unpublished Unpublished	Cause of Failure	

#### □ Warning

The preceding operations are performed on all associated APIs and are irreversible. Proceed with caution.

# 2.Create an API with OSS as the backend service

This topic describes how to create and publish an API with Object Storage Service (OSS) as the backend service in API Gateway, and how to call the API by using an AppKey and AppSecret pair of an APP. The AppKey and AppSecret are automatically generated for the APP if you set the authentication method of the API to Alibaba Cloud APP.

# 1. Overview

You must perform the following steps in sequence:

- Activate OSS
- Create an API group
- Create and define an API
- Create an APP and grant the APP the permissions to call the API
- •
- Debug the API
- Call the API

# 2. Create an OSS bucket

OSS is a secure and cost-effective Alibaba Cloud service that allows you to store a large amount of data with high persistence. OSS provides console-independent RESTful API operations for you to store and access data of any type anytime, anywhere, and from any application. API Gateway supports creating an API whose backend service is OSS. When you create an API with OSS as the backend service to perform operations on OSS. You can not only upload objects to, download objects from, and delete objects from your buckets, but also integrate the capabilities of API Gateway to provide more reliable services for your business. In addition, if you activate API Gateway and OSS in the same region, APIs can access OSS over the internal network.

#### Step 1 Activate OSS

Log on to the Alibaba Cloud console, search for OSS, and then follow the instructions to activate OSS.

#### Step 2: Create an OSS bucket

For more information about how to create an OSS bucket, see OSS documentation. In this example, set the parameters as required, as shown in the following figure.

# 3. Create an API group

APIs are managed in API groups. Before you create an API, you must create an API group.

Step 3: Create an API group

In the left-side navigation pane, choose Open API > Groups . In the top navigation bar, select the

region where you want to create an API group. On the API Groups page, click Create Group. In the Create Group dialog box, select your dedicated instance and set the Group Name parameter to testOssGroup. Only dedicated instances of a specific version and later support APIs with OSS as the backend service. If your dedicated instance is of an earlier version, contact Alibaba Cloud technical support to upgrade your instance.

Step 4: View the details of the API group

After you create the API group, the API group appears on the API Groups page. You can click the group name to go to the Group Details page. On this page, you can bind a domain name, modify basic information, and change the instance type.

After an API group is created, API Gateway automatically creates a public second-level domain for the API group. This default second-level domain can be used only to test API calls and can be used for a maximum of 1,000 times per day. We recommend that you bind an independent domain name after you create an API group. In this example, the default second-level domain is used.

# 4. Create an API

In the left-side navigation pane, choose Open APIs > APIs . Make sure that the current region is

the same region where the API group you created resides. On the APIs page, click Create API.

#### Step 5: Configure basic information for the API

In this step, configure the basic information for the API to be created, including the API group to which the API belongs and the name, authentication method, type, and description of the API. In this example, set the Group parameter to the API group you created and the AppCode Authentication parameter to **Enable AppCode Authentication (Header & Query)**. Set other parameters as required and click Next.



#### Step 6: Configure request information for the API

In this step, define how a client, such as a browser, a mobile app, or a business system, sends a request for the API. The parameters that need to be specified in this step include Request Type, Protocol, Request Path, HTTP Method, Request Mode, and the parameters in the Request Parameters section. Then, click Next. In this example, set the HTTP Method parameter to **GET**, the Request Mode parameter to **Pass-through**. A value of Pass-through indicates that API Gateway passes the received parameters to the backend service without processing.

#### ? Note

Note that the HTTP method that you specify for the API determines the available API operations of OSS. API Gateway supports the GET, PUT, POST, HEAD, and DELETE methods for APIs that use OSS as the backend service. The methods support the following API operations of OSS:

GET: Get Object

PUT: Put Object

POST: PostObject and AppendObject

HEAD: HeadObject and GetObjectMeta

DELETE and DeleteObject

For more information about the description of the API operations, see API Reference of OSS.

#### Step 7: Configure backend service information for the API

In this step, configure a backend service type and a backend service address of the API and the mappings between request and response parameters. In this example, set the Backend Service Type parameter to OSS. Set the Action parameter to GetObject because GET is specified as the request method in the preceding step. We recommend that you select the region where both OSS and API Gateway reside. In this case, API Gateway can send requests to OSS over the internal network.

#### ? Note

To allow API Gateway to access OSS, you must grant permissions on your OSS bucket to API Gateway as prompted after you configure backend service information.

In the preceding figure, you can grant the read permissions on the entire bucket or a specific object to API Gateway because you set the Action parameter to GetObject. The read, write, and delete permissions that you can grant vary based on the value of the Action parameter. To remove the granted permissions, perform the following steps: Log on to the OSS console and click your OSS bucket in the left-side navigation pane. In the left-side navigation pane of the bucket details page, click Access Control. On the Access Control page, click Configure in the Bucket Policy section. On the Bucket Policy page, you can remove the granted permissions.

#### Step 8: Configure response information for the API

In this step, configure response information to generate API documentation. The documentation helps API callers better understand APIs. You can set parameters such as Response ContentType, Response Example, and Error Response Example. In this example, this step is skipped. Click Create.

#### Step 9: Publish the API

After you click Create, a message appears to inform you that the API is created, as shown in the following figure. API Gateway provides three environments to which you can publish an API: Release, Staging, and Test. All configurations you perform on an API can take effect only after you publish the API to a required environment. In this example, click Publish in the message that indicates successful API creation. In the Publish API dialog box, set the Stage parameter to Release, enter remarks, and then click Publish.

# 5. Create an APP and grant the APP the permissions to call the API

APPs are the identities that you use to call APIs. In Step 5, the Security Authentication parameter is set to Alibaba Cloud APP. Therefore, after you publish the API, you must create an APP and grant the APP the permissions to call the API.

#### Step 10: Create an APP

In the left-side navigation pane, choose Call APIs > Apps . On the Apps page, click Create App. In

the Create App dialog box, enter an APP name and click Confirm. In the APP list, click the name of the created APP. Two authentication modes are provided: an AppKey and AppSecret pair and AppCode. In this example, the AppCode mode is used to authenticate the APP. For more information about this mode, see Call an API operation by using an AppCode.

#### Step 11: Grant the APP the permissions to call the API

In the left-side navigation pane, choose Open API > APIs. On the APIs page, find the created API and choose More > Authorize. A dialog box appears, as shown in the following figure. Set the Stage parameter to the environment to which you have published the API. In this example, set this parameter to Release. Enter the name of the APP you created in the search bar of the Choose Apps for Authorization section. In the search result, select the created APP, click Add in the Actions column, and then click Confirm. A message appears to inform you that the APP is authorized to call the API.

# 6. Debug the API

API Gateway supports online debugging. We recommend that you use this feature to check whether an API is correctly configured before you call this API on clients.

Step 12 Debug the API

On the APIs page, click the name of the created API. On the API details page, click Debug API in

the left-side navigation pane. The following figure shows the page that appears. If you have defined request parameters for the API, you can enter different values for the request parameters to check whether the API is correctly configured.

When you debug the API, make sure that the App Name parameter is set to the authorized APP. The environment for debugging must be the one where the APP is authorized to call the API. Otherwise, the debugging may fail. In this example, select Release as the environment for debugging.

# 7. Call the API

After you perform the preceding steps, you have created the API and the APP, authorized the APP to call the API, debugged the API, and published the API to the online environment. In this step, you can call the API in your business system by using the AppCode.

#### Step 13: Call the API

For more information about API calls, see Overview. In this example, the curl command is used to call the API.

The following figure shows the call result.

> Document Version: 20220311

# 3.Create an API operation with a resource in a VPC as the backend service

This topic describes how to create and publish an API operation with a resource in a VPC as the backend service in API Gateway, and how to call the API operation in an application by using an AppCode. The AppCode is automatically generated for the application when you set the authentication method of the API operation to Alibaba Cloud APP.

### Overview

You must perform the following steps in sequence:

- Authorize API Gateway to access a VPC
- Create an API group
- Create and define an API operation
- Create an application and authorize the API operation
- Allow out bound IP addresses of API Gateway in a security group
- Debug the API operation
- Call the API operation

#### 1. Create instances in a VPC.

Purchase and create SLB and ECS instances in a VPC.

In this example, an ECS instance in a VPC is used as the backend service of an API operation. The ECS instance is deployed in NGINX and uses port 80 for communication. Web services are deployed on the ECS instance.

#### 2. Authorize API Gateway to access the VPC

#### Create VPC access authorization.

To allow API Gateway to access a VPC, you must create VPC access authorization.

In the left-side navigation pane of the API Gateway console, choose Publish APIs > VPC Access .

On the VPC Access List page, select the region where the VPC resides and click Create VPC Access . In

the Create VPC Access dialog box, enter testVpc in the VPC Access Name field and specify VPC ld, Instance Id Or IP, and Instance Port.

Create VPC Access	$\times$
Region:	China North 2 (Beijing)
*VPC Access Name:	testVpc
	It may contain Chinese characters, English letters, numbers, and English- style underlines. It must start with a letter or Chinese character and be 4-50 characters long
*VPC Id:	vpc-2z 7'r'î î 1 1 1 :
*Instance Id Or IP:	i-2ze
	Please enter the instance ID of your ECS or SLB (for example: i- uf1dfwexxxxxx or lb-jiwb2342xxxxxx), or the private network IP of the corresponding instance
*Instance Port:	80
	It must be numbers and 2-6 characters long, for example: 80
	OK Cancel

VPC Id is the ID of the VPC where your backend service resides. Instance Id Or IP is the ID or private IP address of the instance where your backend service resides. You can obtain the information in the instance details.

			top configure coounty croup nate :
test-xue 🗹 🔮 Running			
Instance ID i-2zeee g	Connect	Region China (Beijing)	
Public IP	Convert to EIP	Zone Beijing Zone A	
Security Group	Add to Security Group	Hostname IZ2zeee4	Modify Hostname
Tags -	Edit Tags	Created At Jul 29, 2020, 17:26:00	
Description		Auto Release Time	
a n	Modify Instance Description	-	Release
CPU and Memory 1 Cores 1 GiB		Cloud Disk	Reinitialize Disks
Operating System CentOS 7.4 64-bit	Replace System Disk	Snapshot 0	
Type ecs.xn4.small	Change Instance Type	Image ID centos_7_04_64_20G_alibase_201701015.vhd	Create Custom Image
Instance Family Shared Performance Basic		Current Bandwidth 5Mbps (Peak Value) Change	Pay-as-you-go Instance Bandwidth
Network Information			Bind Secondary ENI   Change VPC
Network Type VPC		RDMA IP	
ENIS		FIP ID	
eni-2zei99or rv		-	
VPC vpc-2zesic مەر		VSwitch vsw-2ze65gaz	
Primary Private IP Address 192.168.0.148		Secondary Private IP Address	

# 3. Create an API group

API Gateway allows you to manage API operations based on API groups. Before you create an API operation, you must create an API group.

Step 1: Create an API group.

Log on to the API Gateway console. In the left-side navigation pane, choose Publish APIs >

API Groups . Select a region in the top navigation bar and click Create Group on the Group List page.

In the Create Group dialog box, select the instance to which the API group to be created belongs and enter the group name. In this example, set the Instance parameter to Shared Instance(VPC Network) (api-shared-vpc-001) and enter testVpcGroup in the Group Name field.

Create Group	$\times$
Region:	China North 2 (Beijing) (Each user can create up to 50 groups)
*Instance:	Shared Instance(VPC Network)
*Group Name:	testVpcGroup
	Group name must be globally unique and may contain Chinese characters, English letters, numbers, and English-style underlines. It must start with a letter or Chinese character and be 4-50 characters long
Tag settings	
Description:	Create an API operation with a resource in a VPC as the backend service
	OK Cancel

**Step 2**: View details of the API group.

After you create the API group, the API group appears on the Group List page. You can click the group name to go to the Group Details page. On this page, you can bind a domain name, modify basic information, and change the instance type.

After an API group is created, API Gateway automatically creates a **public second-level domain name** for the API group. This default second-level domain name can be used only to test API calls and can be used for a maximum of **1,000 times** per day. We recommend that you bind **an independent domain name** after you create an API group. In this example, the default second-level domain name is used.

#### 4. Create an API operation

In the left-side navigation pane, choose Publish APIs > APIs . Make sure that the current region is

the region where the API group you created resides. On the API List page, click Create API.

Step 1: Configure basic information for the API operation.

In this step, configure the basic information for the API operation to be created, including the API group to which the API operation belongs and the name, authentication method, type, and description of the API operation. In this example, set the Group parameter to the API group you created and the AppCode Certification parameter to Allow AppCode authentication (Header & Query). Set other parameters as required and click Next.

Name And Description		
Group	testVpcGroup	Create Group
API Name	testVpcApi	٢
Security Certification	Alibaba Cloud APP 🗘	
AppCode Certification	Allow AppCode authentication (Header & Query)	AppCode certification usage and risk tips
Signature Method	HmacSHA256	
API Options	Prevent replay attacks (the request header must contain the X-C	a-Nonce parameter)
	Prohibit public internet access Application for VPC Intranet Dom	ain Name
	Allow cloud market	
Description	It cannot exceed 2000 characters	
		~

Step 2: Configure request information for the API operation.

In this step, define how a client, such as a browser, a mobile app, or a business system, sends a request for the API operation. The parameters to be configured in this step include Request Type, Protocol, Request Path, HTTP Method, Request Mode, and those in the Input Parameter Definition section. In this example, set the Request Mode parameter to **Request Parameter Passthrough**, which indicates that API Gateway passes API requests to the backend service in the VPC without processing them.

Basic Request Definition							
Request Type							
Protocol							
Custom Domain Name	Bind domain name to the group						
Subdomain Name	L, → → → → → jjing.alictoudapi.com						
Request Path	/ Carlos All Child Paths						
	The request path must contain the Parameter Path in the request parameter within brackets ([]). For example: /getUserInfo/[userId]						
HTTP Method	GET						
Request Mode	Request Parameter Passthrough						

Step 3: Configure backend service information for the API operation.

In this step, configure a backend service type and address for the API operation and the mapping between request and response parameters. In this example, specify **VPC** for Backend Service Type, enter the VPC access name you created in the "Authorize API Gateway to access the VPC" section in the VPC Access Name field, specify Backend Request Path, and then click Next.

Basic Backend Definition								
Backend Service Type	HTTP(s) Service OVPC FunctionCompute Mock							
VPC Access Name	testVpc       Using the HTTPS protocol       Creating Or Searching VPC Access         Fill in vpc name, vpc name support environment variables       How to use VPC? How to use environment variables?							
Backend Request Path	/ Match All Child Paths The backend request path must contain the Parameter Path in the backend service parameter within brackets ([]). For example: /getUserInfo/[userId]							
HTTP Method	GET \$							
Backend Timeout	10000 ms							

Step 4: Configure response information for the API operation.

In this step, configure response information to generate an API reference in the Alibaba Cloud API Gateway documentation. This API reference can help API users better understand the API operation. You can configure parameters such as ContentType of Response, Sample of Returned Results, and Sample of Returned Failure. Parameter configuration is not required in this example. Click Create.

**Step 5**: Publish the API operation.

After the preceding operation is successful, a message appears to inform you that the API operation is modified. All configurations of the API operation take effect only after you publish the API operation. API Gateway provides three environments to which you can publish an API operation: Release, Pre, and Test. In this example, click Deploy in the message. In the dialog box that appears, set the Select The

Stage To Release To parameter to Release, enter your remarks, and then click Deploy.



# 5. Create and authorize an application

Applications are identities that you use to call API operations. In Step 1 of the "Create an API operation" section, the Security Certification parameter is set to Call an API operation by using an AppCode. Therefore, after you publish the API operation, you must create and authorize an application for calling the API operation.

Step 1: Create an application.

In the left-side navigation pane, choose Consume APIs > APPs . On the APP List page, click Create

APP. In the Create APP dialog box, enter an application name and click OK. In the application list, click the name of the application you created. Two authentication modes are provided for the applications of an API operation whose Security Certification parameter is set to Alibaba Cloud APP: AppKey and AppCode, as shown in the following figure. In this example, the AppCode mode is used to authenticate the application. For more information about the security certification method Alibaba Cloud APP, see Call an API operation by using an AppCode.

ApiGateway	APP details 1: E	Back to APP list								Refresh
Overview	Basic Information	Basic Information								Modify
Instances	APP Name:testVpc	App					APP ID: 110723730			
✓ Publish APIs										
API Groups	Description:									
APIs	Authorized API	AppKey	AppCode	Auto Generate API SDK and Doc	:5					
Plugin	Enter the API name to	o search			• Search					
VPC Access	API Name	Region		Group Name	Stage	Authorizer	Authorization Time	Authorization Period	Operation	
Log Manage										
Owned APIs SDK						You have not	oound an API			
APPs									Total of D entries, 1D displayed per page	
Purchased APIs										
Authorized APIs SDK										
Debug										
Documentation										

Step 2: Authorize the API operation.

In the left-side navigation pane, choose Publish APIs > APIs . On the API List page, find the API

operation you created and click Authorize in the Operation column. A dialog box appears, as shown

in the following figure. Set the Select The Stage For Authorization parameter to the environment to which you have published the API operation. In this example, set this parameter to Release. Enter the name of the application you created in the search bar of the Select The APP For Authorization section. In the search result, select the application you created, click Add in the Operation column, and then click OK. A message appears to inform you that the application is authorized to call the API operation.

Authorize				×
You will authorize the following	API(s):			
testVpcApi				
Select The Stage For Authoriza	tion: Release Pre	Test		
Authorization Valid Time:	Short-term to	Dong-to	erm	
Select The APP For Authorization	on:			
My APP 💠 🏷 Tags	Enter APP Name	Search	(1) APPs have added	
APP ID	APP Name	Operation	testVpcApp	× Remove
110723730	testVpcApp	+ Add		
	10010300000	+ Add		
		+ Add		
Add Selected	3 (	entries in total		
				OK Cancel

# 6. Allow outbound IP addresses of API Gateway in a security group

If the security group of your ECS instance does not allow all CIDR blocks over a specified port, you must add the outbound IP addresses of API Gateway to the security group to allow these IP addresses.

The outbound IP address of an API group is the outbound IP address of the instance to which the API group belongs. To obtain the outbound IP address of an exclusive instance, log on to the API Gateway console. In the left-side navigation pane, choose Publish APIs > API Groups. On the Group List page, find the API group whose information you want to view and click the group name. On the Group Details page, view information about the instance to which the API group belongs.

ApiGateway	Group Details t Sack to group list				
Overview	Basic Information			Turn on cloud monitoring Api List	Modify Group Message
Instances	Region: China North 2 (Beijing)	Group Name: tex-recorded	Group ID: b05		
▼ Publish APIs		Internet Subdomain:	dapl.com	Disable Internet Subdomain	
API Groups		The subcommits only for API test, when the client directly calls it, there will be 1000 access restrictions per day, it is recommended to use the independent domain name for group binding, and it will not be subject to this netroticon. For data, use <u>configuration encess</u> ) AND galaxy and enabled domain access the Access of			
APIs	Subdomain Name				
Plugin		VPC Intranet Subdomain: Not activated Please set 'Visit to VPC' in 'Instance'			
VPC Access	Instance Type: Dedicated VPC				
Log Manage	Instance ID: a	Group Traffic Limit (QPS): 2500 (Consistent with the dedicated instance)	Modify API Group's Instance	Instance Type And Selection Guide	
Owned APIs SDK	Instance Name: testdtrace				
▼ Consume APIs Ξ	Naturel: Account Pallow	HTTPS Security Policy: HTTPS2_TLS1_0 HTTPS Security Policy Docume	ntation		
APPs	HOLFOLD ALLOSS FUILY	(Be consistent with the dedicated instance HttpsPolicy)			
Purchased APIs	Legal Status: NORMAL				
Authorized APIs SDK	Description: Oreste an API operation with a resource in a VPC as the backend service				

In the left-side navigation pane, click Instances. On the Instance list page, view the information of the instance to which the API group belongs, as shown in the following figure. You can view the outbound IP address of a shared instance on the Instance list page.

ApiGateway		Instance list				Buy A Dedicated Ins
Overview		Sedicated Instance (VPC) : Open the dashboard				Release Ins
Instances		Instance Name	Change Name			
<ul> <li>Publish APIs</li> </ul>		Zone Multi-Availability Zone 1				
<ul> <li>Consume APIs</li> </ul>		HTTPS Security Policy	HTTPS2_TLS1_0 Change HTTPS Security Po	HTTPS2_TLS1_0 Change HTTPS Security Policy		
Documentation		Entry Address	Set the VPC that allows access to this dedicate	id instance		
	Ш	lpv6 entry capability	Click to activate	lick to activate		
		Ipv6 visit ability	Click to activate			
		Whether it is allowed to be called by the API gateway itself	Click to activate			
		Billing Method	Pay-As-You-Go	Create Time:		
		Instance Specification epi.s1.small	Max Request Per Second : SLA : Max Connections : Max Internet Inbound Traffic : Max Internet Outbound Traffic :	2500 99.95% 50000 5120M 100M		

# 7. Debug the API operation

API Gateway supports online debugging. We recommend that you use this feature to check whether an API operation is correctly configured before you allow clients to call it.

On the API List page, find the API operation you created and click Debug in the Operation

column. The following figure shows the page that appears. If you have defined request parameters for the API operation, you can enter different values for the request parameters to check whether the API operation is correctly configured.

When you debug the API operation, make sure that the AppName parameter is set to an authorized application. The Stage parameter must be set to the environment where the application is authorized. Otherwise, the debugging may fail. In this example, set the Stage parameter to RELEASE.

Release Pre Test	Debug Information Trace Log
API Domain Name	Request
	Unit management of the second s
······································	Header: ("X-Ca-Timestamp":'1606734437017", 'gateway_channel": "http:/, X-Ca-Key': " // K-ca-nonce": '2693f884-ad9f-4aed-a3a0-4ddebb957aaa", 'X-Ca-Request-
	Mode": "DEBUG", 'X-Ca-Stage": "RELEASE", 'X-Ca-Supervisor-
Http Method:GET Path Format: /	Token's' MTYwNjczNDM3NywiaXNzijoiQWxpeXVuQXBpR2F02XdheSislnJubGUi0U1tc2VyliwiYXVkijoYXBpLXNoYX
	gYhLYLEDuBe9TMKQZAxKRyqQ5JDOmNnHpqaONLoqlwn8ogkcKaVMS-VuI3OV4UlfQf-0d593vVitWjhI004Y6KSEx8dhrGxtui32ji8ch5oOZVOBd3eSUAGoQx-
Certificate	NeksFOVczb2kloKt, CałłoesfnBjndRzjeMTFWZHHIHG44yzkkbZUtShQ_EaonzwGYY-sgDGLI-TWNPKIZkrzEAK(GW_T0tb-y37CKzmU2KikpYuO)PDDW-
	UO15gwQkeHrUikP93mBsthextwikSUD9w", Host" ", ",x-Ca-Signature :"CdphL/16grO32jJAreniOw3Ayq1LdbcOy1HhclBrc=", Content- Twetsherthink shared ut with U.Y.Ca. Signature : "Content- Twetsherthink shared ut with U.Y.Ca. Signature : "Content- Twetsherthink shared ut with U.Y.Ca. Signature : "Content- Twetsherthink shared ut with U.Y.Ca. Signature : "Content- tor : ", ", Ca. Signature : "Content- tor : ", ", ", Ca. Signature : "Content- tor : ", ", ", ", ", ", ", ", ", ", ", ", ",
Authorization Type = Use AppSecret \$	type / textmm; cranselum-e; Arua-signature-Headers **Arua-I mestamp;Arua-Key(Arua-Hequest-Mode,Arua-Stage);Arua-Supervisor-Toxen }
	Response:
AppName = testVpcApp2 \$	200
	Content-Type: text/html
	Transfer-Encoding: chunked
AppKey = Infinition	Connection: keep-alive
	Date: Mon, 30 Nov 2020 11:07:17 GMT
AppSecret = ·····	Vary Accepte-Incoding
	A Cuthequest (II): ED TACUM-BAT (H4AC-ATIO-DU/LUESCAPT) FTan W/FST204/L1241
	Ling in order test 15 May 2014 15:12:48 GMT
Request Parameters	Ali-Swift-Global-Savetime: 1606734437
	Via: cache39.l2cn2648[124,200-0,M], cache13.l2cn2648[125,0], vcache7.cn2204[164,200-0,M], vcache21.cn2204[167,0]
Headers	Age: 0
	X-Cache: MISS TCP_MISS dim:-2:-2
Content-Type = text/html; charset=utf-8	Remove X-Swift-SaveTime: Mon, 30 Nov 2020 11:07:17 GMT
+ Add	X-Swift-CacheTime: 3600
1 Million	Timing-Allow-Origin: *
Current .	Eagloid: 3ad/9e291k06/3443/1191043e
duery	<idoctype '-="" 4.01="" dtd="" en'="" html="" public="" transitional="" w3c=""></idoctype>
+ Add	<pre><html></html></pre>
	<head></head>
Cont Derevet	<title>Welcome to CentOS</title>
Send Hequest	<style rel="stylesheet" type="text/css"></style>

# 8. Call the API operation

In this example, curl is used to call the API operation. For more information, see Call an API operation by using an AppCode.

Note: The manage of the second s

Note: The API operation in the release environment is called by default.

For information about the environments of API operations, see Configure different environments for an API operation.

The main purpose of this topic is to help you quickly get started. The high availability of a backend service is not considered. If you have any questions, see Use a resource in a VPC as the backend service of an API operation.

# 4.Create an API operation with HTTP as the backend service

This topic describes how to create and publish an API operation with HTTP as the backend service in API Gateway, and how to call the API operation in an application by using an AppKey and an AppSecret. The AppKey and AppSecret are automatically generated for the application provided that you set the authentication method of the API operation to Alibaba Cloud APP.

# 1. Overview

You must perform the following steps in sequence:

- Create an API group
- Create an API operation
- Create and authorize an application
- Debug the API operation
- Call the API operation

# 2. Create an API group

In API Gateway, API operations are managed in API groups. Before you create an API operation, you must create an API group.

#### Step 1: Create an API group

Log on to the API Gateway console. In the left-side navigation pane, choose Publish APIs > API Groups Select a region in the top navigation bar and click Create Group on the Group List page. In the Create Group dialog box, select an instance to which the API group to be created belongs and enter a group name. In this example, set the Instance parameter to Shared Instance(VPC Network)(api-sharedvpc-001) and enter testAppkeyGroup in the Group Name field.

Create Group	×
Region:	China North 2 (Beijing) (Each user can create up to 50 groups)
*Instance:	Shared Instance(VPC Network) (
*Group Name:	testAppkeyGroup
	Group name must be globally unique and may contain Chinese characters, English letters, numbers, and English-style underlines. It must start with a letter or Chinese character and be 4-50 characters long
Tag settings	
Description:	Cannot exceed 180 characters
	4
	OK Cancel

Step 2: View details of the API group

After you create the API group, the API group appears on the Group List page. You can click the group name to go to the details page, where you can perform operations such as binding a domain name, modifying basic information, and changing the instance type.

After an API group is created, API Gateway automatically creates a public second-level domain name for the API group. This default second-level domain name can only be used for testing API calls and can be used for a maximum of 1,000 times per day. We recommend that you bind an independent domain name after you create an API group. In this example, the default second-level domain name for testing API calls is used.

# 3. Create an API operation

In the left-side navigation pane, choose Publish APIs > APIs . Make sure that the current region is the same region where the API group you created resides. On the API List page, click Create API.

Step 3: Configure basic information for the API operation

In this step, configure the basic information for the API operation to be created, including the API group to which the API operation belongs and the name, authentication method, and description of the API operation. In this example, set the Group parameter to testAppkeyGroup, the Security Certification parameter to Alibaba Cloud APP, and the AppCode Certification parameter to Disable AppCode authentication. Set other parameters as required and click Next.

Name And Description		
Group	Anathening One	Orrada Orraun
Gloup	testAppkeyGroup	Create Group
API Name	testAppkeyApi	0
Security Certification	Alibaba Cloud APP	
AppCode Certification	Disable AppCode authentication	AppCode certification usage and risk tips
Signature Method	HmacSHA256	
API Options	Prevent replay attacks (the request header must conta	in the X-Ca-Nonce parameter)
	Prohibit public internet access Application for VPC Internet	ranet Domain Name
	Allow cloud market	
Description	It cannot exceed 2000 characters	
		11

Step 4: Configure request information for the API operation

In this step, define how a client, such as a browser, a mobile app, or a business system, sends a request for the API operation. The parameters to be set in this step include Request Type, Protocol, Request Path, HTTP Method, Request Mode, and those in the Input Parameter Definition section. In this example, enter /web/cloudapi in the Request Path field and do not define request parameters.

Basic Request Definition	
Request Type	
Protocol	
Custom Domain Name	Bind domain name to the group
Subdomain Name	□
Request Path	/web/cloudapi Datch All Child Paths
	The request path must contain the Parameter Path in the request parameter within brackets ([]). For example: /getUserInfo/[userId]
HTTP Method	GET \$
Request Mode	Request Parameter Mapping(Filter Unknown Parameters)

Step 5: Configure backend service information for the API operation

In this step, configure a backend service type and address for the API operation and the mapping relationship between request and response parameters. In this example, set the Backend Service Type parameter to HTTP(s) Service. The backend service address must be accessible on Alibaba Cloud networks and the Internet. For information about other backend service types, see API Gateway documentation. Set other parameters such as Backend Service Address and Backend Request Path as prompted.

HTTP(s) Service VPC FunctionCompute M	lock	
p udapi.com:8080 A backend service address is the domain name or IP ad Why can't invoke my backend service successfully?	Idress used by the API Gateway to call underlying services, not including the path	
/web/cloudapi The backend request path must contain the Parameter R	Match All Child Paths Path in the backend service parameter within brackets ([]). For example: /getUserInfo/[userId]	
GET	•	
10000 ms		
	HTTP(s) Service VPC FunctionCompute N     Imprimudapi.com:8080     A backend service address is the domain name or IP ac     Why can't invoke my backend service successfully?     /web/cloudapi     The backend request path must contain the Parameter     GET     10000 ms	HTTP(s) Service VPC FunctionCompute Mock     Imprime Mock     Abackend service address is the domain name or IP address used by the API Gateway to call underlying services, not including the path     Why can't invoke my backend service successfully?     Metch All Child Paths     The backend request path must contain the Parameter Path in the backend service parameter within brackets ([]). For example: /getUserInfo/[userId]     GET     f     10000 ms

#### Step 6: Configure response information for the API operation

In this step, configure response information to generate an API reference in Alibaba Cloud API Gateway SDK. This API reference can help API users better understand the API operation. You can set parameters such as ContentType of Response, Sample of Returned Results, and Sample of Returned Failure. In this example, this step is skipped. Click Create .

#### **Step 7**: Publish the API operation

After you create or modify the API operation, a message appears to inform you that the API operation is created or modified. All configurations of the API operation take effect only after you publish the API operation. API Gateway provides three environments to which you can publish an API operation: Release, Pre, and Test. In this example, click Deploy in the message. In the dialog box that appears, set the Select The Stage To Release To parameter to Release, enter your remarks, and then click Deploy.



# 4. Create and authorize an application

Applications are identities that you use to call API operations. In step 3, the Security Certification parameter is set to Alibaba Cloud APP. Therefore, after you publish the API operation, you must create and authorize an application for calling the API operation.

Step 8: Create an application

In the left-side navigation pane, choose Consume APIS > APPS . On the APP List page, click Create APP. As shown in the following figure, for an API operation whose Security Certification parameter is set to Alibaba Cloud APP, two authentication modes are provided for its applications: AppKey and AppCode. The AppKey mode provides a key pair that consists of an AppKey and an AppSecret. You can regard them as an account and a password. When you call the API operation, you must specify the AppKey as a request parameter. The AppSecret is used to calculate the signature string. API Gateway authenticates the key pair to verify your identity. For more information about the Alibaba Cloud APP authentication method, see Call an API operation by using an AppCode.

ApiGateway	APP details <b>t</b> Back to APP list			Refresh	
Overview	Basic Information				
Instances	APP Name:testAppkeyApp		APP ID: 11		
Publish APIs	Description:				
<ul> <li>Consume APIs</li> </ul>					
APPs	Authorized API AppKey AppCode				
Purchased APIs	АррКеу	AppSecret	Operation		
Authorized APIs SDK	2 ·····	Show	Reset AppSecret		
Debug					
Documentation					

#### Step 9: Authorize the application

In the left-side navigation pane, choose Publish APIs APIs . On the API List page, find the API operation you created and click Authorize in the Operation column. A dialog box appears, as shown in the following figure. Set the Select The Stage For Authorization parameter to the environment to which you have published the API operation. In this example, set this parameter to Release. Search for the application you created, click Add, and then click OK. A message appears to inform you that the application is authorized to call the API operation.

Authorize					×
You will authorize the following	g API(s):				
testAppkeyApi					
Select The Stage For Authoriza	ation: Release Pre	e Test			
Authorization Valid Time:	Short-term to		Long-te	rm	
Select The APP For Authorization	ion:				
My APP 🗘 🏷 Tags	Enter APP Name	Search		(1) APPs have added	
APP ID	APP Name	Op	eration	testAppkeyApp	× Remove
1111100100	testAppkeyApp	+	Add		
		+	- Add		
Add Selected		2 entries in total 4	>		
					OK Cancel

#### 5. Debug the API operation

API Gateway supports online debugging. We recommend that you use this feature to check whether an API operation is correctly configured before you allow it to be called on clients.

#### Step 10: Debug the API operation

On the API List page, find the API operation you created and click Debug in the Operation column. A page appears, as shown in the following figure. If you have defined request parameters for the API operation, you can enter different values for the request parameters to check whether the API operation is correctly configured.

When you debug the API operation, make sure that the AppName parameter is set to an authorized application. The Stage parameter must be set to the environment where the application is authorized, otherwise the debugging may fail. In this example, set the Stage parameter to RELEASE.

testAppkeyApi - Debug AP	(Plug-in debugging is not supported temporarily)	
Release Pre Test		Debug Information Trace Log
API Domain Name		Request:
HTTP \$ //		Urt. http:///
Http Method:GET	Path Format: /web/cloudapi	inder studiot, soweidiger inder soweidiger soweidiger inder soweidiger in
Certificate		XLgCERq4aQT/recpfbAddigqt0FK0C0Bb5z2xGobjRqUdpzPlkwhMx2KSBG0_ZU0R2Agp2pc0wK5T_kyQqUWQYKcHM/*wKrBe886G0OxRDxBxZEhrNbYnx633cTXyU/UTEjFf0 cn-beijing alicioudapi.com*, XCa-Signature*?Fr-Or
Authorization Type =	Use AppSecret \$	Ca-Timestamp,X-Ca-Key,X-Ca-Request-Mode,X-Ca-Stage,X-Ca-Supervisor-Token*)
AppName =	testAppkeyApp \$	Response: 200
		Date: Mon, 30 Nov 2020 12:48:10 GMT Content-Type: application/oct-stream
АррКеу =	Annual Contract of	Content-Length: 659 Connection: Keep-allive
AppSecret =		Keep-Alive:timeout=25 X-Ca-Request-ki: 213A74D 44EC7BB80212E
		Content-Disposition: attachment; filename=ApResponseForinnerDomain

# 6. Call the API operation

Now you have created the API operation and the application, authorized the application to call the API operation, debugged the API operation, and published the API operation to the online environment. In this step, you can download Alibaba Cloud API Gateway SDK for the API operation and use the SDK to call the API operation in your business system.

#### Step 11: Call the API operation

In the left-side navigation pane, choose Consume APIS > Authorized APIS SDK . On the Authorized APIS SDK Auto-Generation page, you can download the SDK that is used to call the API operation in the application. You can also download the SDK for other coding languages.

ApiGateway	Authorized APIs SDK Auto-Gene	ration		
Overview	Enter the complete AppName to query Filters: App Name:testAppkey		Search 🗞 Tags	
Publish APIs	APP Name	Tag Description	Created Time	Authorized APIs SDK Auto-Generation
<ul> <li>Consume APIs</li> </ul>	testAppkeyApp	۲	2020-11-30 20:44:06	Objective-C Android Java
APPs	terrer of the second seco	۲	2020-02-27 19:55:32	Objective-C Android Java
Purchased APIs				Total of 2 entries, 10 displayed per page 10 ¢
Authorized APIs SDK	Other Language Example			
Debug Documentation	PHP Python	.NET Node.js		
	See PHP for call examples			

In this example, Alibaba Cloud API Gateway SDK for Node.js is used to call the API operation.

1. Use Node Package Manager (NPM) to install Alibaba Cloud API Gateway SDK for Node.js. Run the following command in NPM: \$ npm install aligun-api-gateway -S .

2. Replace YOUR\_APP\_KEY and YOUR\_APP\_SECRET in the following code snippet with the AppKey and AppSecret of the application that is created in this example.

// Import Alibaba Cloud API Gateway SDK for Node.js that you downloaded. const Client = require('aliyun-api-gateway').Client; // Create an instance of the authorized application. Specify the AppKey and AppSecret of th e authorized application. const client = new Client('YOUR APP KEY', 'YOUR APP SECRET'); async function get() { // Use the domain name of the API group to which the API operation to be called belongs. Yo u can use the public second-level domain name provided by API Gateway to test API calls, bu t only for a limited number of times per day. We recommend that you bind an independent dom ain name to the API Group. var url = 'YOUR GROUP DOMAIN'; var result = await client.get(url, { // Define the response format in the request header of the API operation. All responses of the API operation will adhere to the defined response format. We recommend that you define the response format based on your requirements. headers: { accept: 'application/json' }, }); console.log(JSON.stringify(result)); } get().catch((err) => { console.log(err.stack); });

The following figure shows a sample response.

PS C:\Users\ Desktop\node> node server.js
"{\"Headers\":{\"connection\":\"Keep-Alive\",\"host\":\"apig
"x-forwarded-for\":\": .152.200\",\"user-agent\":\"AliOpenAPI/1.0\",\"x-ca-api-gateway\":\"FA2
B1897-D969-4121-8D74-02A1EF65C933\"},\"Body\":\"\",\"Params\":{},\"RequestURL\":\"http://apigateway
-...com:8080/web/cloudapi\"}"

# 5.Create an API operation with Function Compute as the backend service

This topic describes how to create and publish an API operation with Function Compute as the backend service in API Gateway, and how to call the API operation in an application by using an AppCode. The AppCode is automatically generated for the application provided that you set the authentication method of the API operation to Alibaba Cloud APP.

### 1. Overview

You must perform the following steps in sequence:

- Create a function in Function Compute
- Create an API group in API Gateway
- Create an API operation
- Create and authorize an application
- Debug the API operation
- Call the API operation

# 2. Create a function in Function Compute

Function Compute is an event-driven compute service. Functions are event-driven, that is, when an event occurs, the event triggers the execution of the corresponding function. API Gateway is an event source for Function Compute. After API Gateway receives a request for an API operation that uses Function Compute as the backend service, API Gateway triggers the execution of the corresponding function in Function Compute and Function Compute sends the execution results to API Gateway.

#### Step 1: Create a function by using the apigateway template in Function Compute

Log on to the Function Compute console. Select a region in the top navigation bar. In the left-side navigation pane, click Service/Function . On the page that appears, click Create Function . In the Create Function step, click Template Function . Then, select the api-gateway-nodejs6 template and click Next. This template is used to create a function whose event source is API Gateway.

1 Create Function			2 Configure Function	
iction Type:				
Event Function	HTTP Function		Template Funtion	
use the nelloworid template to create a blank function.	Use the nelloworld templa	ite to create a blank HTTP function.	Use a sample code template to create a function.	
Search by name, description, or environment	Q			
alimebot-nodejs		aliyun-config-python3		api-gateway-nodejs6 Template Details
Runtime nodejs6		Runtime python3		Runtime nodejs6
Description This template is a function template that is provided to developers of DialogStudio. The template provides a basic function structure, and developers need to develop code according to this structure.		Description Custom rule template of Cloud Config allows you to quickly develop customized compliance rules.		Description This template implements a backend service for API Gateway. It shows how to return different content formats, such as HTML pag JSON documents, and images.
copy-oss-object-python27		data-lake-analytics		flask-web
Runtime python2.7		Runtime python3		Runtime python2.7
Description This template shows how to backup folders fr bucket to other destinations. This sample coc to Qiniu cloud.	rom a specified OSS de shows how to backup	Description This is a typical ten data stored in Obje various dimensions	nplate describing how to build a data lake for the ct Storage Service (OSS) and analyze the data in by the integration of Function Compute to Dat	Description Through this template demo, the user can create a serverless flas web project, and invoke the function via URL.

#### Step 2: Configure the function

For more information about how to configure a function, see Function Compute documentation. In this example, set the parameters as required, as shown in the following figure.

Configure Function			
* Service Name	testFunctionServer		•
* Function Name	testFunctionCompute		0
* Runtime	nodejs6	~	
* Instance Type	Flexible Instance	~	
* Function Handler	index.handler		0
* Memory	256MB	~	Manually enter
* Timeout	5	seconds	More Timeout
Single Instance Concurrency	1		0

#### 3. Create an API group in API Gateway

In API Gateway, API operations are managed in API groups. Before you create an API operation, you must create an API group.

#### Step 3: Create an API group in API Gateway

Log on to the API Gateway console. In the left-side navigation pane, choose Publish APIs > API Groups . Select a region in the top navigation bar and click Create Group on the Group List page. In the Create Group dialog box, select an instance to which the API group to be created belongs and enter a group name. In this example, set the Instance parameter to Shared Instance(VPC Network)(api-sharedvpc-001) and enter testFunctionGroup in the Group Name field. The API group must be in the same region as the function that you created in Function Compute.

Create Group	×
Region:	China North 2 (Beijing) (Each user can create up to 50 groups)
*Instance:	Shared Instance(VPC Network) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (
*Group Name:	testFunctionGroup
	Group name must be globally unique and may contain Chinese characters, English letters, numbers, and English-style underlines. It must start with a letter or Chinese character and be 4-50 characters long
Tag settings	
Description:	Cannot exceed 180 characters
	OK Cancel

Step 4: View details of the API group

After you create the API group, the API group appears on the Group List page. You can click the group name to go to the details page, where you can perform operations such as binding a domain name, modifying basic information, and changing the instance type.

After an API group is created, API Gateway automatically creates a public second-level domain name for the API group. This default second-level domain name can only be used for testing API calls and can be used for a maximum of 1,000 times per day. We recommend that you bind an independent domain name after you create an API group. In this example, the default second-level domain name for testing API calls is used.

# 4. Create an API operation

In the left-side navigation pane, choose Publish APIs > APIs . Make sure that the current region is the same region where the API group you created resides. On the API List page, click Create API.

Step 5: Configure basic information for the API operation

In this step, configure the basic information for the API operation to be created, including the API group to which the API operation belongs and the name, authentication method, and description of the API operation. In this example, set the Group parameter to the API group you created and the AppCode Certification parameter to Allow AppCode authentication (Header & Query). Set other parameters as required and click Next.

Name And Description		
Group	testFunctionGroup	Create Group
API Name	testFunctionApi	•
Security Certification	Alibaba Cloud APP	
AppCode Certification	Allow AppCode authentication (Header & Query)	AppCode certification usage and risk tips
Signature Method	HmacSHA256 \$	
API Options	Prevent replay attacks (the request header must contain the X-Ca	a-Nonce parameter)
	Prohibit public internet access Application for VPC Intranet Doma	ain Name
	Allow cloud market	
Description	It cannot exceed 2000 characters	

Step 6: Configure request information for the API operation

In this step, define how a client, such as a browser, a mobile app, or a business system, sends a request for the API operation. The parameters to be set in this step include Request Type, Protocol, Request Path, HTTP Method, Request Mode, and those in the Input Parameter Definition section. In this example, set the Request Mode parameter to **Request Parameter Passthrough**, which indicates that API Gateway does not process API requests and pass them directly to Function Compute.

Basic Request Definition	
Request Type	
Protocol	
Custom Domain Name	Bind domain name to the group
Subdomain Name	£ I loudapi.com
Request Path	/data 🗌 Match All Child Paths
	The request path must contain the Parameter Path in the request parameter within brackets ([]). For example: /getUserInfo/[userId]
HTTP Method	GET
Request Mode	Request Parameter Passthrough

Step 7: Configure backend service information for the API operation

In this step, configure a backend service type and address for the API operation and the mapping relationship between request and response parameters. In this example, set the Backend Service Type parameter to **FunctionCompute**. Configure other information, such as the name and service name of the function that you created in Function Compute, and click Get Authorization. Then, click Next.

Basic Backend Definition		
Backend Service Type	HTTP(s) Service VPC FunctionCompute Mock If no Function, you should create Function first on FunctionCompute consol For more detail, please see The Function Compute is used as the backend s	e. rervice of API Gateway. rervice of API Gateway.
Function Type	● Event Function	
Region	China North 2 (Beijing)	Function Compute Console
	Function compute communicates with API Gateway through intranet while t	hey are in same region.
Service Name	testFunctionServer	]
Function Name	testFunctionCompute	]
Function Alias	Default Function Alias (LATEST)	
Backend Timeout	10000 ms	

#### Step 8: Configure response information for the API operation

In this step, configure response information to generate an API reference in Alibaba Cloud API Gateway SDK. This API reference can help API users better understand the API operation. You can set parameters such as ContentType of Response, Sample of Returned Results, and Sample of Returned Failure. In this example, this step is skipped. Click Create .

#### Step 9: Publish the API operation

After you create or modify the API operation, a message appears to inform you that the API operation is created or modified. All configurations of the API operation take effect only after you publish the API operation. API Gateway provides three environments to which you can publish an API operation: Release, Pre, and Test. In this example, click Deploy in the message. In the dialog box that appears, set the Select The Stage To Release To parameter to Release, enter your remarks, and then click Deploy.



# 5. Create and authorize an application

Applications are identities that you use to call API operations. In step 5, the Security Certification parameter is set to Alibaba Cloud APP. Therefore, after you publish the API operation, you must create and authorize an application for calling the API operation.

Step 10: Create an application

In the left-side navigation pane, choose Consume APIS > APPS . On the APP List page, click Create APP. As shown in the following figure, for an API operation whose Security Certification parameter is set to Alibaba Cloud APP, two authentication modes are provided for its applications: AppKey and AppCode. In this example, the AppCode mode is used to authenticate the application. For more information about the Alibaba Cloud APP authentication method, see Call an API operation by using an AppCode.

ApiGateway	APP details	Refresh
Overview	Basic Information	Modify
Instances	APP Name:testFunctionApp APP ID:	
Publish APIs	Description:	
<ul> <li>Consume APIs</li> </ul>		
APPs	Authorized API AppKey AppCode	
Purchased APIs	AppCode	
Authorized APIs SDK	effective and an end over the set of	
Debug		
Documentation		

#### Step 11: Authorize the application

In the left-side navigation pane, choose Publish APIs > APIs . On the API List page, find the API operation you created and click Authorize in the Operation column. A dialog box appears, as shown in the following figure. Set the Select The Stage For Authorization parameter to the environment to which you have published the API operation. In this example, set this parameter to Release. Search for the application you created, click Add, and then click OK. A message appears to inform you that the application is authorized to call the API operation.

Authorize					×
You will authorize the following	g API(s):				
testFunctionApi					
Select The Stage For Authoriz	ation: Release P	Pre Test			
Authorization Valid Time:	Short-term to	iii	Long-te	erm	
Select The APP For Authorizat	tion:				
My APP 🗘 🏷 Tags	Enter APP Name	Search		(1) APPs have added	
APP ID	APP Name		Operation	testFunctionApp	× Remove
	testFunctionApp		+ Add		
Add Selected		1 entries in total	1		
				ОК	Cancel

### 6. Debug the API operation

API Gateway supports online debugging. We recommend that you use this feature to check whether an API operation is correctly configured before you allow it to be called on clients.

#### Step 12: Debug the API operation

On the API List page, find the API operation you created and click Debug in the Operation column. A page appears, as shown in the following figure. If you have defined request parameters for the API operation, you can enter different values for the request parameters to check whether the API operation is correctly configured.

When you debug the API operation, make sure that the AppName parameter is set to an authorized application. The Stage parameter must be set to the environment where the application is authorized, otherwise the debugging may fail. In this example, set the Stage parameter to RELEASE.

testFunctionApi - Debug API (Plug-in debugging is not supported temporarily)	
Release Pre Test	Debug Information Trace LogErs
API Domain Name	Request:
HTTP + //	Ut: http://
	Header: ['X-Ca-Timestamp':'1606742184590', 'gateway_channel':'http','X-Ca-Key':'http:/'X-ca-nonce':'d2 43 14 84d-9315-34aaf9634cd9', 'X-Ca-Request-
	Mode":"DEBUG","X-Ca-Stage":"RELEASE","X-Ca-Supervisor-
Http Method:GET Path Format: /data	Token**eyJhbG jEyVCwiaXNzijaiQWxpeXVuQXBpR2F0ZXdheSlsinJvbGUiOJ1c2VyliwYXVkljoiYXBpZ2F0ZXdheS1jb
	qy1dinddAvP8P/XcSMgilltiIztAfy1V14UU76EdhynKUKTP8aKWLEnNgGs7-WOyb8MSKQAAcMBISYty_tqaNfkWX4LY1CaU3WWYbmdAOzt0_my7P-jRm24ScO- Dbib_b0%720McOut_0=006759Clobco_DDV(clobcopDN)Mic=U10_1V10_1011M_0=0070/clobNl0SYTy_tqaNfkWX4LY1CaU3WWYbmdAOzt0_my7P-jRm24ScO-
Certificate	
	2AAEA* Host*** Santo storphyteration
Authorization Type = Use AppSecret \$	Type":"text/html; charset=utf-8","X-Ca-Signature-Headers":"X-Ca-Timestamp,X-Ca-Key,X-Ca-Request-Mode,X-Ca-Stage,X-Ca-Supervisor-Token"}
AppName = testFunctionApp \$	Response:
	200
	Date: Mon, 30 Nov 2020 13:16:26 GMT
AppKey =	Content-Type: text/html; charset=utf-8
	Content-Length: 43
AppSecret =	Connection: keep-alive
	Keep-Alive: timeou=zo
	X-Ga-Bonuset Jul 2010/049-08
Request Parameters	Content-Disposition: attachment; filename=ApiPesponseFortneroPomain
Headers	<html><ht>html&gt;<ht>html&gt;<ht></ht></ht></ht></html>

The API response is the execution results of the function that you created in Function Compute. The following figure shows the code of the function.



# 7. Call the API operation

Now you have created the API operation and the application, authorized the application to call the API operation, debugged the API operation, and published the API operation to the online environment. In this step, you can call the API operation in your business system by using the AppCode.

Step 13: Call the API operation

For more information about how to call an API operation, see Call an API operation by using an AppCode. In this example, curl is used to call the API operation.

The following figure shows a sample response.



# 6.Access a domain name by using HTTPS

You can bind your domain name to an API Group hosted on API Gateway. API Gateway locates a unique API group by domain name and locates a unique API operation in the API group by using Path and HTTPMethod.

API Gateway provides a default Internet second-level domain name for each API group. A client can directly call the Internet second-level domain name up to 1,000 times per day. When you publish APIs in a production environment, you must bind an independent domain name to the target API group. The number of API calls is not limited for independent domain names.

An independent domain name that you want to bind to an API group must meet the following requirements:

• You must apply for an ICP filing or access the independent domain name at

#### Alibaba Cloud ICP Filing.

- Before you bind the independent domain name to the target API group, you must add a CNAME record for the independent domain name to the second-level domain name of the group.
- The independent domain name has not been bound to an API group hosted on API Gateway by other users. If the independent domain name has been bound by other users, it must be verified when you attempt to bind it. If the API operations under the API group need to support HTTPS, you must import or upload an SSL certificate for the independent domain name.

# 1. Procedure for binding a domain name to an API group

To bind your domain name to an API group hosted on API Gateway, follow these steps:

- Log on to the API Gateway console and bind your domain name to the target API group.
- Add a CNAME record for your domain name to the Internet second-level domain name provided by API Gateway to switch the traffic.

# 1.1 Bind a domain name to an API group

1. Log on to the API Gateway console. In the left-side navigation pane, click API Groups. On the page that appears, click the group to which you want to bind the domain name. The Group Details page appears.

2. In the lower-right part of the Group Details page, click Bind Domain.

Custom Domain Name				Bind Domain
Custom Domain Name	WebSocket Channel Status	Domain Legal Status	SSL Certificate	Operation
	You have	not bound a domain name		

3. In the Bind Domain Name dialog box, enter your domain name and click OK.

Bind Domain Name		×
Make sure the custom dom group. Otherwise it will not Up to 5 domain names can	nain name to bind has already been resolved to the subdomain name of this be invoked after binding. View subdomain name to be bound to a group.	
Group Name:	testHttpGroup	
*Domain Name:	only-test	
	The VPC instance already supports the function of extensive domain name. Bind the extensive domain name in the format of `*.api.foo.com`. Click to open the help document	>
Stage:	Default(Use X-Ca-Stage to determine the sta \$	
	For more information about environmental management, Click to open the help document	
	OK Cance	)

# 1.2 Add a CNAME record for a domain name

To add a CNAME record for your domain name to the Internet second-level domain name provided by API Gateway, follow these steps:

1. On the Group Details page, view Internet Subdomain of the group.

Basic Information Turn on cloud monitoring Api List Modify Group Message				
Region: China North 2 (Beijing)	Group Name:	Group ID:		
Subdomain Name	Internet Subdomain: Education of the subdomain education of the subdomain is only for API test, when the client direct day, it is recommended to use the independent domain in this restriction. For details, see <u>configuration process</u> ) API gateway self-calling domain name: Not activated Please set 'Visit to VPC Intranet Subdomain: Not activated Please set 'Visit to the subdomain's Not activated Please set 'Visit	thy calls it, there will be 1000 access restrictions are for group binding, and it will not be subject ase activate on the instance first o VPC' in 'Instance'	Disable Internet Subdomain s per t to	
Instance Type: Dedicated VPC Instance ID:	Group Traffic Limit (QPS): 2500 (Consistent with the dedicated instance)	Modify API Group's Instance	Instance Type And Selection Guide	
Network Access Policy	HTTPS Security Policy: HTTPS2_TLS1_0 HTTPS Se (Be consistent with the dedicated instance HttpsPolicy)	curity Policy Documentation		
Legal Status: NORMAL				
Description:				

2. Log on to your DNS management platform. If you use Alibaba Cloud DNS, visit https://dns.console.aliyun.com. On the Manage DNS page of the Alibaba Cloud DNS console, click the target domain name to go to the DNS Settings page.

3. Add or modify a record for the domain name that you want to bind to the API group.

E C-J Alibaba Cloud	All Resources 🔻		Q Search	Expenses Tickets ICP Enterprise Support
Manage DNS	Alibaba Cloud DNS / Manage DNS	DNS Settings		
DNS Settings	$\leftarrow$ DNS Setting	shaalla aa a		
DNS Protection	DNS Server:vip3.alidns.com, v	p4.alidns.com		
Weighted Round Robin Custom Line	Add Record Import & Export	Switch Line Type Query Vo	lume Quick Start	ALL V Exact Search V Se
DNS Logs	Host 🍦	Type 💠 Line(ISP) 🌲	Value	TTL Status Remark
		CNAME Default	$   _{L^2(\mathbb{R}^3)} \leq                                    $	10 minute(s) Normal
		CNAME Default	$(0,1) \in \{1,2,\dots,n\}$	10 minute(s) Normal
		CNAME Default	11111111111111111111111111111111111111	10 minute(s) Normal
		CNAME Default		1 second(s) Normal
		CNAME Default		10 minute(s) Normal
		CNAME Default		10 minute(s) Normal

4. In the Add Record or Edit Record dialog box, set Type to CNAME and Value to the Internet second-level domain name that you obtained in step 2.

Add Record		X
Type :		
CNAME- Canonical name	$\sim$	
Host:		
yichao		?
ISP Line :		
Default - Return to the default value when the query is not matched to any view.	~	?
* Value :		
-cn-beijing.alicloudapi.com		
* TTL:		
1 second(s)	~	

Cancel	Confirm

5. Click OK. After binding is complete, you can view the bound second-level domain name on the DNS Settings page.

# 2. Procedure for uploading an SSL certificate for a domain name

After the binding is complete, you can use the bound domain name to call API operations under the API group in HTTP mode. If you want to call the API operations in HTTPS mode, you must upload an SSL certificate for the domain name. The certificate can be uploaded in either of the following ways: API Gateway automatically imports an SSL certificate from the Alibaba Cloud SSL Certificates Service or allows you to manually upload the SSL certificate that you obtained from other certificate service providers.

# 2.1 Generate an SSL certificate for a domain name

To generate a free SSL certificate by using the Alibaba Cloud SSL Certificates Service, follow these steps:



#### 1. Log on to the Alibaba Cloud SSL Certificates console.

2. On the SSL Certificates page, click Purchase Certificate. On the page that appears, purchase an SSL certificate and bind your domain name to the certificate. For more information about how to purchase an SSL certificate, see **Documentation** of the Alibaba Cloud SSL Certificates Service. After you apply for an SSL certificate, go to the Group Details page of the target API group in the API Gateway console.

# 2.2 Import or upload the SSL certificate for the domain name

After you purchase or prepare a SSL certificate, import or upload the certificate for the domain name that you bound to the target API group in the API Gateway console. The following sections describe the certificate import and upload procedures.

# 2.2.1 Import an SSL certificate

If you purchase a certificate by using the Alibaba Cloud SSL Certificates Service, follow these steps to import the certificate for the domain name that you bound to the target API group hosted on API Gateway:

1. Go to the Group Details page of the API Gateway console. In the list of bound domain names, find the target domain name and click Select Certificate in the SSL Certificate column.

Custom Domain Name				Bind Domain
Custom Domain Name	WebSocket Channel Status	Domain Legal Status	SSL Certificate	Operation
	Not Open (Open)	Normal	Select Certificate	Delete Domain   Change Stage

2. In the Select Certificate dialog box, click Search Certificate. Then, select the required certificate from the search results and click Synchronization certificate.

Select Certificate		×
*Region:	China	
*Certificate Name:	Search Ce	ertificate
	No certificate was found in this region	
	Create Certificate Buy Certificate	
	Synchronization certificate	Cancel
	Synchronization certificate	Cancel

# 2.2.2 Upload an SSL certificate

If your SSL certificate is not purchased from Alibaba Cloud, you can also upload your certificate to API Gateway. To upload the SSL certificate, follow these steps:

1. Go to the Group Details page of the API Gateway console. In the list of bound domain names, find the target domain name and click Select Certificate in the SSL Certificate column.

2. וו נווב שבובנו כבונוו וכמוב טומוטע שטא, כווכא כובמוב כבונוו וכמוב	2.	In the Select	Certificate	dialog	box,	click Create	Certificate
--	----	---------------	-------------	--------	------	--------------	-------------

*Region:	China		
Region.	China	•	
*Certificate Name:		Search C	ertificate
	No certificate was found in this region		
	Create Certificate Buy Certificate		

3. In the dialog box that appears, enter required information as prompted.

Create Certificate		$\times$
*Certificate Name:	Certificate	
	It may contain Chinese characters, English letters, numbers, English-style underlines and hyphens. It must start with a letter or Chinese character and be 4- 50 characters long	
*Certificate Content:	kYflphnedsb uCfSq50yMUgX/bdAv6HInXga83/EsZP9bElz6HIo7GFXcMLJmCGI OI8= END CERTIFICATE REQUEST	
	(pem code,Smaller than 20 k) example	
*Private Key:	n1nrqsHEgEi mP2e/opz0NKEReZXVxTeUSvSTYRmVAv6WHiyRR7sKeuj0ih4Dh BSMw== END RSA PRIVATE KEY	
	(pem code,Smaller than 20 k) example	
	Click to add CA certificate to support HTTPS mutual authentication (Mutual TLS authentication)	
	OK Cance	ÞI

4. After the certificate is uploaded, go to the Group Details page. You can see that Select Certificate in the SSL Certificate column changes to Update Certificate.

Custom Domain Name				Bind Domain
Custom Domain Name	WebSocket Channel Status	Domain Legal Status	SSL Certificate	Operation
	Not Open (Open)	Normal	2Update Certificate	Delete Domain   Delete Certificate   Change Stage

After the certificate is uploaded, you can access the target domain name by using HTTPS.