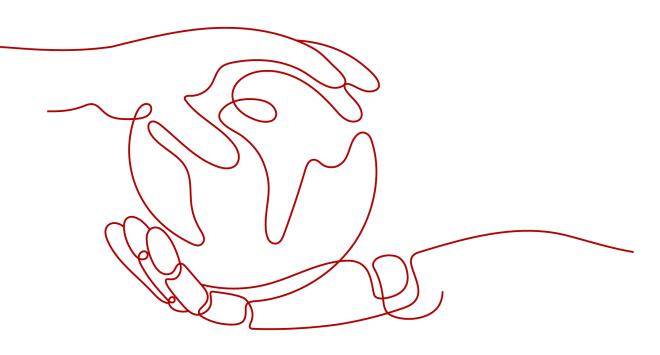
# **Partner Center**

# **Developer Guide**

 Issue
 28

 Date
 2021-06-16





HUAWEI TECHNOLOGIES CO., LTD.

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# Vulnerability

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https://www.huawei.com/en/psirt/vul-response-process

For vulnerability information, enterprise customers can visit the following web page: <u>https://securitybulletin.huawei.com/enterprise/en/security-advisory</u>

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# Change History

Description	Released On
This issue is the thirty-third official release. This release incorporates the following change: Added the API for querying customer budget adjustment records in Manage Customer Budgets.	2025-06-26
This issue is the thirty-second official release. This release incorporates the following change: Added the section <b>Credit Management</b> .	2024-07-29
This issue is the thirty-first official release. This release incorporates the following change: Added the API for batch querying customer budgets to Manage Customer Budgets.	2024-05-10
This issue is the thirtieth official release. This release incorporates the following change: Included <b>Open APIs</b> in <b>Support</b> on the top navigation bar in Partner Center.	2023-11-15
This issue is the twenty-ninth official release. This release incorporates the following change: Changed Solution Partner to Cloud Solution Provider and Solution Partner Program to Cloud Solution Provider Program.	2022-08-05
This issue is the twenty-eighth official release. This release incorporates the following change: Added Managing Resource Packages.	2021-06-16

Description	Released On
This issue is the twenty-seventh official release. This release incorporates the following change: Added the API for querying available discounts of an order in Managing Yearly/Monthly Orders.	2021-04-28
This issue is the twenty-sixth official release. This release incorporates the following change: Updated the function of customizing the display of brand, promotion, and menu in <b>(Optional) Customizing HUAWEI</b> <b>CLOUD Management Console</b> .	2021-04-09
This issue is the twenty-fifth official release. This release incorporates the following change: Modified <b>Querying Product Information</b> . Specifically, added the APIs for querying the measurement units and the measurement unit number system.	2020-12-30
This issue is the twenty-fourth official release. This release incorporates the following change: Modified <b>Partner Bills</b> . Specifically, updated the API for querying partner's monthly bills.	2020-12-16
This issue is the twenty-third official release. This release incorporates the following changes: Modified Querying Product Information. Specifically, added the API for querying usage types. Modified Managing Yearly/Monthly Orders. Specifically, added the API for enabling or canceling the change from yearly/monthly to pay-per-use upon resource expiration.	2020-11-18
<ul> <li>This issue is the twenty-second official release.</li> <li>This release incorporates the following changes:</li> <li>Added the following APIs in Querying Product</li> <li>Information: <ul> <li>API for querying cloud service types</li> <li>API for querying resource types</li> <li>API for querying resources by cloud service type</li> </ul> </li> </ul>	2020-11-04
This issue is the twenty-first official release. This release incorporates the following change: Modified <b>Querying the Price of a Product</b> . Specifically, updated the API for querying the resource provision details of an order.	2020-10-21

Description	Released On
This issue is the twentieth official release. This release incorporates the following changes: Modified <b>Managing Customers</b> . Specifically, updated the APIs for freezing and unfreezing customer accounts. Modified <b>Manage Customer Budgets</b> . Specifically, updated the APIs for querying and setting customer budgets.	2020-09-02
This issue is the nineteenth official release. This release incorporates the following changes: Modified <b>Managing Yearly/Monthly Orders</b> . Specifically, updated the APIs for querying the amount of unsubscription orders, querying the yearly/monthly resources, and setting or canceling automatic renewal for yearly/monthly resources. Modified <b>Managing Pay-Per-Use Resources</b> . Specifically, updated the APIs for querying customers' pay-per-use resources.	2020-06-30
This issue is the eighteenth official release. This release incorporates the following change: Modified <b>Managing Yearly/Monthly Orders</b> . Specifically, updated the APIs for querying orders and order details, paying yearly/monthly product orders, canceling orders to be paid, as well as renewing or unsubscribing from yearly/ monthly resources.	2020-06-17
This issue is the seventeenth official release. This release incorporates the following change: Modified <b>Registering a Customer</b> . Specifically, updated the APIs for verifying customer registration information and sending a verification code.	2020-06-03
This issue is the sixteenth official release. This release incorporates the following changes: Modified <b>Performing Real-Name Authentication</b> . Specifically, updated the APIs for requesting individual real- name authentication, requesting enterprise real-name authentication, changing real-name authentication, and querying the real-name authentication review result. Modified <b>Managing Customers</b> . Specifically, updated the API for querying the customer list.	2020-05-20
This issue is the fifteenth official release. This release incorporates the following change: Modified <b>Registering a Customer</b> . Specifically, updated the API for creating a customer account in the API list.	2020-04-22

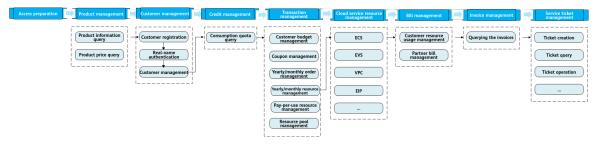
Description	Released On
This issue is the fourteenth official release. This release incorporates the following changes: Modified <b>Querying the Price of a Product</b> . Specifically, added the API for querying the price of a pay-per-use product and the API for querying the price of a yearly/ monthly product. Brought the API for querying product prices based on the	2020-03-25
This issue is the thirteenth official release. This release incorporates the following change:	2020-01-15
Added Invoice Management. This issue is the twelfth official release. This release incorporates the following change: Added Access Configuration (Optional). After partner access configuration is complete, partners can customize the HUAWEI CLOUD console on the API Management page. Partners can customize the brand in the page header and partial areas of the management console.	2019-11-06
This issue is the eleventh official release. This release incorporates the following changes: Modified <b>Managing Customers</b> . Specifically, added the functions for partners to freeze and unfreeze accounts of reseller customers on the partner sales platform. This issue is the tenth official release.	2019-10-23 2019-09-25
This issue is the tenth official release. This release incorporates the following changes: Added Managing Service Tickets.	2019-09-25
This issue is the ninth official release. This release incorporates the following changes: Added the API for changing real-name authentication in <b>Performing Real-Name Authentication</b> . If customers want to change individual real-name authentication to enterprise real-name authentication, they can perform the authentication again on the partner sales platform.	2019-09-17
This issue is the eighth official release. This release incorporates the following change: Added descriptions of the real-name authentication API in <b>Performing Real-Name Authentication</b> . Customers can complete real-name authentication on the partner sales platform using their business licenses or personal certificates. HUAWEI CLOUD reviews the customer authentication information and the uploaded attachments, and returns the result to the partner sales platform.	2019-09-04

Description	Released On
<ul> <li>This issue is the seventh official release.</li> <li>This release incorporates the following changes:</li> <li>Modified Partner Bills. Specifically, the bills of the last month are generated before 12:00 (Beijing time) on the fifth day of this month.</li> <li>Modified Customer Bills. Specifically, HUAWEI CLOUD sends the bill to the partner before 12:00 (Beijing time) on the fifth day of each month.</li> </ul>	2019-08-21
This issue is the sixth official release. This release incorporates the following changes: Modified and moved <b>Obtaining the SP Metadata File</b> from section "Access Configuration" to section "Preparations". Partners can download the SP Metadata file under <b>Prepare</b> on the <b>Benefits and Support &gt; API Management &gt;</b> <b>Prepare</b> page.	2019-07-16
This issue is the fifth official release. This release incorporates the following change: Added Follow-Up Procedure in Basic Configuration.	2019-07-10
This issue is the fourth official release. This release incorporates the following change: Added Managing Customer Resource Usage.	2019-05-22
<ul> <li>This issue is the third official release.</li> <li>This release incorporates the following changes:</li> <li>Moved Obtaining the SP Metadata File and Generating the IDP Metadata File from section "Preparations" to section "Access Configuration".</li> <li>Adjusted sections in Customer Management, Transaction Management, Cloud Service Resource Management, and Bill Management based on service scenarios in Development Scenario Introduction (Reseller Model).</li> <li>Added Managing Customer Resource Usage.</li> </ul>	2019-05-10
This issue is the second official release. This release incorporates the following change: Combined section "Introduction" and "Access Process" into Development Scenario Introduction (Reseller Model).	2019-04-13
This issue is the first official release.	2019-03-22

# **2** Development Scenario Introduction (Reseller Model)

Huawei Cloud provides E2E operational capabilities for distributor and solution provider partners to manage credits, products, customers, transactions, cloud resources, bills, service tickets, and invoices. Solution partners can build their own sales platforms based on the operation capabilities.

The following figure illustrates the specific scenarios.



### **Product Management**

Partners can query the cloud service or resource types, query resources by cloud service type, or query usage types, measurement units, and measurement unit number system on the partner sales platform.

# **Customer Management**

- 1. A HUAWEI CLOUD account is created for a customer when the customer creates an account on the partner sales platform, and the customer account on the sales platform is bound to the HUAWEI CLOUD account. In addition, the HUAWEI CLOUD account is bound to the partner account. After registration, the customer can purchase cloud services and manage cloud service resources on HUAWEI CLOUD.
- 2. Customers can complete real-name authentication on the partner sales platform using business licenses and personal certificates. The HUAWEI CLOUD reviews the customer authentication information and attachments and returns the result to the partner sales platform. If a customer changes from individual authentication to enterprise authentication, the customer can

complete real-name authentication on the partner sales platform. Customers can perform real-name authentication on the partner sales platform using their business licenses or personal certificates. HUAWEI CLOUD reviews the customer authentication information and attachments and sends the result to the partner sales platform. If a customer changes from individual authentication to enterprise authentication, the customer can perform realname authentication on the partner sales platform.

3. The partner sales platform can also manage the partner customers.

### **Coupon Management**

On the partner sales platform, partners can view the coupon list.

### **Credit Management**

Expenditure quotas can be checked in partner sales platforms.

### **Transaction Management**

- 1. On the partner sales platform, partners can view customer budgets, set or adjust budgets for customers, and view customer budget adjustment records. The budget set can control the total monthly expenditure of a customer.
- 2. A partner can view the coupons distributed by themselves.
- 3. Two solutions are available for the partner sales platform to support their customers purchase cloud services:
  - Solution 1: Using the web UI, the customers can switch from the partner sales platform to the cloud service management console on HUAWEI CLOUD through SSO and purchase the cloud services.
  - Solution 2: Using the native cloud service API of HUAWEI CLOUD, the customers can purchase cloud services on the partner sales platform. For details, see HUAWEI CLOUD APIs.

Solution 1 is recommended for partners with limited development capabilities or time.

- 4. A partner can view customers' yearly/monthly orders and pay-per-use resources on the sales platform.
- 5. Partners can view the resource package list and the resource package usage.

# **Cloud Service Resource Management**

Two solutions are available for the partner sales platform to support their customers manage cloud service resources:

- Solution 1: Using the web UI, the customers can switch from the partner sales platform to the cloud service management console on HUAWEI CLOUD through SSO and manage the cloud services.
- Solution 2: Using the native cloud service API of HUAWEI CLOUD, the customers can manage cloud services on the partner sales platform. For details, see HUAWEI CLOUD APIs.

Solution 1 is recommended for partners with limited development capabilities or time.

# Bill Management

- 1. A partner can query customers' consumption records on the sales platform.
- 2. A partner can view its monthly bills on the partner sales platform, and settle the bills with HUAWEI CLOUD.
- 3. A partner can query its monthly expenditures on its sales platform. The expenditures include the detailed consumption records of each customer and the corresponding official website price and partner discount. The partner can perform rating for its customer based on the details and generate the customer bill.

# Service Ticket Management

- 1. A customer or partner creates a HUAWEI CLOUD service ticket on the partner sales platform. The partner sales platform forwards the service ticket to the HUAWEI CLOUD after-sales service team. When a customer or partner submits a service ticket, the customer or partner needs to enter the required information based on a template.
- 2. A customer or partner can query all the HUAWEI CLOUD service tickets or details of a HUAWEI CLOUD service ticket submitted by itself on the partner sales platform.
- 3. A customer or partner can perform operations on a service ticket submitted by itself, such as urging, deleting, closing, and canceling the service ticket. In addition, they can add messages on the service ticket details page, for example, adding confidential information, providing information required for the customer service handling the service ticket, or asking about the service ticket handling progress.

### **Invoice Management**

On the partner sales platform, partners can view the invoice list.

# **3** Access Configuration (Optional)

# 3.1 Overview

After joining the Cloud Solution Provider Program, you can log in to the Partner Center using the account for joining the program. Configure the basic information, file subscription, contact information, and real-name authentication information on the **Support Center** > **API Management**.

After you complete the basic configuration, you can continue to configure the redirection address for the partner platform. This step is optional. Access through Web UI requires further configuration.

# **3.2 Basic Configuration**

# Procedure

- Step 1 Sign in to Huawei Cloud as a partner. On the top navigation bar, select Support > Open APIs.
- **Step 2** Click the **Configure** icon in the flowchart to switch to the **Configure** page.

Management / Configure / M	odify	
	e How to configure Data for API Access to HUAWEI CLOUD? e bucket, go to the configuration modification page, disable the option of uploading the attachment for resi-name authentication, cancel all subscriptions, and add a bucket configuration.	
The bucket cannot be st		/iew Details 🔨
Basic Information		
Partner Platform ID ③	34	
IDP Metadata file (?)	Select a file to upload. Upload	
* Notification URL ③	Impliningschuseessed Join	
Upload Photos of Handh	eld ID Cards Required for Real-Name Authentication	
	products from HUAWEI CLOUD China website, enable this function to allow uploading your customers' photos of handheld ID Cards to a specified bucket for HUAWEI CLOUD to read to complete the real-name authentication	n.How can I
upload the photos of handheld	ID Cards required for real-name authentication?	

**Step 3** Set the parameters based on **Table 3-1**. After the configuration is complete, click **OK**.

Table 3-1	Parameter	descriptions
-----------	-----------	--------------

Parameter	Description
<b>Basic Information</b>	
IDP metadata file (enterprise identity provider metadata	Indicates the <b>IDP Metadata</b> file in .xml format generated by the partner sales platform according to the SAML protocol standards.
file)	The file must be in the .xml format, and its size cannot exceed 2 MB.
	For details about how to generate the IDP metadata file, see <b>Generating the IDP Metadata File</b> .
Notification URL	Indicates the callback address provided by the partner sales platform for receiving the association result. Using an address in HTTPS is recommended. For details, see Association Result Notification API.

# Upload Photos of Handheld ID Cards Required for Real-Name Authentication

If a partner's customers buy products from HUAWEI CLOUD Chinese mainland website and want to perform real-name authentication, customers need to upload pictures of the certificates for HUAWEI CLOUD to read to complete the real-name authentication. For details about how to upload the attachment for real-name authentication, see **How Do I Upload the Attachment for Real-Name Authentication**?

### **File Subscription**

- After you subscribe to the partner bill (customer consumption details), you can rate your customers, and your sales platform will generate the customer bills based on this bill and then you can perform reconciliation with HUAWEI CLOUD.
- You can subscribe to customer resource usage details and view resource usage details of all your customers or a specified customer on the partner sales platform. Customers can view their own resource usage details on the partner sales platform.
- **Step 4** Specify bucket information if you have enabled the real-name authentication or file subscription.

Set Bucke	et Information	×
the AK and SK SK you provide	required when you enabled the file subscription option. Make sure to enter of the bucket owner account, not the current partner account. The AK and d are only used for granting the permission for accessing the OBS bucket t and will not be stored.	
Bucket Name	Recipient 1	
AK		
SK		
	OK Cancel	

#### Table 3-2 Bucket parameters

Parameter	Description
АК	Indicates the Access Key ID (AK) which is used when the partner sales platform accesses the OBS client or SDK. For details about how to obtain the AK, see <b>Obtaining</b> an AK/SK.
SK	Indicates the Secret Access Key (SK) which is used when the partner sales platform accesses the OBS client or SDK. For details about how to obtain the SK, see <b>Obtaining an AK/SK</b> .
Bucket Name	Indicates the name of the bucket created by the partner. Only OBS buckets purchased on Huawei Cloud in the Hong Kong region can be used.

----End

# **Association Result Notification API**

If the partner sales platform connects to HUAWEI CLOUD by switching to the HUAWEI CLOUD portal, the partner needs to provide a callback API for HUAWEI CLOUD sending the association result to the partner. An HTTPS URL is recommended.

The partner needs to comply with the following requirements when defining and developing this API.

1. URL

POST https://www.example.com/bind

2. Request Parameters

The request parameters are in Form Data format.

Table 3-3	Parameter	information
-----------	-----------	-------------

Paramet er	Description	Example
bindRequ est	Indicates the message body of the association result (JSON format). The message is coded using BASE64. For details about the parameters in the JSON message body, see Table 3-4.	EYJKB21HAW5OYW1LIJO IEW9UZ3POASISIMRVB WFPBKLKIJOIEW9UZ3PO AWLKIIWIEFVZZXJJZ- CI6INLVBMD6AGL4IIWIY MLUZEFJDGLVBII6MX0% 3D
SigAlg	Indicates the signature algorithm. SHA256 is used for signature by default. HTTP://WWW.W3.ORG/2001/04/ XMLDSIG-MORE#RSA-SHA256	HTTP%3A%2F %2FWWW.W3.ORG %2F2001%2F04%2FXML DSIG-MORE%23RSA- SHA256
Signature	Indicates the signature. The signature is used to verify the initiator of a request. When HUAWEI CLOUD initiates a request, it uses the private key and the <b>bindRequest</b> value in the request to obtain the signature. When receiving the request, the receiver verifies the signature using the public key provided by HUAWEI CLOUD (the value in the <ds:x509certificate><!--<br-->ds:X509Certificate&gt; tag in the SP Metadata file). If the signature verification succeeds, the request is sent by HUAWEI CLOUD, and the follow-up operations can be performed. Otherwise, the request is invalid.</ds:x509certificate>	SWCFTCP4NKMU %2BOBH1FCSXFY0DL31 BGNH4EXUGTQY %2BSPLXC%2B94NXSS %2FRHPWYE9TXVNVSPT R6XRWBZLVHTBDRGLGC 0OPTTCFYD4D3%2F6PM ESNG5C4BPT

Parameter	Parameter Type	Description
xUserId	String	Indicates the user ID of the partner's customer on the partner sales platform.
xAccountId	String	Indicates the ID of the customer account created on the partner sales platform. An account ID must be unique and is better to be consistent with the <b>domainName</b> .
domainName	String	Indicates the HUAWEI CLOUD account of the partner's customer. This account will be used when the API is invoked.
domainId	String	Indicates the HUAWEI CLOUD account ID of the partner's customer. This ID will be used when the API is invoked.
userName	String	Indicates the HUAWEI CLOUD username of the partner's customer.
userld	String	Indicates the HUAWEI CLOUD user ID of the partner's customer.
exporetime	String	Indicates the time when a request expires. The value is in UTC format. Example: 2017-07-31T07:40:14.004Z
bindAction	String	<ul> <li>Indicates the association result.</li> <li>0: indicates that the association is successful.</li> <li>1: indicates that the association failed.</li> </ul>

Table 3-4 Parameters in the bindRequest JSON message

### **NOTE**

**Table 3-4** lists the account name, username, account ID, and user ID because HUAWEI CLOUD IAM has account and username concepts. For details about the two concepts, see "Account" and "IAM User" in **Identity Management**.

# Follow-Up Procedure

If you find any parameters are incorrectly configured, you can modify the configuration.

- **Step 1** On the top navigation bar, select **Support > Open APIs**.
- **Step 2** Click the access configuration icon or **View or Modify API Configuration** under the icon.

The access configuration page is displayed.

API Management			
Complete the following steps to connect a partner pl	atform to HUAWEI CLOUD:		
-			
			0.5.11
<ol> <li>Prepare</li> </ol>	(2) API configured	③ Commission	④ Finish
Prepare for connecting the partner platform to HUAWEI CLOUD.	Now you can: View or Modify API Configuration	Commission the interoperability between the partner platform and	You can use the API to access HUAWEI CLOUD from the partne
Obtain SP Metadata File 🕲	Configure Redirection URL for Partner Center	HUAWEI CLOUD.	platform.

**Step 3** Click **Modify** and modify the configuration as required.

API access co	onfigured successfully.	Download Metadata File	Modify
Basic Information	I		
Partner Platform ID:	per-pair da, 202		
Company Name:	COURSE ##8.840		
Notification URL:	https://augpething.en/class		
Contact Informat	ion		
A		⊠	

If the **IDP Metadata** file is incorrectly configured, click **Download Metadata File** to download the file to the local, modify and save it, click **Modify**, and then upload the file again.

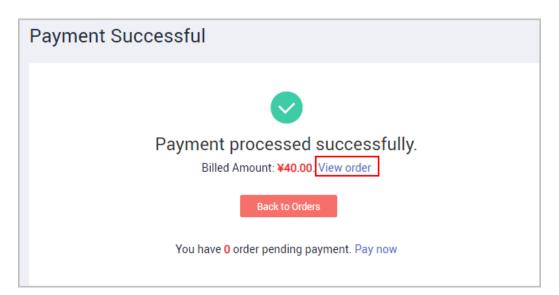
----End

# 3.3 (Optional) Configuring the Redirection URL for the Partner Platform

After you configure the access parameters, you can configure the redirection URL for Partner Center on the **API Management** page. Then, customers can return to the partner sales platform after they pay the bills.

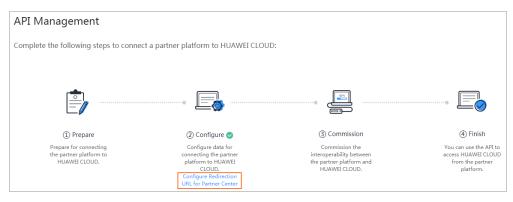
#### View the order details after the payment is complete.

After customers pay the order, they can click **View order** on the displayed page to switch to the order details page. If the partner has configured the redirection URL, customers can click **View order** to return to the partner sales platform to view the order details.



**Step 1** On the top navigation bar, select **Support > Open APIs**.

### Step 2 Click Configure Redirection URL for Partner Center under Configure.



**Step 3** Configure the redirection URL and then click **OK**.

Partner Center > Support	t Center • API Management • Configure Redirection URL for Partner Center
Configure the redi	rection URL for redirecting to your platform after you pay the orders on HUAWEI CLOUD.
* Redirection Address:	https://facyl.labil.com/Tablegers2000794
	OK Cancel

If **Redirection Address** is incorrect, you can switch to the **Configure Redirection URL for Partner Center** page and click **Modify** in the upper right corner of page and modify the configuration.

Partner Center > Support Center > AF	YI Management > Configure Redirection URL for Partner Co	enter
Configured   Date: Ju	un 06, 2019 01:27:07	Modify Delete
Redirection Address:	CONTRACTOR OF A DOMESTIC OF A	

----End

# **4** (Optional) Customizing HUAWEI CLOUD Management Console

# 4.1 Overview

After you configure the access setting, you can customize the HUAWEI CLOUD console on the **Support Center** > **API Management** page. Specifically, you can define the brand display, promotion menu, and HUAWEI CLOUD menu of the console. After the customization is complete, when a customer of the partner switches from the partner platform to the HUAWEI CLOUD console, the customized HUAWEI CLOUD console will be displayed.

After the partner submits the customization information, the HUAWEI CLOUD operations administrator will complete the review within three working days. After the application is approved, the customization is complete.

- Step 1 Sign in to Huawei Cloud as a partner. On the top navigation bar, select Support > Open APIs.
- **Step 2** Click **Customize HUAWEI CLOUD Console** under the access configuration icon in the flowchart. The **Customize Console** page is displayed.

API Management			
Complete the following steps to connect a partne	r platform to HUAWEI CLOUD:		
-			
	······································		
	<b>A</b>		0.5.11
<ol> <li>Prepare</li> </ol>	(2) API configured	③ Commission	④ Finish
Prepare for connecting the partner	Now you can:	Commission the interoperability	You can use the API to access
platform to HUAWEI CLOUD.	View or Modify API Configuration	between the partner platform and HUAWEI CLOUD.	HUAWEI CLOUD from the partner platform.
Obtain SP Metadata File 🕲	Customize HUAWEI CLOUD Console	HOANEL COOD.	placom
	Configure Redirection URL for Partner Center		

**Step 3** On the **Customize Console** page, you can click the **Brand**, **Promotion**, **Menu**, and **User Information** tabs as required and customize the configuration to meet your specific requirements. The unconfigured items will be the same as those on HUAWEI CLOUD.

Brand Promotio	on Menu
Demonstration	
HUAWEI CLOI	UD Consule 🗣 Belgingt 🔹 Search Q Billing Center Resources Service Tickens testerprise Develop tools Kirt Konne Support traglish Bedaussa 🗈 🕾
A logo image is a PNG file l	less than 2 MB in size. The length of the image must be 50 pixels, and the width does not exceed 80 pixels.
* Chinese Logo	Select File
	http://www.huawei.com
* English Logo	Select File
	http://www.huawei.com
* Navigation Bar Color	#222333

**Step 4** After you confirm the configuration, click **Submit** in the upper right corner. The HUAWEI CLOUD operations administrator will complete the review within three working days.

----End

The following describes the customization on each tab.

# 4.2 Customizing Logo Display

You can upload your enterprise logo and set the HUAWEI CLOUD console to display both the Huawei and your logos.

**Step 1** On the **Customize Console** page, click the **Brand** tab.

Brand Promotio	on Menu
Demonstration	
HUAWEI CLOL	🖌 Search Q Billing Center Resources Service Technis reservice Dowlog Novek K# License Support regifich testissuss 🗈 🖓
A logo image is a PNG file l	ess than 2 MB in size. The length of the image must be 50 pixels, and the width does not exceed 80 pixels.
* Chinese Logo	Select File
	http://www.huswei.com
* English Logo	Select File
	http://www.huawei.com
* Navigation Bar Color	#222333

- **Step 2** Click **Select File** and upload your Chinese and English logos. If they are the same, you can upload the same picture. Then, click **Submit**.
- **Step 3** Configure the redirection URL for each logo.

**Step 4** Enter the RGB color code in the **Navigation Bar Color** text box.

----End

# 4.3 Customizing the Promotion Page

You can configure the promotion page on the HUAWEI CLOUD console to display your promotions and advertisements.

**Step 1** On the **Customize Console** page, click the **Promotion** tab.

Brand Pro	omotion Menu													
Demonstration														
HUAWEI CLOUD	Console <b>O</b> Beijing1	Promotion	Search	Q Billing Center	Resources	Service Tickets	Enterprise	Develop Tools	ICP License	Support	English	testassassa	5.	æ
udd up to 4 promoti	ons to the Promotion drop-dowr	n list.												
Add up to 4 promoti			Link beginning wit	h http:// or https://										
		0		h http:// or https:// h http:// or https://										

**Step 2** Click **Add**. In the **Promotion** pane, enter the name and link of the promotion.

----End

# 4.4 Customizing Huawei Cloud Menu

You can customize menus displayed on the HUAWEI CLOUD console, including the information menu, resource drop-down list, username drop-down list, and customized menu.

**Step 1** On the **Customize Console** page, click the **Menu** tab.

Brand Promotion Menu	
Demonstration	
Demonstration	
🌺 HUAWEE CLOUD Consult 🛛 Longest 🔹 Search 🔍 Measure Billing Center Resources Service Tokets Enterprise Develop Tools K2-License Support English Intianum 🗈 🖉	
My features Back Information • Autoenticated	
My Quadan Security Sections Open Bet Tests My Condentials	
May Mankrajakan Menerak Management	
Sahth Role Tag Management	
Operation Log	
Yiew from	
Log Out	
1. Navigation Bar Menu 💿	
Specify 5 items at most in the menu. The Resources option is mandatory, and you can customize one item.	
🗹 Billing Center 🛛 Resources 🗹 Service Tickets 🔽 Enterprises 🔽 ICP License	
2. Resources Drop-Down List	
My Resources, My Quotas, and Open Beta Tests are mandatory.	
🕅 My Resources 🔽 My Marketplace 🕅 My Quota 🕅 Open Beta Tests	
3. Username Drop-Down List 💿	
Specify 9 Items at most in the username drop-down list.	
speciry a terns at most in the username urop-down inst.	
🕑 Basic Information 🛛 Security Settings 💟 My Credential 💟 Identity and Access Management 💟 Seller Center 💟 Partner Center 💟 Switch Role 💟 Tag N	Management
ŵ + Menu1          Promotional activity in Chinese          Link beginning with http:// or https://	
Promotional activity in English Link beginning with http:// or https://	

**Step 2** Configure menus for each menu pane.

- Select the menus to be displayed on the console.
- Click **Add** to add a menu and configure the menu name and link.

----End

# **5** Product Management

# **5.1 Querying Product Information**

# Service Object

Partners

# **Scenario Description**

On the sales platform, partners can:

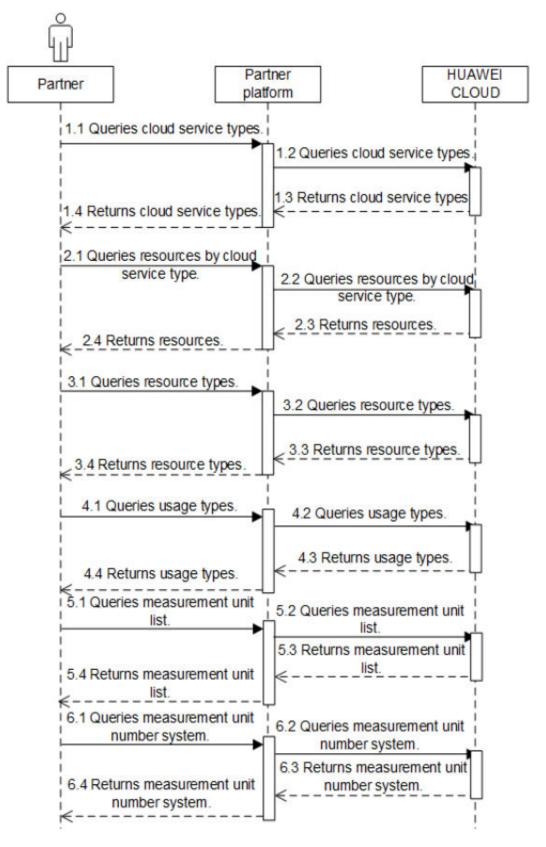
- Query the cloud service or resource type.
- Query resources by cloud service type.
- Query the usage type, measurement unit, and measurement unit number system.

# **Related APIs**

API	API Definition
Querying cloud service types	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/en- us_topic_0000001256679455.html
Querying resource types	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/en- us_topic_0000001256519451.html
Querying resources by cloud service type	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/qct_00003.html
Querying usage types	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/qct_00004.html
Querying measurement units	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/qct_00006.html

API	API Definition
Querying the measurement unit number system	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/qct_00007.html

# **API Invoking Process**



# 5.2 Querying the Price of a Product

# **Service Object**

Partner's customers

### **Scenario Description**

Customers can view introductions to cloud services, such as ECS, EVS, VPC, and EIP, and purchase the cloud services. Two solutions are available for the partner sales platform to support their customers purchase cloud services:

Solution 1: Using the web UI, the customers can switch from the partner sales platform to the cloud service management console on HUAWEI CLOUD through SSO and purchase the cloud services.

Solution 2: Using the native cloud service API of HUAWEI CLOUD, the customers can purchase cloud services on the partner sales platform.

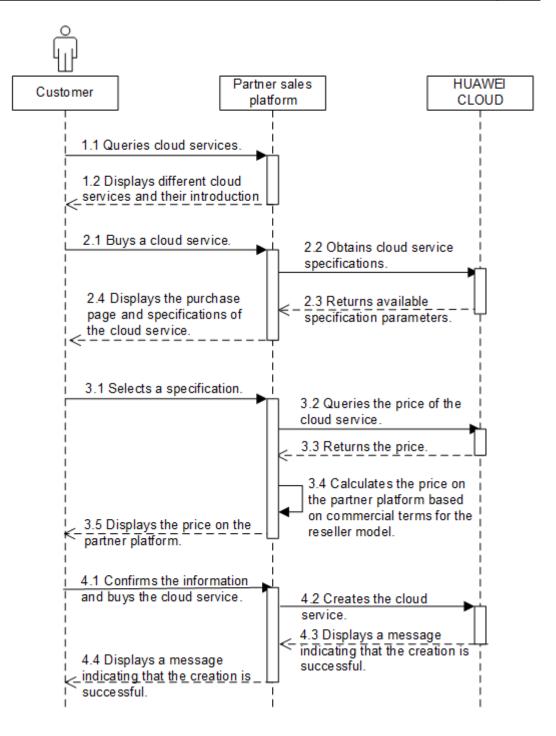
Solution 1 is recommended for partners with limited development capabilities or time.

# **Related APIs**

API	API Definition
Querying the price of a pay-per-use product	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/bcloud_01001.html
Querying the price of a yearly/monthly product	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/bcloud_01002.html
Switching from the partner sales platform to the HUAWEI CLOUD portal	None
Native cloud service APIs	https://developer.huaweicloud.com/intl/en-us/ openapilist

# **API Invoking Process**

Through native APIs of HUAWEI CLOUD services



# **Development Suggestions**

- 1. For the solution through web UI integration, it is recommended to display the HUAWEI CLOUD service console in a new tab or page for a customer when the customer clicks the purchase button on the partner sales platform page. The links can be specified based on the HUAWEI CLOUD cloud service console links.
- Partners can configure the redirection URL on the Support Center > API Management page to allow customers to return to the partner platform after

completing the order payment. For details, see **(Optional) Configuring the Redirection URL for the Partner Platform**.

# **6** Customer Management

# 6.1 Registering a Customer

# **Service Object**

Partner's customers

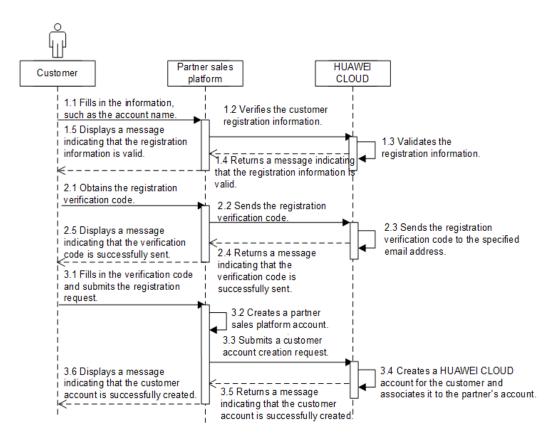
### **Scenario Description**

A HUAWEI CLOUD account is created for a customer when the customer creates an account on the partner sales platform, and the customer account on the sales platform is bound to the HUAWEI CLOUD account. In addition, the HUAWEI CLOUD account is bound to the partner account, so the customer is associated to the partner.

# **Related APIs**

API	API Definition
Verifying customer registration	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mc_00023.html
Sending a verification code	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mc_00024.html
Creating a customer	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mc_00016.html

# **API Invoking Process**



# **Development Suggestions**

- The account name and email address must be verified valid for Huawei Cloud by invoking the API for verifying the customer registration information. If the email address is not specified, the customer will not receive any notifications such as verification code and resource expiration notifications, and does not need to enter the verification code when creating a Huawei Cloud account for the customer.
- The Huawei Cloud account name can be the same as the account name on the partner sales platform. If the account name is not specified, Huawei Cloud will automatically generate an account name.
- The **xAccountId** field is used to associate the partner sales platform account with the HUAWEI CLOUD account, and is globally unique. When a customer switches to the HUAWEI CLOUD portal from the partner sales platform, this field is used to identify the customer. The value must be the same as that entered when the customer account is created.
- The value of **password** is the password of the HUAWEI CLOUD account. It is optional. If the value is not specified, HUAWEI CLOUD will automatically generate one.
- When the API for creating a customer is invoked, HUAWEI CLOUD will synchronously create a HUAWEI CLOUD customer account and send the customer ID and account name to the partner platform. Then, HUAWEI CLOUD associates the customer with the partner asynchronously. To query the result of associating the partner and customer, see **Querying Customers**.
- If a customer has created an account on the partner sales platform and does not have a HUAWEI CLOUD account, the customer needs to switch to the

HUAWEI CLOUD portal through the web UI, create a HUAWEI CLOUD account, and associate it with the customer's partner sales platform.

• If a customer has created an account on the partner sales platform and does not have a HUAWEI CLOUD account, the customer needs to switch to the HUAWEI CLOUD portal through the web UI, create a HUAWEI CLOUD account, and associate it with the customer's partner sales platform.

# 6.2 Performing Real-Name Authentication

# **Service Object**

Partner's customers

### **Scenario Description**

Customers can complete real-name authentication on the partner sales platform using their business licenses or personal certificates. HUAWEI CLOUD reviews the customer authentication information and the uploaded attachments, and returns the result to the partner sales platform.

If a customer wants to change individual authentication to enterprise authentication, the customer can perform the real-name authentication again on the partner sales platform.

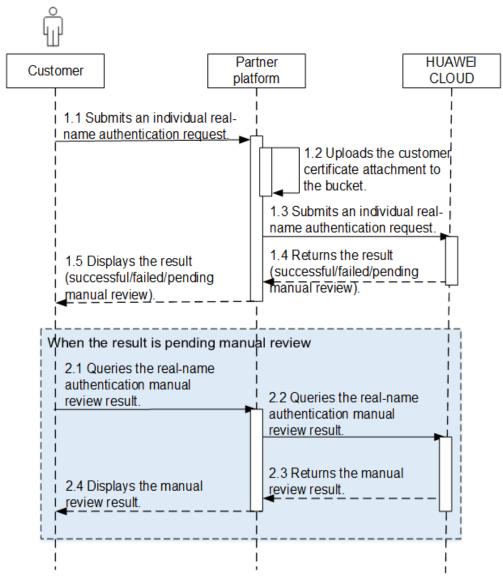
If a customer wants to purchase resources in the China region, the customer needs to complete real-name authentication first.

<b>Related</b> A	Pls
------------------	-----

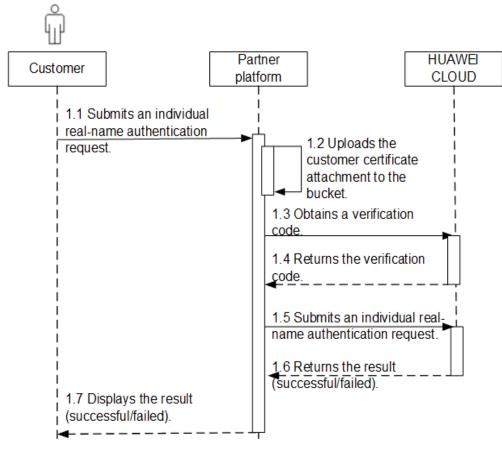
ΑΡΙ	API Definition
Requesting an Individual	https://support.huaweicloud.com/intl/en-us/
Real-Name Authentication	api-bpconsole/mc_00017.html
Requesting an Enterprise	https://support.huaweicloud.com/intl/en-us/
Real-Name Authentication	api-bpconsole/mc_00018.html
Requesting a Real-Name	https://support.huaweicloud.com/intl/en-us/
Authentication Change	api-bpconsole/mc_00019.html
Querying the Real-Name Authentication Review Result	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mc_00020.html

# **API Invoking Process**

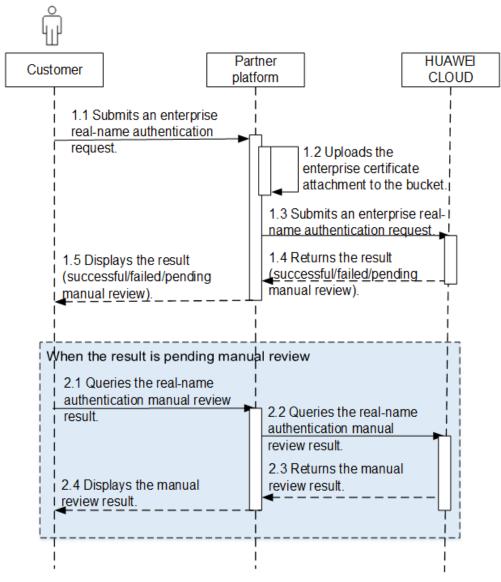
1. Individual certificate real-name authentication



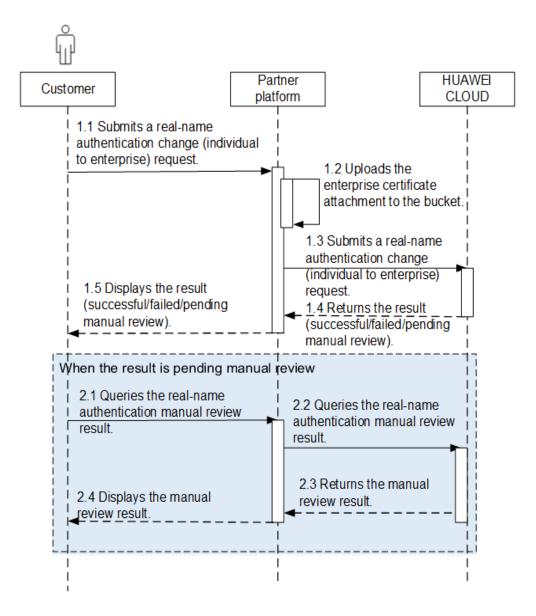
2. Individual bank card real-name authentication



3. Enterprise real-name authentication



4. Real-name authentication change



#### **Development Precautions**

- Ensure to enable Upload Photos of Handheld ID Cards Required for Real-Name Authentication on the Support Center > API Management > Configure page before you invoke the HUAWEI CLOUD real-name authentication API.
- Images for real-name authentication must be uploaded to the **download** directory of the bucket.

## 6.3 Managing Customers

#### **Service Object**

Partner

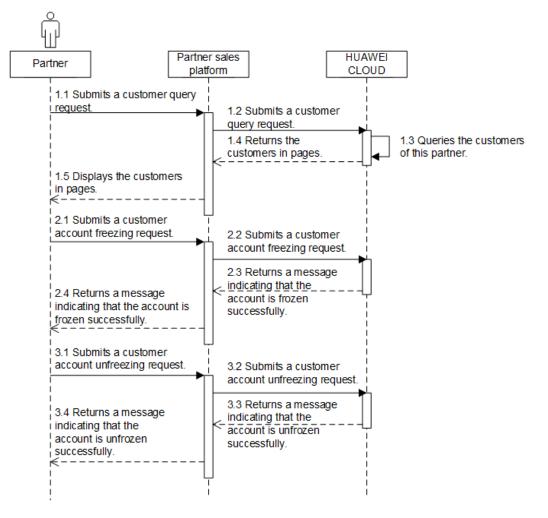
#### **Scenario Description**

Partners can view their associated customers and display the basic information such as the customer company names and customer real-name authentication status on the partner sales platform.

Partners can freeze accounts of customers associated with the partners in reseller model on the partner sales platform. When the accounts are frozen, the customers cannot purchase, renew the subscription to, change, or properly use the resources.

Partners can unfreeze accounts of customers associated with the partners in reseller model on the partner sales platform. After the accounts are unfrozen, fees generated when the customers purchase, renew the subscription to, and change resources are paid by the partners.

API	API Definition
Querying customers	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mc_00021.html
Freezing a customer	https://support.huaweicloud.com/intl/en-us/
account	api-bpconsole/mc_00027.html
Unfreezing a customer	https://support.huaweicloud.com/intl/en-us/
account	api-bpconsole/mc_00028.html



## **7** Credit Management

#### **Service Object**

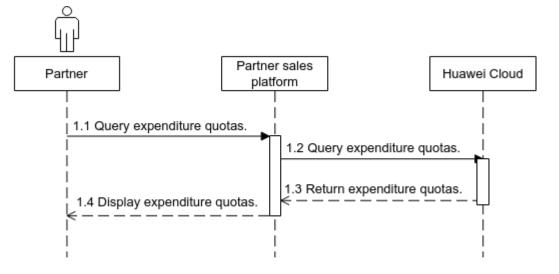
Partners

#### **Scenario Description**

A consumption quota is a credit limit Huawei Cloud allocates to you. It specifies the maximum amount that you can owe to Huawei Cloud. If the quota is exceeded, your account will be restricted and all customers associated with you in the Reseller model will be restricted from purchases. It is not used for payment and does not indicate the exact amount that partners need to pay.

Partners can query their consumption quotas on their own sales platforms. If the consumption quota of a partner is insufficient, the partner can pay bills to restore the consumption quota or contact their ecosystem manager to increase the quota.

API	Related Link
Querying consumption quotas	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/cq_001.html



## **8** Transaction Management

## 8.1 Manage Customer Budgets

#### Service Object

Partner

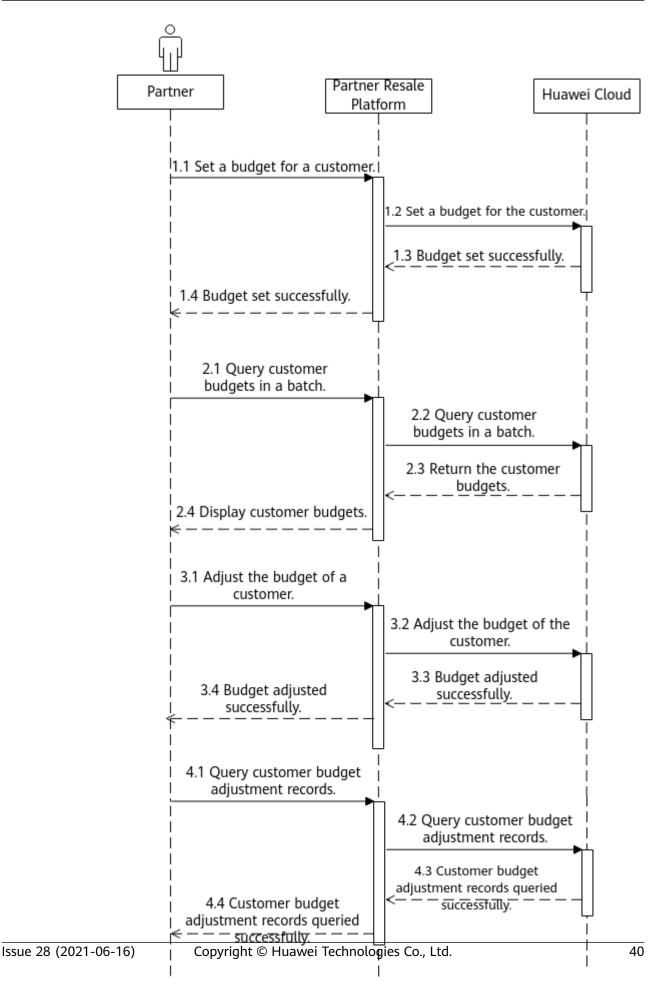
#### Scenario Description

A customer's budget is used to control the total expenditures of a customer. A customer can purchase and renew cloud services on the partner sales platform only when the customer's account has sufficient budget.

If a customer is associated to a partner for the first time, the partner needs to configure a budget for the customer.

A partner can query and adjust the budgets of its customers on the partner sales platform. If the customer's budget cannot meet the customer's requirements, the partner needs to adjust the budget. This API is used by partners to query customer budget adjustment records.

API	API Definition
Querying customer budgets	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mt_01004.html
Batch querying customer budgets	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mt_01006.html
Setting customers' budgets	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mt_01005.html
Querying customer budget adjustment records	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mt_01007.html



#### **Development Suggestions**

- Customers' budgets are used to control the customers' total expenditures of each month. Partners need to configure proper budgets for the customers based on actual requirements.
- If the partner sales platform detects that a customer's budget is less than or equal to 0, the customer is forbidden to purchase or renew resources.
- The API for **configuring customer's budgets** is invoked when a partner sets the budget for a customer for the first time or adjusts the budget.

## 8.2 Coupon Management

#### **Service Object**

Partner and its customers

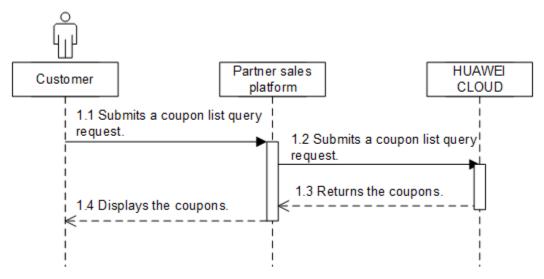
#### Scenario Description

A partner can view its issued coupons.

#### **Related APIs**

ΑΡΙ	API Definition
Querying coupons	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mp_02001.html

#### **API Invoking Process**



## 8.3 Managing Yearly/Monthly Orders

#### **Service Object**

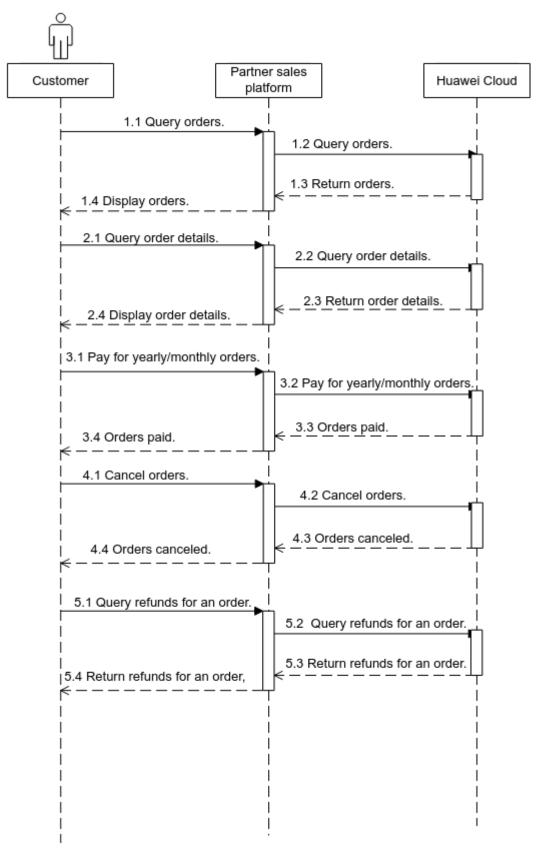
Customers of a partner

#### **Scenario Description**

After purchasing yearly/monthly resources, a customer can perform the following operations on the partner sales platform:

- Query the orders in different statuses such as pending approval, processing, canceled, completed, and pending payment.
- Pay or cancel orders in the pending payment state, and unsubscribe from yearly/monthly products in the subscribed state.
- Query the available discounts of an order.
- Query the resources and original orders where the refund of an unsubscription or degrade order is from.

API	API Definition
Querying orders	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00013.html
Querying order details	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00014.html
Paying yearly/monthly product orders	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00030.html
Canceling orders in the pending payment status	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00017.html
Querying refunds for orders	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00020.html



#### **Development Suggestions**

The prerequisite for this scenario is that the customer has purchased yearly/ monthly cloud service resources.

## 8.4 Managing Yearly/Monthly Resources

#### Service Object

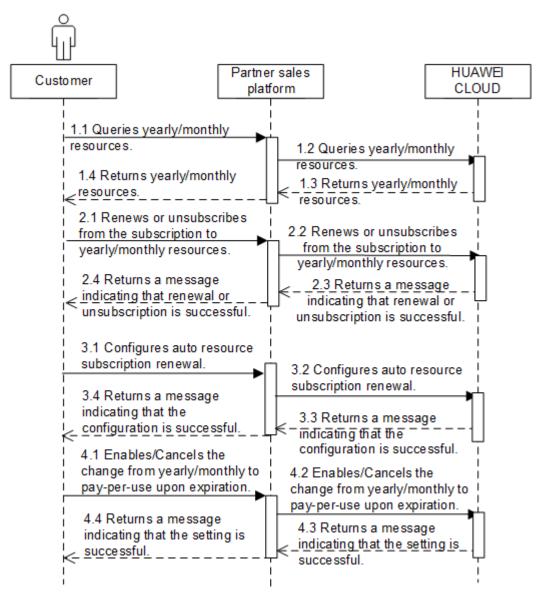
Customers of a partner

#### Scenario Description

After purchasing yearly/monthly resources, a customer can perform the following operations on the partner sales platform:

- Query the expiration date of orders in the completed status, and renew the subscription to orders or resources about to expire.
- Configure or cancel automatic renewal for purchased yearly/monthly resources.
- Query the resources and original orders where the refund of an unsubscription or degrade order is from.

API	API Definition
Querying customer's yearly/monthly resources	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00021.html
Renewing subscription to yearly/monthly resources	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00018.html
Unsubscribing from yearly/ monthly resources	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00019.html
Enabling automatic subscription renewal for yearly/monthly resources	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00022.html
Disabling automatic subscription renewal for yearly/monthly resources	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00023.html
Enabling/Canceling the change from yearly/ monthly to pay-per-use upon expiration	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00024.html



#### **Development Suggestions**

- The prerequisite for this scenario is that a customer has purchased yearly/ monthly cloud service resources.
- The resource IDs need to be obtained using the APIs for querying yearly/ monthly resources because the management operations, such as subscribing to or unsubscribing from yearly/monthly resources, and enabling or disabling automatic subscription renewal, are performed based on resources.
- If a primary resource has attached resources and subscription to the primary resource is renewed or canceled, the system will also renew or cancel the subscription to the attached resources. An example of primary and attached resources are as follows: ECS is the primary resource, and its attached resources are EVS, VPC, EIP, and bandwidth.

• The fee of automatic subscription renewal for a product will be deducted at 03:00 seven days before the product is due. If the fee fails to deduct for the first time due to insufficient account balance, the system will attempt to deduct the fee at 03:00 every day before the reserved product resource expires until the fee is deducted successfully.

## 8.5 Managing Pay-Per-Use Resources

#### **Service Object**

Partner's customers

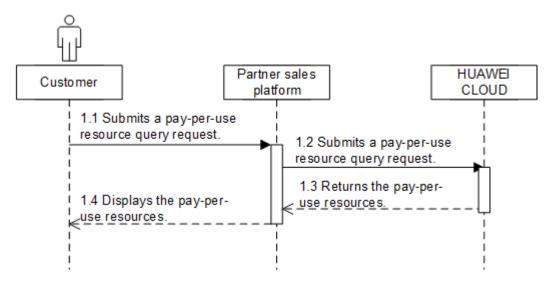
#### Scenario Description

After a customer purchases pay-per-use resources, it can query the provisioned ones on the partner sales platform.

#### **Related APIs**

ΑΡΙ	API Definition
Querying customer's pay-	https://support.huaweicloud.com/intl/en-us/
per-use resources	api-bpconsole/mqr_01002.html

#### **API Invoking Process**



#### **Development Suggestions**

The pay-per-use resource query has a latency, and therefore the data obtained from the API is for reference only.

## 8.6 Managing Resource Packages

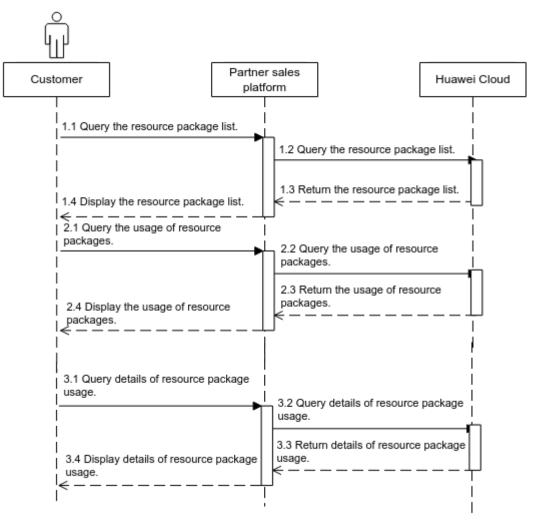
#### **Service Object**

Customers of a partner

#### Scenario Description

After a customer purchases a resource package, the customer can query the resource package list and resource usage on the partner sales platform.

API	API Definition
Querying Resource	https://support.huaweicloud.com/intl/en-us/
Packages	api-bpconsole/api_order_00027.html
Querying the Resource	https://support.huaweicloud.com/intl/en-us/
Usage	api-bpconsole/api_order_00028.html
Querying Details of	https://support.huaweicloud.com/intl/en-us/
Resource Usage	api-bpconsole/api_order_00029.html



#### **Development Suggestions**

The prerequisite for this scenario is that the customer has purchased a resource package.

## **9** Cloud Service Resource Management

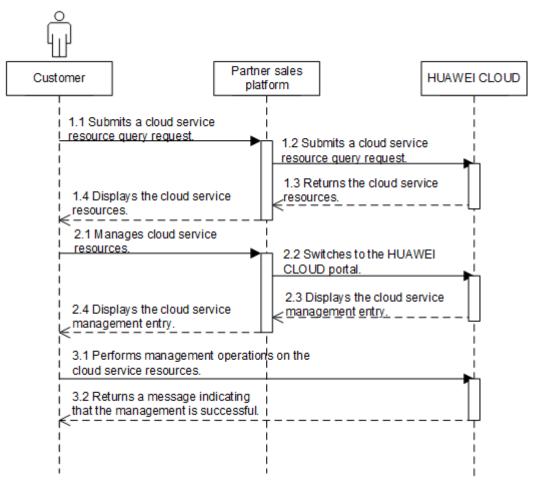
#### **Service Object**

Partner's customers

#### **Scenario Description**

After a customer purchases cloud service resources, it can switch from the partner sales platform to the HUAWEI CLOUD portal to manage the purchased cloud service resources. Specifically, the customer can start, stop, or restart an ECS, attach an EVS disk to an ECS, expand the capacity of an EVS disk, create snapshots and backups for an EVS disk, create a VPC and configure subnets, as well as bind, unbind, or release an EIP.

ΑΡΙ	API Definition
Switching from the partner sales platform to the HUAWEI CLOUD portal	None



#### **Development Suggestions**

Cloud service management is complex. Therefore, it is recommended to display the HUAWEI CLOUD portal in another tab or page for the cloud service management when customers switch from the partner sales platform.

## **10** Bill Management

## **10.1 Managing Customer Resource Usage**

#### Service Object

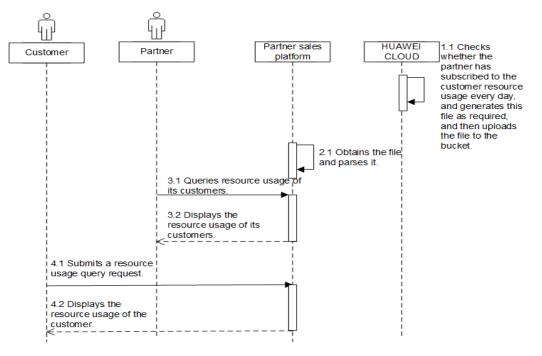
Partners

#### **Scenario Description**

Partners subscribe to the customer resource usage on the **Support Center > API Management > Configure** page in Partner Center.

- Partners can view resource usage of its all customers or a specified customer on the partner sales platform.
- Customers can query their own resource usage.

ΑΡΙ	API Definition
Querying customer resource usage	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/api_order_00009.html



#### **Development Suggestions**

- The system generates the customer resource usage file containing the data generated till the previous day from 12:00 to 20:00 (not later than 24:00) every day. Therefore, it is recommended to set the partner sales platform to obtain the customer resource usage file at 24:00 every day.
- The customer resource usage data has a latency. Therefore, the data cannot be used when the data accuracy requirement is high, such as for monitoring or budget control.

## **10.2 Partner Bill Management**

#### 10.2.1 Partner Bills

#### **Service Object**

Partner

#### **Scenario Description**

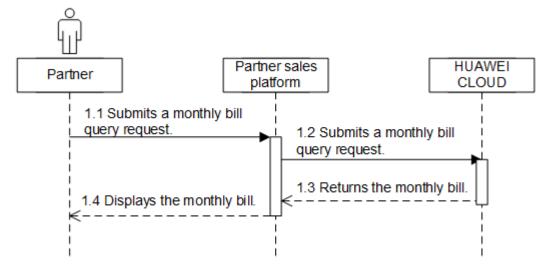
After a partner's customer purchases a cloud service product, the partner needs to settle the generated fee with HUAWEI CLOUD. The partner obtains the bills of the previous or earlier months from the partner sales platform, views the bill information including the bill amount and payment deadline, and then completes settlement with HUAWEI CLOUD.

After the settlement is complete, HUAWEI CLOUD will restore the budget of the customer.

#### **Related APIs**

ΑΡΙ	API Definition
Querying monthly bills	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mb_00003.html

#### **API Invoking Process**



#### **Development Suggestions**

- The partner bills of the last month are generated before 12:00 (Beijing time) on the fifth day of this month. Therefore, the partner can query the bills of the last month or earlier only.
- The refund contains the amount returned to the customer due to order cancellation or specifications changes.

### 10.2.2 Customer Bills

#### Service Object

Partner's customers

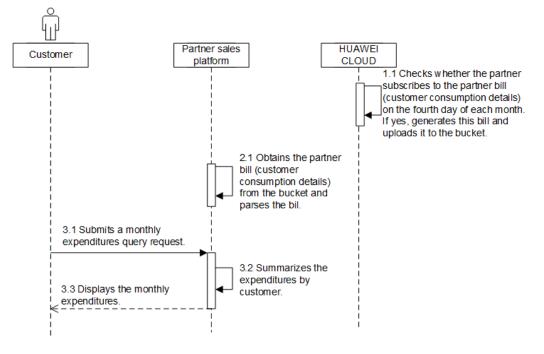
#### Scenario Description

After a partner subscribes to the partner bill (customer consumption details) on the **Support Center** > **API Management** > **Configure** page in Partner Center on HUAWEI CLOUD, the partner can rate its customers for the generated consumptions, and the partner sales platform will generate the customer bills based on this bill. The partner can perform reconciliation with HUAWEI CLOUD based on these customer bills.

#### **Related APIs**

API	API Definition
Querying monthly expenditures	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/mb_00002.html

#### **API Invoking Process**



#### **Development Suggestions**

- If a partner has subscribed to the partner bill (customer consumption details) in the HUAWEI CLOUD Partner Center, HUAWEI CLOUD will send the bill to the partner before 12:00 (Beijing time) on the fifth day of each month.
- The partner sales platform reads the bill and parses it. Then, the partner rates the consumptions of the customer based on this file, and the partner sales platform generates the customer expenditure bill.

# **11** Invoice Management

## **11.1 Managing Invoices**

#### **Service Object**

Partner

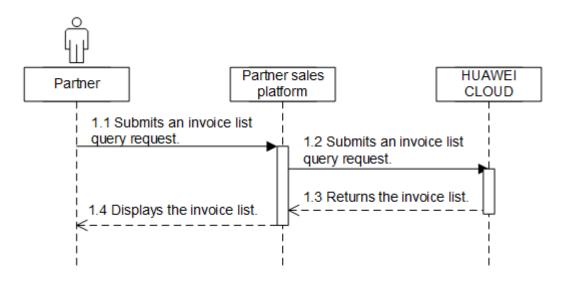
#### **Scenario Description**

On the partner sales platform, the invoice list can be viewed.

#### **Related APIs**

API	API Definition
Querying the invoice list	https://support.huaweicloud.com/intl/en-us/ api-bpconsole/miv_01005.html

#### **API Invoking Process**



# **12** Managing Service Tickets

#### **Service Object**

Partner and its customers

#### **Scenario Description**

- 1. A customer or partner creates a HUAWEI CLOUD service ticket on the partner sales platform. The partner sales platform forwards the service ticket to the HUAWEI CLOUD after-sales service team. When a customer or partner submits a service ticket, the customer or partner needs to enter the required information based on a template.
- 2. A customer or partner can query all the HUAWEI CLOUD service tickets or details of a HUAWEI CLOUD service ticket submitted by itself on the partner sales platform.
- 3. A customer or partner can perform operations on a service ticket submitted by itself, such as urging, deleting, closing, and canceling the service ticket. In addition, they can add messages on the service ticket details page, for example, adding confidential information, providing information required for the customer service handling the service ticket, or asking about the service ticket handling progress.

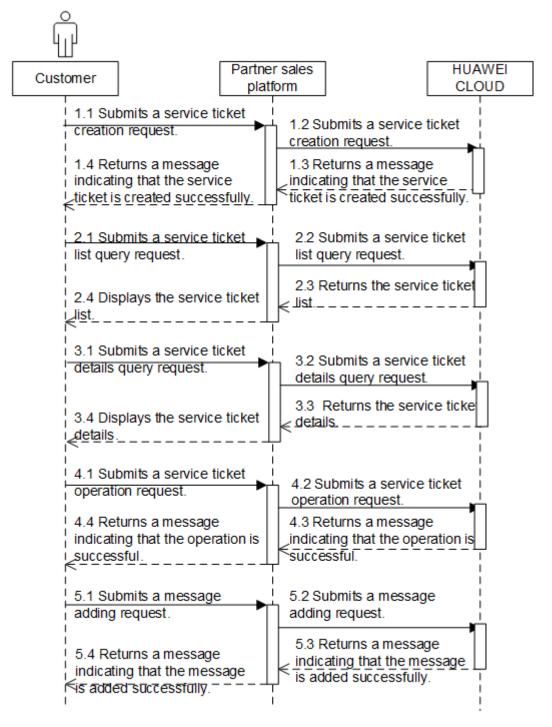
#### **Related APIs**

For details, see Service Ticket Open APIs.

API	API Definition	
Creating a service ticket	https://support.huaweicloud.com/intl/en-us/ api-ticket/ticket_api_10001.html	
Querying templates	https://support.huaweicloud.com/intl/en-us/ api-ticket/ticket_api_10011.html	
Querying service ticket list	https://support.huaweicloud.com/intl/en-us/ api-ticket/ticket_api_10002.html	

API	API Definition
Querying service ticket details	https://support.huaweicloud.com/intl/en-us/ api-ticket/ticket_api_10003.html
Performing operations on a service ticket	https://support.huaweicloud.com/intl/en-us/ api-ticket/ticket_api_10009.html
Adding messages	https://support.huaweicloud.com/intl/en-us/ api-ticket/ticket_api_10007.html

For details, see **Service Ticket Open APIs**.



# **13** Appendix

## 13.1 Creating a Bucket

If a partner wants to query the file of the monthly bill details of a partner, the partner needs to create a bucket to store the monthly bill details files uploaded by HUAWEI CLOUD.

If a partner's customers buy products from HUAWEI CLOUD Chinese mainland website and want to perform real-name authentication, customers need to upload pictures of the certificates to a specified bucket for HUAWEI CLOUD to read to complete the real-name authentication.

You can create buckets on the Object Storage Service (OBS) management console. A bucket is a container for storing your data (objects) in OBS. Before you store data in OBS, you need to create a bucket. For details about how to create a bucket, see **Creating a Bucket**.

#### **NOTE**

- A partner account cannot be used to purchase resources. Therefore, partners need to use a common HUAWEI CLOUD account to log in to the system and create a bucket.
- To change a bucket, partners need to go to the configuration modification page, cancel subscription to all files, and disable attachment uploading for real-name authentication. Then, the partners can add a bucket on the configuration modification page.
- Different partners cannot share the same bucket.
- Only OBS buckets purchased on HUAWEI CLOUD in the Hong Kong region can be used.
- After the default encryption is enabled for a bucket, all objects uploaded to the bucket are encrypted. The **obs/default** key is used for encryption by default, and the files stored in the bucket cannot be downloaded.

Default Encryption Enable

## 13.2 Obtaining the SP Metadata File

The **SP Metadata** file is the metadata file of the trustworthy SAML service provider. It contains the HUAWEI CLOUD SAML public key information and response path information.

If a partner switches to HUAWEI CLOUD from the partner sales platform **through the web UI**, the partner sales platform can check whether HUAWEI CLOUD SAML messages are reliable using this public key.

#### Procedure

- Step 1 Sign in to Huawei Cloud as a partner. On the top navigation bar, select Support > Open APIs.
- Step 2 Click Obtain SP Metadata File under Prepare.

API Management					
Complete the following steps to connect a partner platform to HUAWEI CLOUD:					
<ol> <li>Prepare</li> </ol>	(2) API configured S	③ Commission	④ Finish		
Prepare for connecting the partner platform to HUAWEI CLOUD.	Now you can:	Commission the interoperability between the partner platform and	You can use the API to access HUAWEI CLOUD from the partner		
Obtain SP Metadata File ወ	View or Modify API Configuration Configure Redirection URL for Partner Center	HUAWEI CLOUD.	platform.		

**Step 3** Upload the SP Metadata file to the IDP server of the partner's self-built platform. The file is used to verify the SAML message when a customer logs in to the partner's self-built platform and switches to HUAWEI CLOUD.

----End

### 13.3 Generating the IDP Metadata File

Before connecting to HUAWEI CLOUD, the partner sales platform needs to prepare the **IDP Metadata** file (metadata file of the enterprise identity provider). The file contains the SAML public key and response path information. If a partner switches to HUAWEI CLOUD from the partner sales platform **through the web UI**, HUAWEI CLOUD can check whether SAML messages from the partner sales platform are reliable using this public key.

#### 

Do not include sensitive IDP information, such as IDP user names, passwords, or other confidential information.

#### Example of the IDP Metadata File (Saved Using UTF-8)

An example of the **IDP Metadata** generated based on the SAML2.0 protocol is as follows:

```
<?xml version="1.0"?>
<md:EntityDescriptor
xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata"
xmlns:ds="http://www.w3.org/2000/09/xmldsig#" entityID="https://www.test.com">
<md:IDPSSODescriptor protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
<md:KeyDescriptor use="signing">
<ds:KeyDescriptor use="signing">
<ds:KeyInfo
xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
<ds:X509Data>
```

#### <ds:X509Certificate>



#### **Parameter Description**

Change the content in bold tags in the preceding example based on the site requirements. For details about the parameters, see **Table 13-1**.

Parameter	Description
entityID	Indicates the unique partner ID.
	You are advised to use a domain name and ensure that the value is globally unique. The value must contain <b>https://</b> .
	Example: https://www.test.com

Table 13-1 Parameter description

Parameter	Description
<ds:x509certifi cate&gt;<!--<br-->ds:X509Certific ate&gt;</ds:x509certifi 	Indicates a certificate containing the public key, which is used for signature verification. To ensure security, you are advised to use a public key greater than or equal to 2048 bits. HUAWEI CLOUD uses the signature certificate in the <b>IDP Metadata</b> file to verify the credibility and integrity of messages transmitted during the authentication. For details, see <b>Generating a Certificate</b> .
Location in <md:singlelo goutService</md:singlelo 	The partner IDP server provides the session deregistration function. After a partner's customer deregisters a session in HUAWEI CLOUD IAM, a message is returned to the address in server redirection mode. Example: https://www.test.com/saml/logout
Location in	
<md:singlesig nOnService</md:singlesig 	Indicates the address for the IDP server of the partner sales platform processing SAML requests during SSO. The server redirection mode is used. This address is defined by partners for receiving and processing SAML requests and generating SAML responses.
	Example: https://www.test.com/saml/login

## **13.4 Sample Code for Parsing the SAMLRequest**

• Sample code of the "URL decoding > decoding with Base64 > decompressing (zip.inflate)" process

package org.apache;

import java.io.\*;

import org.opensaml.xml.util.Base64;

import java.util.zip.InflaterInputStream;

import java.util.zip.Inflater;

class SamlRequestDecoder {

public static void main(String[] args) throws UnsupportedEncodingException {

String samlRequest = "hZJBb9swDIX%2Fiqa77dho0kyIU2QNigboNq9xd9hlkGWm1ipLsSjF7b %2Bv7KRbhwHZlSK%2FR73HxdVzq8qBLEqic5rGE0pAC1NL%2FZiTh

%2FImmtOr5QJ5q7I9W3nX6HvoPKAjYVAjO77k1FvNDEeJTPMWkDnBtqvPdyyLJ2xvjTPCKEpWiGBdkLo2 Gn0Ldgv2IAU83N

%2FltHFujyxJeFCJG897kEIZX8fCtGPRy2SQSwbwPyRK1mErqbkbfzLAAqvpXajG07SHauT4MJaEhWovXDLi EwHaefuSgMAPyjxKfdvHXAwYSm6MFTB%2BO6c7rhAo2axz%2BtM12ZOqZ7rreDdT1aHqU9F1T5Wqs %2FYSm19TefkcWrHgiPIAf4YRPWw0Oq5dTrNJOo%2FSNMpm5eQjS1M2nccXF7MflBQnyz5JfYzinL %2FVsQnZbVkWUfF1W1Ly%2FS3S0EBPAbJR3b5P7jyYv5lMl2fDWSTv%2Bb%2FP5UsAbtaFUVK8kJVSpr %2B2wF1ww1kPo7ktd%2BdXGCqyjnZjK3OWa5QhL0q2xYD%2F5rmSOwn2P%2BdDk%2BVpyb %2BvePkK":

byte[] decodedBytes = Base64.decode(java.net.URLDecoder.decode(samlRequest, "utf-8"));
try {
 ByteArrayInputStream bytesIn = new ByteArrayInputStream(decodedBytes);

InflaterInputStream in = new InflaterInputStream(bytesIn, new Inflater(true));

byte[] buffer = new byte[decodedBytes.length];

ByteArrayOutputStream out = new ByteArrayOutputStream();

for (int bytesRead = 0; bytesRead != -1; bytesRead = in.read(buffer)) {
 out.write(buffer, 0, bytesRead);

System.out.println(new String(out.toByteArray(), "UTF-8"));

} catch (Exception e) { } Final State Sta

## 13.5 How Do I Check the Partner ID?

You can obtain the partner ID on the **My Credentials** page.

- Step 1 Sign in to Huawei Cloud as a partner.
- **Step 2** In the drop-down list of your account name, click **Partner Center** to go to the Partner Center.
- **Step 3** Under the account name, select **Partner Information** > **Basic Information**.
- Step 4 Click Account Information.

}

Company Inform	ation	Account Inform	ation	Consumption Quota	Preferences	Customer Notification Settings	Customer Bill Settings	Accounts
Account Name	per places							
Mobile Number	101111	12 C	Modify					
	1977-00	10,000	Modify					
Password			Modify					
Security	Manage							
Credentials	Manage							
Verify It's You 🕐								

Step 5 Click Manage.

On My Credentials page, check the Account ID, which is your partner ID.

Username	jug.W	
User ID	MINING AND INCOMES	
Account Name	jug.W	
Account ID	Interpretation and the	
Verified Email Address	(**)(Hannican	Change
Mobile Number	<pre>s(0)();permit;p</pre>	Change
Password	Security Strong Weak Medium Strong	Change
Login Authentication Method	Disable	Change
Virtual MFA Device	Unbound   Bind	

----End

### 13.6 How Do I Obtain the xaccountType Value?

The xaccountType value is the system ID of your partner sales platform. You can obtain the ID of your partner sales platform on the **Configure** page.

#### NOTICE

To obtain the value of **xaccountType**, you need to configure the access parameters on the **Support** > **Open APIs** page of Partner Center first. For details, see **Basic Configuration**.

After you configure the access parameters, you can obtain the **xaccountType** value (**Partner Platform ID** value) on the **Configure** page.

API access co	onfigured successfully.	Download Metadata File	Modify
Basic Information Partner Platform ID: Company Name: Notification URL:	Paragleone. DP Companya (BH) Para Sharper Theorem (BH)		
Contact Informat 유	ion	⊠	

## 13.7 Generating a Certificate

A partner can purchase certificates issued by commercial CA or use OpenSSL to generate free certificates. There are many OpenSSL commands for generating certificates. This section describes the recommended OpenSSL commands.

**Step 1** Generate the RSA public-private key pair of CA.

Command: openssl genrsa [-out filename] [-aes256] [numbits]

#### Example: openssl genrsa -out CAkey.pem -aes256 2048

When the command is executed, a message is displayed on the OpenSSL UI to prompt you to manually enter the password of the generated private key file. The password automatically derives an encryption key and encrypts the private key file.

Parameter	Description	
[-out filename]	Indicates the name and path of the file that stores the public- private key pair.	
[-aes256]	Indicates that the encryption algorithm is AES256-CBC.	
	You can also use other encryption algorithms, such as <b>-des</b> , <b>-</b> <b>des3</b> , <b>-aes128</b> , and <b>-idea</b> . The recommended symmetric encryption algorithms are AES (128 or higher bits). Therefore, AES256 is recommended. If no encryption algorithm is specified in the command for generating the public-private key pair, the generated key-pair file is not protected by the password.	
[numbers]	Indicates the length of the generated public-private key pair. The recommended asymmetric encryption algorithm is RSA (2048 bits or higher). Therefore, the recommended length of the public-private key pair has 2048 bits.	

Table 13-2 Parameter description

ecs-5052:	<pre>/etc/ssl # openssl genrsa -out CAkey.pem -aes256 2048</pre>
Generatin	ng RSA privaté key, 2048 bit long modulus
e is 6553	···· ································
Enter pas	s phrase for CAkey.pem:
Verifying	1 - Enter pass phrase for CAkey.pem:
ecs-5052:	vetc/ssl #

**Step 2** Use the CA private key to perform self signature and generate a root certificate.

Command: openssl req [-x509] [-new] [-key filename] [-out filename] [-md2|md5|-sha1|-mdc2|-sha256] [-days n] [-config path of openssl.cnf]

Example: openssl req -x509 -new -key CAkey.pem -sha256 -out CA.pem -days 3650 -config openssl.cnf

In the example, **Cakey.pem** is the private key file generated in **Step 1**. When the command is executed, a message is displayed on the OpenSSL UI to prompt you to manually enter the password of the private key file generated in **Step 1** and information of the certificate applicant.

Table	13-3	Parameter	description
-------	------	-----------	-------------

Parameter	Description	
[-x509]	Generates the root CA certificate. The extension item of the certificate is specified in the <b>config</b> file.	
[-new]	Generates a new Certificate Secure Request (CSR) file. If this parameter is used together with <b>-x509</b> , a self-signed root certificate file is generated. In this case, you need to enter the necessary information for creating a CSR file. The required information is defined in the <b>config</b> file.	
[-key filename]	Indicates the source of the certificate private key file. The format of the file is <b>PKCS#8</b> .	
[-out filename]	Generates the certificate request file. If <b>-x509</b> is specified, a self-signed root certificate file is generated. By default, a standard CSR file is generated.	
[-md2 -md5 - sha1 -mdc2 - sha256]	Indicates the hash algorithm of the certificate. It is recommended to use SHA256 in the signature scenario. In addition, because the RSA public-private key pair is generated in <b>Step 1</b> , the signature algorithm specified here is SHA256RSA.	
[-days n]	Indicates the validity period of the certificate with the signature. If this parameter is not specified, the validity period of the generated certificate is 30 days (default). Generally, it is recommended to set the validity period of the generated certificate to 10 years. That is, the value of <b>n</b> is <b>3650</b> .	
[-config path of openssl.cnf]	Indicates the name and path of the <b>openssl.cnf</b> configuration file.	

ecs-5052:/etc/ssl # openssl reg -x509 -new -key CAkey.pem -sha256 -out CA.pem -days 3650 -config openssl.cnf
Enter pass phrase for CAkey.pem:
You are about to be asked to enter information that will be incorporated into your certificate reguest.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
Country Name (2 letter code) [AU]:
State or Province Name (full name) [Some-State]:
Locality Name (eg, city) []:
Organization Name (eg, company) Linternet Widgits Pty Ltdl:
Organizational Unit Name (eg, section) []:
Common Name (e.g. server FQDN or YOUR name) []:
Email Address LI:

**Step 3** Generates the public-private key pair of the device certificate.

The command for generating the public-private key pair of the device certificate. The command is the same as that for generating the public-private key-pair of the CA certificate.

#### Example: openssl genrsa -out Devicekey.pem -aes256 2048

**Devicekey.pem** is the file that stores the public-private key of the device certificate. When the command is executed, a message is displayed on the OpenSSL UI to prompt you to manually enter the password of the generated private key file. The password automatically derives an encryption key and encrypts the private key file.

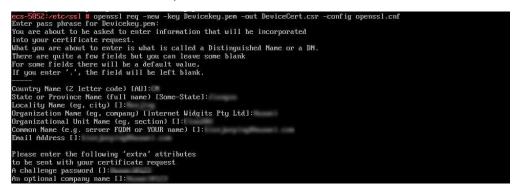
**Step 4** Generates a CSR file of the device certificate.

Command: openssl req [-new] [-key *filename*] [-out *filename*] [-config path of openssl.cnf]

Example: openssl req -new -key Devicekey.pem -out DeviceCert.csr -config openssl.cnf

In the example, **Devicekey.pem** is the private key file generated in **Step 3**. When the command is executed, a message is displayed on the OpenSSL UI to prompt you to manually enter the password of the private key file generated in **Step 3** and information of the certificate applicant.

 Table 13-3 describes the parameters.



**Step 5** Use the CA private key to issue the device certificate.

Command: openssl x509 [-req] [-in filename] [-out filename] [-CA filename] [-CAkey filename] [-md2|-md5|-sha1|-mdc2|-sha256] [-days arg] [-CAcreateserial] [-extfile filename] [-extensions v3\_req]

Example: openssl x509 -req -in DeviceCert.csr -out DeviceCert.pem -CA CA.pem -CAkey CAkey.pem -sha256 -days 3650 -CAcreateserial -extensions v3\_req - extfile openssl.cnf

When the command is executed, a message is displayed on the OpenSSL UI to prompt you to manually enter the password of the CA root private key file generated in **Step 1**.

#### Table 13-4 Parameter description

Parameter	Description	
[-req]	Indicates that the input file (the file following the <b>-in</b> parameter) is the CSR file (in x509 commands).	
[-in filename]	Indicates the name of the input file. The file is the CSR file of the device certificate generated in <b>Step 4</b> .	
[-out filename]	Indicates the name of the generated file. The file is the device certificate file.	
[-CA filename]	Indicates the name of the CA certificate file for signature, that is, the CSR file generated in <b>Step 2</b> .	
[-CAkey filename]	Indicates the CA private key file, that is, the RSA public- private key pair of CA generated in <b>Step 1</b> .	
[-md2 -md5 - sha1 -mdc2 - sha256]	Indicates the hash algorithm of the certificate. It is recommended to use SHA256 in the signature scenario. In addition, because the RSA public-private key pair is generated in <b>Step 1</b> , the signature algorithm specified here is SHA256RSA.	
[-days n]	Indicates the validity period of the certificate with the signature. If this parameter is not specified, the validity period of the generated certificate is 30 days (default). Generally, it is recommended to set the validity period of the generated certificate to 10 years. That is, the value of <b>n</b> is <b>3650</b> .	
[-CAcreateserial]	If there is no CA serial number file (default file name <b>CA.srl</b> ), one CA serial number file will be generated. If there is a default CA serial number file, the default file is used. The serial number increases by one every time when a certificate is issued.	
[-extfile filename]	Indicates the name of the file containing the certificate extension item. In the example, the file name is <b>openssl.cnf</b> . If this parameter is not specified, the generated certificate does not contain any extension item, that is, the generated certificate is of the x.509 v1 version.	
[-extensions section]	Indicates the extended items in the issued certificate file. If this parameter is not specified, the default value is <b>v3_ca</b> , indicating that a CA root certificate is generated. In this example, the device certificate is to be issued. Therefore, the <b>section</b> value is set to <b>v3_req</b> , indicating that the basic constraint of the generated certificate is <b>Subject Type=End</b> <b>Entity</b> (the certificate is a terminal entity certificate).	

#### 

Step 6 The body of the DeviceCert.pem file (excluding the header and tail of the file) generated in Step 5 is the values of <ds:X509Certificate> </ds:X509Certificate> in Example of the IDP Metadata File (Saved Using UTF-8).

----End

## **13.8 HUAWEI CLOUD Environment and Address**

Environment	Description	Address
Login address provided by IAM	Indicates the address provided by IAM for the partner to switch to the page from the partner sales platform for registering or associating a HUAWEI CLOUD account. It is not the API path (endpoint) provided by IAM.	https:// auth.huaweicloud.com /

Environment	Description	Address
Address of obtaining the <b>SP Metadata</b> file	The partner needs to upload the <b>SP</b> <b>Metadata</b> file to the IDP server on the partner sales platform, use the public key in the <b>SP Metadata</b> file to verify the message received from HUAWEI CLOUD, and establish the trust relationship with IAM.	<ul> <li>https:// auth.huaweicloud.co m/authui/saml/ metadata.xml? unsigned=true</li> <li>The unsigned parameter indicates whether to sign the packet and is optional.</li> <li>Signature verification prevents the file content from being tampered with.</li> <li>If the metadata content contains the unsigned parameter and its value is true, the obtained content does not have the signature information.</li> <li>If the metadata content does not contain the unsigned parameter or its value is not true, the obtained content contains the signature information, and so the signature verification can be performed.</li> <li>NOTE When logging in to the address, the content of the metadata file is displayed. Press ctrl+s to save the content.</li> </ul>
CBC request address	Indicates the path (endpoint) provided by CBC to access the partner operation capability. The partner adds the address and the URI of a specific API to access the API.	https://bss- intl.myhuaweicloud.co m

Environment	Description	Address
Partner Center	Indicates the operation management UI provided by HUAWEI CLOUD for the partner.	https://account- intl.huaweicloud.com /obmgr/#/obmgr/ index
My Account	Common customers (not partners) can view with basic account information, perform user authentication, configure preferences, and view their privileges and recommended operation management pages.	https://account- intl.huaweicloud.com /usercenter/#/ accountindex/ accountInfo
Billing Center	HUAWEI CLOUD provides the operation management UI for common customers not partners to recharge, renew, view orders, view financial information, view vouchers and discounts, apply for contracts, issue invoices, and perform unsubscription and changes.	https://account- intl.huaweicloud.com /usercenter
Console	Common customers (not partners) can log in to the HUAWEI CLOUD management console to view, purchase, and use HUAWEI CLOUD services.	https://console- intl.huaweicloud.com /console/

## **13.9 Network Connectivity Test Method**

You can run the command (**curl -kv https://apigw-external-lb-waf.apsoutheast-3.myhuaweicloud.com**) to test connectivity through a proxy or a public IP. If the returned result includes a line starting with **connected to**, the new IP is accessible.