CEC 24.300.0

User Guide

Issue	01
Date	2025-01-21

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Technologies Co., Ltd.

Address:	Huawei Industrial Base Bantian, Longgang Shenzhen 518129 People's Republic of China
Website:	https://www.huawei.com
Email:	support@huawei.com

Security Declaration

Vulnerability

Huawei's regulations on product vulnerability management are subject to the *Vul. Response Process*. For details about this process, visit the following web page:
https://www.huawei.com/en/psirt/vul-response-process
For vulnerability information, enterprise customers can visit the following web page:
https://securitybulletin.huawei.com/enterprise/en/security-advisory

Contents

1 CEC Operation Guide

1.1 Enabling the CEC

To enable the CEC, log in to Huawei Cloud, set enterprise payment information, and subscribe to the CEC product.

For details about the pricing for commercial use, see **Price Details**.

In the commercial use phase, the access codes provided for free trial expire. Therefore, apply for number resources in advance.

Procedure

Step 1 In the navigation pane of **Huawei Cloud**, choose **Products** > **Business Applications** > **Cognitive Engagement Center (CEC)**.

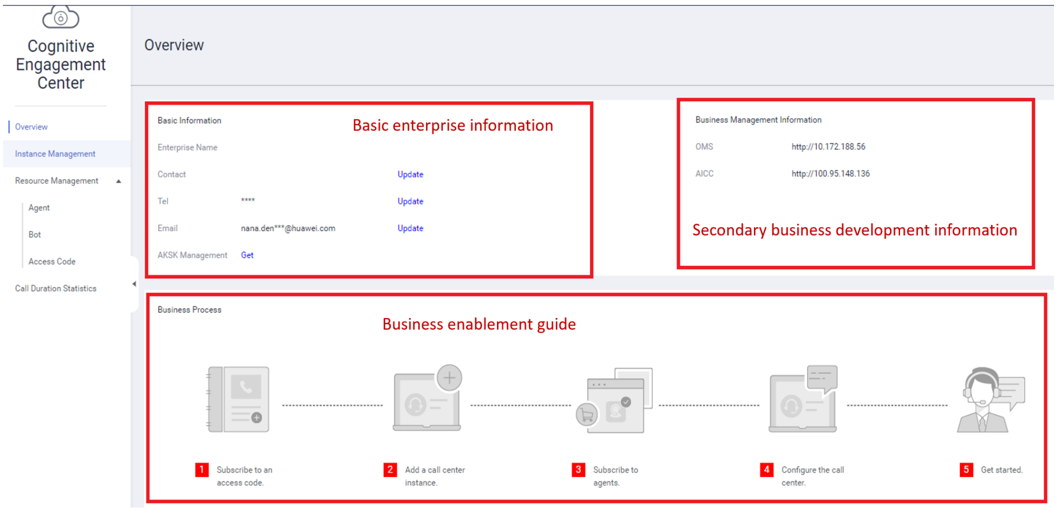
Step 2 Click **Buy Now**.

Step 3 Use the Huawei Cloud account and password to log in to the Huawei Cloud official website.

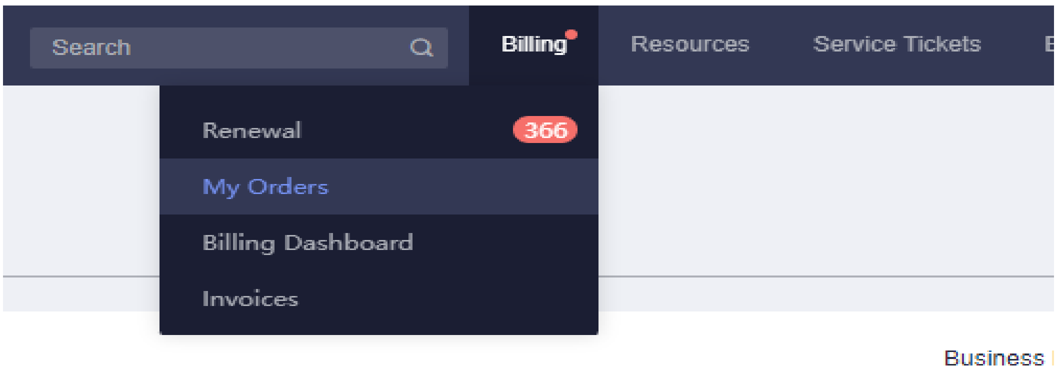
Step 4 Click **Go to complete** to complete payment details as prompted. This step is required for enterprises that log in to the CEC console for the first time and have not filled in the payment information. For details about the authentication, see **Adding a Payment Method**.

Step 5 On the **Enable CEC Service** page, select **I have read and agree to CEC Usage Agreement and Privacy Statement** and click **Enable**.

Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**. The CEC console is displayed, as shown in the following figure.



Step 6 After the subscription is complete, you can view the order information by choosing **Billing** > **My Orders**.



----End

1.2 Updating Enterprise Information

On the **Overview** page, an enterprise customer can view the basic information, business management information, and business processes.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose ☰ **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Click **Update** to modify the contact person, contact number, or email address.

----End

1.3 Creating a Call Center Instance

On the **Instance Management** page, an enterprise customer can create and manage call center instances, and subscribe to agents, chatbots, and access codes for call center instances.

Prerequisites

- An enterprise customer has applied for an access code.

  For details, see **1.4.3.1 Applying for Connecting to a Self-Owned Access Code**.
- Before a tenant (call center instance) subscribes to resources, the tenant has contacted the O&M administrator of the CEC to determine whether the new tenant needs to be split. The O&M administrator of the CEC needs to manually modify the configuration.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose ☰ **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Instance Management**.

Step 4 Create a call center instance.

1. Click **Create Call Center Instance**.
2. Select an access code from the list. If multiple access codes are selected, specify an access code as the default outbound calling number.

   An access code is used as a hotline number in a call center for taking customer calls or displayed as a calling number at the customer side.

   If no access code is available, click **Click here to apply for connecting to a self-owned access code.** in the upper right corner to add a self-owned access code. For details, see **1.4.3.1 Applying for Connecting to a Self-Owned Access Code**.
3. Click **Next** and set **Instance Name**.
4. Click **Next**.
5. Set agent specifications based on the following parameters:

- **Current Region**: Huawei Cloud site that supports the CEC function. If multiple sites are available, select the nearest site to reduce the network impact on agent access.
- **Billing Mode**: Select **Pay-Per-Use**.
- **Specifications**: Select the agent type as prompted. The options are **Basic agent**, **Professional agent**, and **Advanced agent**.
- **Agent Quantity**: Enter a value greater than or equal to 2. If more agent resources are required later, you can purchase them separately later.

6. Click **Next** to check the billing items. Click **Submit**. The purchase success page is displayed.

After the subscription is complete, you can click **Here** to return to the CEC console.

Step 5 (Optional) Purchase a chatbot.

To use self-service, you need to purchase a chatbot.

1. Choose ☰ **Service List** > **Business Applications** > **Cognitive Engagement Center**.
2. Choose **Instance Management**.
3. Click **More** corresponding to a call center instance and choose **Purchase ChatBot**.
4. Set **Purchase Type** and **Purchase Quantity**, and click **Next**.
5. Check the fee item details, read **CEC Usage Agreement** and **Privacy Statement**, select **I have read and agree to CEC Usage Agreement and Privacy Statement**, and click **Submit**. The subscription success page is displayed. Click **Here** to return to the **ChatBot** page.

----End

Follow-up Procedure

You can view the resources that you have subscribed to on the following pages:

- **Resource Management** > **Access Code**
- **Resource Management** > **Agent**
- **Resource Management** > **IVR**
- **Resource Management** > **TTS&ASR**

1.4 Managing Resources

On the **Resource Management** page, an enterprise can view and manage all subscribed resources, such as deleting a resource.

1.4.1 Deleting an Agent

You can delete a single agent.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose ☰ **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Resource Management** > **Agent**.

Step 4 In the upper right corner, select a call center instance or enter a desired agent ID, and click **Query**.

Step 5 Click **Delete** in the row that contains the agent.

Step 6 In the confirmation dialog box, click **OK**.

----End

1.4.2 Deleting a Chatbot

You can delete a single chatbot.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose ☰ **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Resource Management** > **ChatBot**.

Step 4 Select a chatbot type.

Step 5 Select a call center instance name in the upper right corner and find the chatbot to be deleted.

Step 6 Click **Delete** in the row that contains the chatbot.

Step 7 In the confirmation dialog box, click **OK**.

----End

1.4.3 Managing Access Codes

Context

You can submit an application for adding a self-owned access code. Huawei operations management personnel will configure the line. Generally, this operation takes about three days. In this mode, you can retain the existing hotline number and ensure service continuity.

1.4.3.1 Applying for Connecting to a Self-Owned Access Code

You can only apply for connecting to a self-owned access code that supports SIP.

Prerequisites

To connect enterprise self-owned access codes that support SIP to the CEC, the following conditions must be met:

- Device: The device supports the full SIP protocol and has a fixed public IP address and port number.
- Network quality: The voice call quality depends on the stability of the data network. The packet loss rate between the enterprise and the CEC must be less than 1%, the network jitter must be less than or equal to 60 ms, and the delay must be less than 200 ms. If the network does not meet this requirement, the voice may be intermittent and the other party cannot hear clearly.
- Network bandwidth: The voice media protocol used by the CEC is G.711 A, the average traffic is 100 Kbit/s, and the uplink and downlink traffic is equal. Bandwidth is calculated as follows: Network bandwidth = (Number of concurrent users x 100 Kbit/s)/1024

  Assume that there are 100 concurrent customers, the required bandwidth is (100 x 100 Kbit/s)/1024, that is, 9.7 Mbps. The required uplink and downlink bandwidth is 10 Mbit/s.
- Access code: Access codes that support SIP with signaling IP addresses and port numbers can be connected.
  - Common fixed-line phone number and 95 number: Enterprises can submit applications themselves or Huawei helps enterprises submit applications to carriers.
  - 400 number: You can directly apply for connecting to access codes that support SIP. For access codes that do not support SIP, contact the carrier to configure the forwarding of calls to a SIP fixed-line phone and apply for connecting to this self-owned access code. Common virtual numbers and mobile numbers cannot be connected.

Context

Introduction to SIP

Session Initialization Protocol (SIP) is a multimedia communication protocol developed by the Internet Engineering Task Force (IETF,https://www.ietf.org/). It is a text-based application-layer control protocol and is used to establish, modify, and release sessions of one or more participants. SIP is independent of transmission-layer protocols, and can be carried over different transmission protocols, such as UDP, TCP, TLS, and SCTP. SIP alone cannot complete a multimedia call. It establishes a complete multimedia communication system with other protocols. It must cooperate with protocols such as RTP/RTCP, SDP, MGCP, and DNS to complete a multimedia session process.

SIP only describes how to establish, modify, or release a session but does not describe the session contents. Therefore, SIP can carry any session contents, such as voices, videos, and games.

SIP protocol example

The SIP protocol content varies according to the line and scenario. The following is the SIP protocol content in a voice call successfully initiated by the CEC. You can refer to this example to understand the SIP protocol in use.

INVITE sip:18012345678@10.11.56.68:5060;user=phone SIP/2.0
/*Request line. It consists of **Method**, **Request-URI**, and **SIP Version**. The **Request-URI** header field specifies the called number 18012345678 obtained by the UAP.*/
/*SIP Header-start*/
Via: SIP/2.0/UDP 10.11.56.61:5060;branch=z9hG4bK9njqrkwmmvg6or9gnjml6hvwv;Role=3;Hpt=8e48_16
/*Message header. It is used to record the path that a request passes through, so that the response can be correctly returned along this path. The SIP URI carried in the **Via** header field identifies the host name or network address of the customer who initiates the request. The UAP obtains the signaling address of the peer end from the **Via** header field, for example, 10.11.56.61:5060.*/
Record-Route: <sip:10.11.56.61:5060;transport=udp;lr;Hpt=8e48_16;CxtId=4;TRC=ffffffff-ffffffff;X-HwB2bUaCookie=2717>
/*Forcible routing. It is used to force a request to pass through a series of proxies.*/
Call-ID: isbcjiwwievb2zvydwesyf2w0dxvdzsszefd@UAP9600
/*Unique call ID. The value is a string of random characters.*/
From: <sip:02160123456@10.11.56.61;user=phone>;tag=yv20ze22-CC-57
/*Initiator of the request. The calling number can be obtained. For the first message, only the **From** field contains **tag**, and the **To** field does not contain **tag**.*/
To: <sip:18012345678@10.11.56.68;user=phone>
/*Recipient of the request. During registration, it specifies the public customer to be registered. During a session, it specifies the recipient of the request and carries the URI of the recipient. For details about the **tag** field, see the description of the **From** field. The **To** header field in an initial request may not carry **tag**, but any request or response in a session must carry **tag**. *IP address*:*Port number* obtained by the UAP from the **To** field is the local signaling address. The UAP obtains the original called number from the **Historyinfo** or **Diversion** field first. If the **Historyinfo** or **Diversion** field does not contain the required information, the UAP obtains the original called number from the **To** field.*/
CSeq: 1 INVITE
/*Sequence number of a transaction. The sequence number is incremented by 1.*/
Allow:
INVITE,ACK,OPTIONS,BYE,CANCEL,REGISTER,INFO,PRACK,SUBSCRIBE,NOTIFY,UPDATE,MESSAGE,REFER
/*Header field. It is used to list all SIP methods supported by the UA.*/
Contact: <sip:02160123456@10.11.56.61:5060;transport=udp;Hpt=8e48_16;CxtId=4;TRC=ffffffff-ffffffff>
/*Address for subsequent direct communication with the customer. The SIP URI indicates the address for receiving responses.*/
Max-Forwards: 69
/*Maximum times that a request can be forwarded before it arrives at the destination. The value decreases by 1 each time the request is forwarded. This header field is used to prevent proxy resources from being continuously consumed when a loop occurs. The value ranges from 0 to 255. The recommended value is 70.*/
Supported: 100rel
/*All SIP extension methods supported by the UAC or UAS.*/
User-Agent: Huawei UAP9600 V100R005C00
Content-Length: 236
//Length of the message body, in bytes.*/
Content-Type: application/sdp
/*Type of the message body. In this example, the type is SDP.*/
/*SIP Header-end*/

/*SIP Body-start*/
v=0
/*Protocol version. In this example, the protocol version is 0. (The protocol version used by the SDP is 0.)*/
o=- 929076 929076 IN IP4 10.11.56.61
/*The first parameter: **-** indicates the name of the session initiator. This parameter is optional.
The second parameter: **929076** indicates the session identifier of the calling party.
The third parameter: **929076** indicates the version of the calling party. When the session data changes, the version number is increased by 1.
The fourth parameter: **IN** indicates the network type Internet. Only this type of network is supported.
The fifth parameter: **IP4** indicates the IP address type. IPv4 and IPv6 are supported.
The sixth parameter: **10.11.56.61** indicates the IP address of the session initiator, which is a signaling plane IP address.*/
s=SBC call
/*Name of the current session.*/
c=IN IP4 10.11.56.61
/*Connection information. The "c=" line identifies the media receiving address of the UE. If the media-level "c=" line also exists, the media-level "c=" line is used. This parameter is mandatory in any case.
The first parameter: **IN** indicates the network type Internet. Only this type of network is supported.
The second parameter: **IP4** indicates the IP address type. IPv4 and IPv6 are supported.
The third parameter: **10.11.56.61** indicates the actual IP address used by multimedia streams.*/
t=0 0
/*The first parameter indicates the start time, and the second parameter indicates the stop time. The start

```
time and stop time are Network Time Protocol (NTP) time in decimal format. If the values are both 0, the session is persistent.*/
m=audio 59354 RTP/AVP 8 0 97
/*m=<media> <port> <transport> <fmt list>. media indicates the media type, which can be audio or video. Currently, audio, video, application, data, and control are defined. port indicates the media port number. transport indicates the transport protocol. Currently, RTP/AVP is used. fmt list indicates the format list.*/
a=rtpmap:8 PCMA/8000
a=rtpmap:0 PCMU/8000
/*rtpmap indicates the keyword, which is in the format of {PT value} {Stream name}/{Sampling rate}.*/
a=rtpmap:97 telephone-event/8000
a=ptime:20
/*Media encapsulation duration (media duration that can be encapsulated in each packet, in milliseconds). In this example, the duration is 20 ms.*/
a=fmtp:97 0-15
a=sendrecv
/*Media direction. In this example, the media direction is bidirectional. The media direction can be inactive, sendonly, recvonly, or sendrecv.*/
/*SIP Body-end*/
```

- SIP header is a signaling message used by the sending party to notify the receiving party of the basic information about the call.

  The signaling messages may be understood as:

  Call 10.11.56.68:5060.

  I'm sending you a SIP message from 10.11.56.61:5060.

  The call ID is *xxxx*.

  The call is from 10.11.56.61:5060.

  I need to send the message to 10.11.56.68:5060.

  This is the first Invite message sent in the call request.

  If you receive the message, reply to me at 10.11.56.61:5060.

  This is Huawei UAP9600 V100R005C00. You can reply to me with INVITE, ACK, BYE, and other messages.

  The signaling message contains 236 characters in the SDP format.

- The SIP body is a media message, that is, SDP. Media messages are mandatory in SIP messages. Signaling messages only enable the sending party and receiving party to know that they are connected. Media messages enable both parties to know the specific content of the messages.

  The media messages may be understood as:

  My version is 0.

  The message is sent to you through the signaling address 10.11.56.61, and the media address is 10.11.56.61 (the server that processes the signaling may be different from the server that processes the media). The audio media stream port is 10002, and data is transmitted using RTP. The video media stream port is 10004, and data is also transmitted using RTP.

  Not all terminals support video media. Therefore, when a SIP message is received, the peer end may receive only the audio media information. This is determined based on the negotiation result.

NOTICE

Currently, the supported media transmission type is RTP/AVP, that is, the UDP channel is used to ensure the real-time audio and video transmission. The TCP-based RTP/SAVP media transmission type is not used.

Common SIP request and response messages are as follows.

Table 1-1 Description of request and response messages

Request	Response	Scenario
INVITE	1*XX*	Negotiation request, which is used when a session starts. If a 1*XX* message from the peer end is received, the SIP network is connected and the session can be started.
ACK	2*XX*	When the signaling and media negotiation or registration is successful, the local system notifies the peer system of the success and establishes an RTP channel.
OPTIONS	3*XX*	Redirection request, which is used to check trunks or MRCP links (for example, MRCP links used when the TTS or ASR is connected).
BYE	4*XX*	Used when a call ends in normal cases.
CANCEL	5*XX*	If a session is interrupted due to insufficient resources, the two ends of the SIP session need to forcibly release the call using the CANCEL request.
REGISTER	6*XX*	Used for registration.

NOTICE

- The CEC side uses the OPTIONS request to query the information and functions of the called party every minute to check whether the link status is normal. The link is considered normal and calls can be made only when the enterprise side returns a 200ok response.
- When the PRACK request is used for renegotiation, the CEC side requires that the 18x message (for example, 180 ringing) returned by the peer end contain the **Require:100rel** field and the INVITE request sent by the peer end contain the **Supported:100rel** field. Otherwise, no sound can be heard during the call.
- When the CEC side uses the UPDATE request for renegotiation, this mode is used for a normal call with an agent. When the INVITE request is used for renegotiation, this mode is used for the call that is connected to the intelligent IVR or transferred through the common IVR. Some carriers do not support renegotiation using the second INVITE request. As a result, some functions, such as the virtual number service, are unavailable.

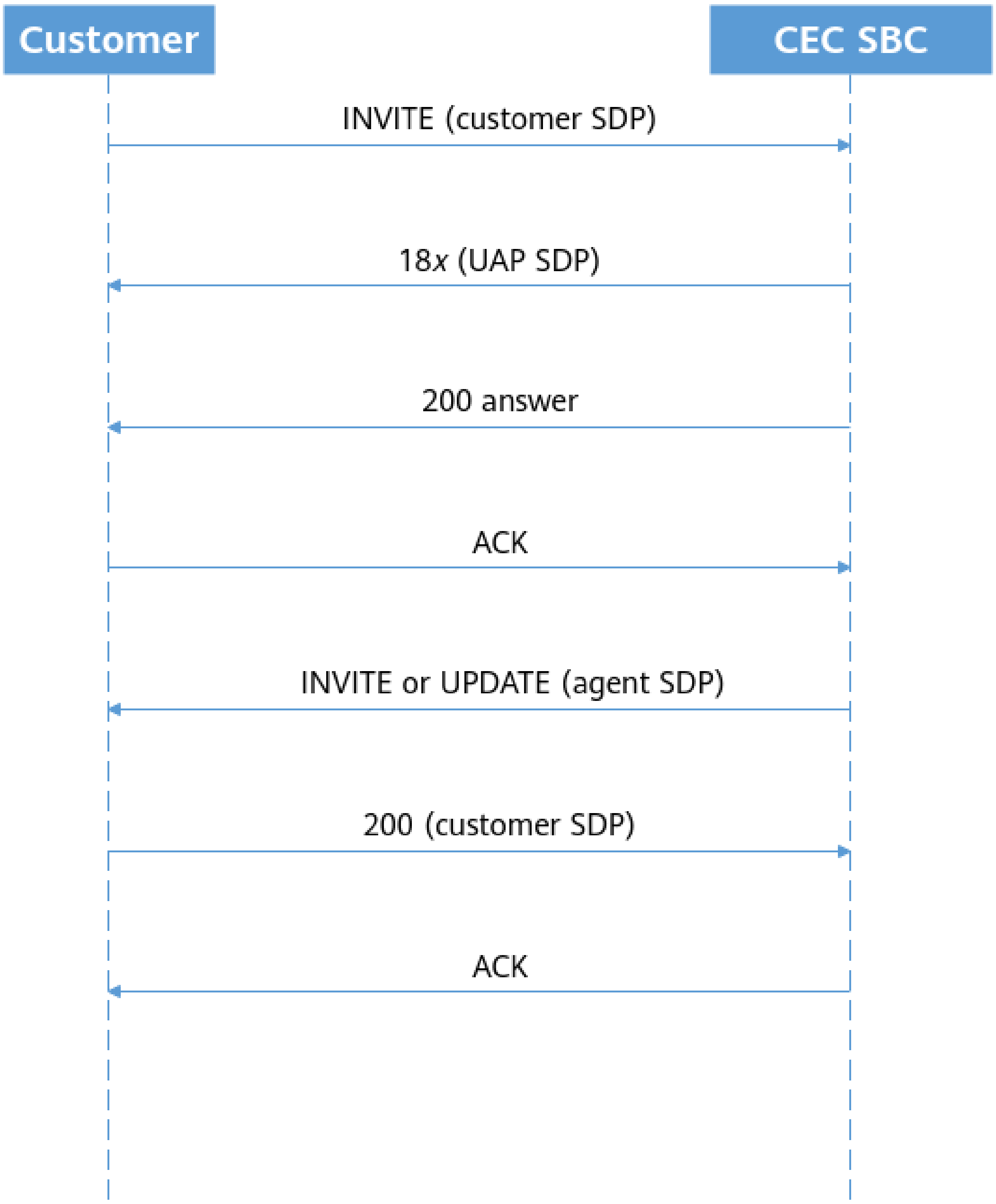
Introduction to the call process

The process for a customer to initiate an incoming call to the CEC is as follows:

- The customer initiates a call and sends an INVITE request to the SBC of the CEC.

- The CEC side returns a ringing message and a link connection success (200) message.
- After receiving the message, the customer side returns a final response to the INVITE request.
- The CEC side receives the reply and sends a renegotiation message to the customer side.
- After receiving the message, the customer side returns a link connection success (200) message.
- After the CEC returns a response to the request, the customer and agent start a conversation.

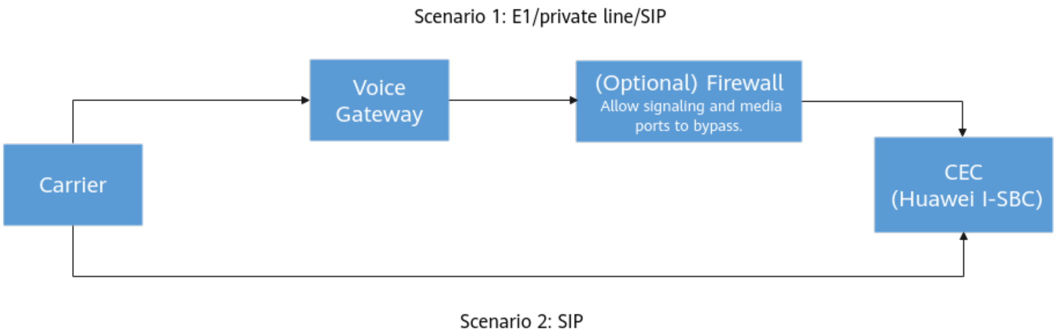
Figure 1-1 Call process



Business Scenario

The solution for connecting enterprise self-owned access codes that support SIP to the CEC is as follows:

Figure 1-2 Connecting to a self-owned access code that supports SIP



Typical scenario 1

The enterprise has local access code resources and directly connects to the CEC.

Connection solution:

1. The enterprise applies for access code resources from the carrier. The resource type can be E1, private line, or SIP.
2. After the application is successful, the enterprise needs to use the local voice gateway to convert the non-SIP lines of the carrier to the SIP lines for the communication with the public cloud SBC platform of the CEC. For details about the devices, see the local device recommendation in **FAQs > Product Consulting**.
3. After referring to the **procedure of applying for connecting to a self-owned access code**, the enterprise sends an email to the CEC operations personnel to apply for the signaling IP address, port number, and media port number of the CEC, which are used to set the whitelist on the local firewall and connect to the line.

Typical scenario 2

The enterprise applies for access codes that support SIP from the carrier, and the carrier interconnects with Huawei.

Connection solution:

1. The enterprise applies for access code and line resources from the carrier. The resource type can only be SIP.
2. After access codes are successfully applied for, the enterprise submits an application to the CEC requiring Huawei to directly interconnect with the carrier. The enterprise does not need to connect to the access codes and lines.

Procedure

Perform the following steps to add a self-owned access code.

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose ☰ **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Resource Management** > **Access Code**.

Step 4 Click the **Self-Owned Access Code** tab page and click **Click here to apply for connecting to a self-owned access code.** in the upper right corner. On the page that is displayed, set the access code, signaling and media IP addresses and port numbers, and click **OK**.

----End

Follow-up Procedure

You need to wait for the CEC operations personnel to configure the connection between Huawei Cloud and the self-owned access code. After the configuration is complete, the connection status of the access code is **Completed** on the **Self-Owned Access Code** page. You can click **Associate Call Center Instance** to associate the access code with an existing call center instance.

1.5 Viewing Call Duration Statistics

On the **Call Duration Statistics** page, an enterprise customer can view the call duration statistics of self-owned and Huawei access codes.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose ☰ **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Call Duration Statistics**.

On the **Call Duration Statistics** page, the **Huawei Access Code** tab page is displayed by default. You can click the **Self-Owned Access Code** or **Huawei Access Code** tab to view the desired access code details.

Step 4 Set **Call Center Instance**, **Access Code Source** (mandatory), **Access Code**, and **Query Time Period**.

Step 5 Click **Query**.

Step 6 Select check boxes in front of access codes and click **Export** to export the call duration statistics. The following figure shows the format of the exported data.

Access Code	Instance Name	Access Code Type	Statistical Period(UTC+0)	Inbound Call Dur	Outbound Call Du	Billing Duration (min)
0[redacted]1	laLa01	Fixed-Line Phone Number	2020-12-21 16:00:00~2020-12-22 16:00:00	0	2	2
0[redacted]1	laLa01	Fixed-Line Phone Number	2020-12-13 16:00:00~2020-12-14 16:00:00	0	14	14

If no access code is selected, the call duration statistics on all access codes under the enterprise are exported by default. A maximum of 1000 records can be exported.

----End

2 Tenant Administrator Guide

The tenant administrator refers to the administrator of the enterprise that uses the CEC service. During tenant space creation, the system administrator configures skill queues and accounts based on business requirements.

When you sign in to your tenant space for the first time, you need to understand the resources allocated to the tenant space and the usage restrictions.

The AICC allows you to maintain organization units (OUs) and employees of your customer service center. Different employees can perform different function operations by permission control.

After the employee information of the VDN is configured, you can configure the service content.

A tenant administrator can configure the mobile customer service to forward inbound calls to specified skill queues or numbers.

The AICC supports multiple access modes, including WeChat, web, X (Twitter), email, WhatsApp, Facebook, LINE, and 5G RCS. Customers can access AICC services anytime and anywhere.

When the number of outbound calls of a tenant exceeds the warning threshold in the configured policy, a risk control record is generated. The system administrator notifies the tenant administrator of the risk control record. The tenant administrator can view the execution status of the risk control policy.

The AICC provides the manual and AI post-event inspection functions. This section describes how to configure rating rules for inspectors to perform corresponding inspections.

2.11 Managing the Notification Center

This section describes how to manage notifications in the notification center.

2.12 Managing the Customer Center

A tenant administrator or an agent can view customer information and customer contact records, and add customer information.

2.13 Making Intelligent Outbound Calls

This section describes how to configure intelligent automatic outbound calls, manage outbound call tasks by category (including automatic and manual outbound call tasks), and properly plan outbound call tasks.

2.14 Managing Surveys

A survey records the survey content in the form of questions. Administrators can configure surveys for survey statistics collection of other businesses.

2.15 Managing Intelligent Training

Intelligent training tasks can be used to periodically train and test agents through released intelligent IVR flows to check the business skills of the agents.

2.16 Configuring the Knowledge Base

This section describes how to configure the knowledge base as a tenant administrator for agents to reference.

2.17 Configuring Public Resources

2.18 Managing Business Fault Bypass

This section describes how to manage business fault bypass and how to handle emergency faults to ensure normal businesses for operators.

2.19 Co-browsing

2.20 Social Media Operations

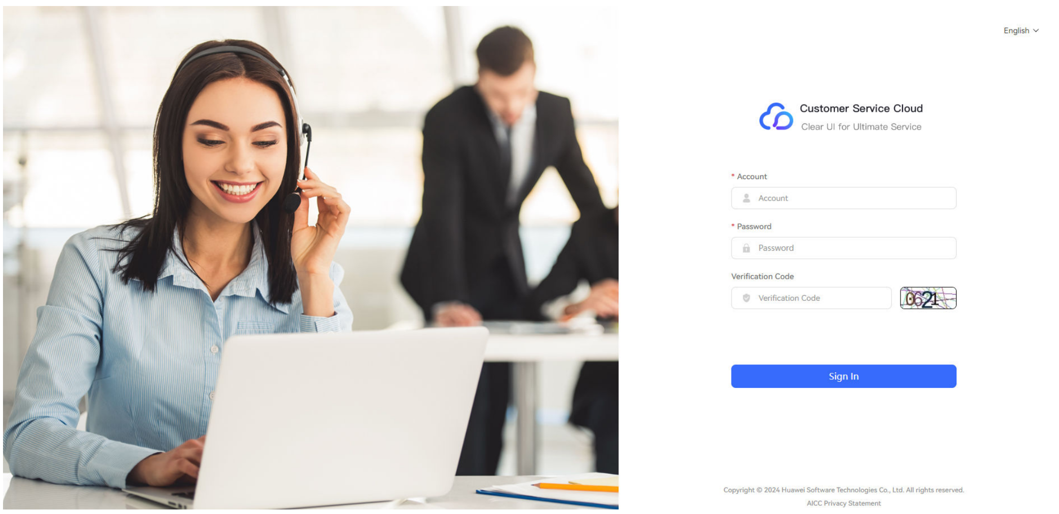
2.21 Performance Management

2.1 Tenant Space

When you sign in to your tenant space for the first time, you need to understand the resources allocated to the tenant space and the usage restrictions.

You can use an allocated business account to sign in to the AICC.

Figure 2-1 Sign-in navigation



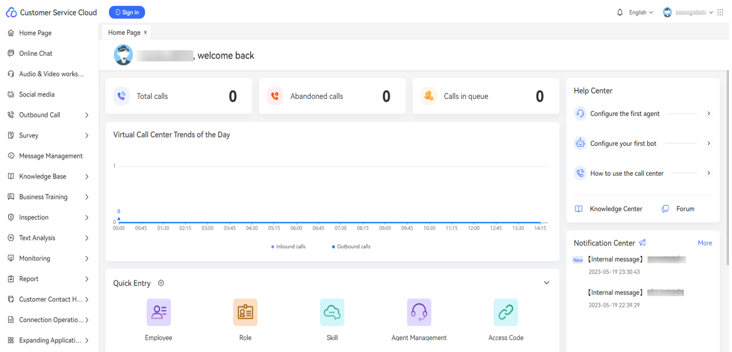
Currently, sign-in using both the account password and a verification code is supported. The verification code can be a graphic verification code, mobile phone verification code, or email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

NOTE

- A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
- The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but sign-in fails, you can obtain a new verification code immediately.

After you sign in to the system using a business account, the **Home Page** is displayed by default. If the home page is closed, you can click **Home Page** from the menu to open it.

Figure 2-2 Home Page

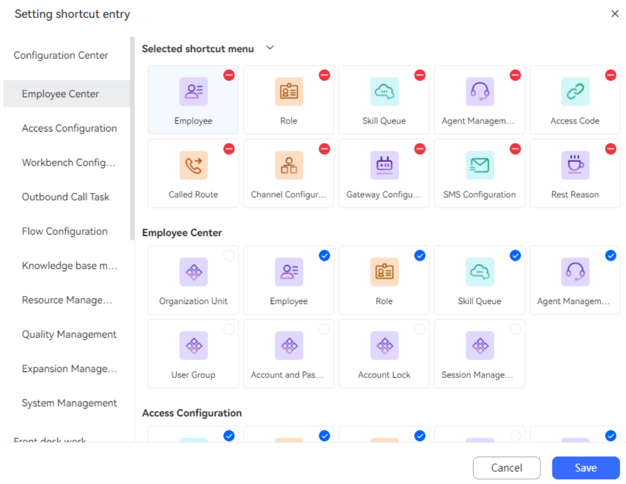


- Call center indicator statistics: Currently, indicator statistics are displayed only for a tenant administrator.
  - **Total calls**: Total number of calls in the tenant space on the current day.
  - **Abandon calls**: Total number of lost calls in the tenant space on the current day.
  - **Calls in queue**: Real-time indicator, which collects statistics on the number of queuing inbound calls in the tenant space.
  - **Virtual Call Center Trends of the Day**: Line chart that displays the number of inbound calls and the number of outbound calls of the VDN on the current day.

    Click Inbound calls or Outbound calls for the inbound or outbound call indicator respectively to select or deselect the call indicator of the VDN on the current day.
- **Quick Entry**
  a. By default, the following quick menu entries are selected for a tenant administrator: **Employee**, **Role**, **Skill**, **Agent Management**, **Access Code**, **Called Party**, **Channel Configuration**, **Gateway Configuration**, **SMS Configuration**, and **Rest Reason**. By default, all quick menu entries are displayed on the home page. Click to collapse some quick menu entries.

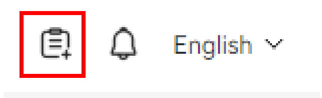
By default, the following quick menu entries are selected for an agent: **Agent Parameter**, **Contact Record**, **Operation Record**, **Transfer Record**, **Rest Record**, **Agent Monitor**, **Recording**, **Task Query**, **Task Result**, and **Review Mgmt**. By default, some quick menu entries are displayed on the home page. Click ⌄ to expand all quick menu entries.

b. Click ⚙. The page for setting quick entries is displayed.



c. Click 

to quickly create a case. This quick entry is displayed only when the **Case 2.0** feature is enabled for the tenant space.



d. Set quick menu entries.

i. To deselect an unnecessary quick menu entry, click ⊖ corresponding to the entry under **Selected shortcut menu** or click ✔ corresponding to the entry among available entries.

ii. To select a required quick menu entry, click ○ among available entries. You can drag the selected quick menu entries to adjust their display sequence.

iii. Click **Save**. The setting of quick menu entries is complete.

- **My To Do**
  - **Outbound Task**: This tab page is displayed only when the intelligent outbound call feature is enabled for the tenant space. Information about all configured outbound call tasks in the tenant space is displayed.
  - **Message**: Information about all messages left in the tenant space is displayed.
- **Help Center**: The help center provides documents to guide how to quickly configure agents and robots and use the call center.

- Knowledge Center: Go to the knowledge base home page. This function is available only when the knowledge base feature is enabled for the tenant space.
- Forum : Go to the Huawei forum home page.

NOTICE

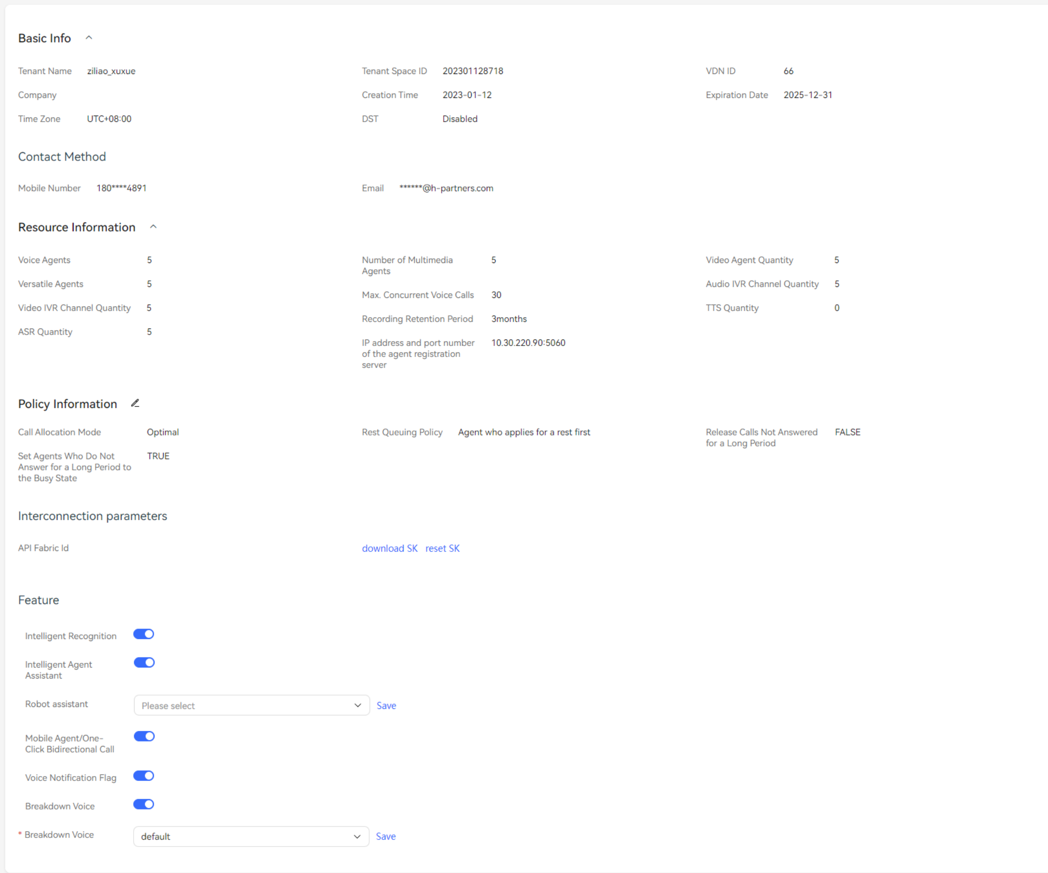
The help center is not supported in the OP integration environment.

- **Notification Center**: All notifications of the current business account are displayed.
  - : Go to the notification sending page.
  - Click **More**. The **Notification Center** page is displayed.
  - New: A notification is not read. You can click the notification to view its details.

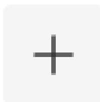
You can view basic tenant space information, tenant space resources, and the settings to be configured.

- You can choose **Configuration Center** > **System Management** > **Tenant Information** to view basic tenant space information, existing resource information, and tenant space features that can be customized.

Figure 2-3 Basic information



Only features can be configured. Other information, including tenant and resource information, cannot be modified. To modify the basic information and resource information, contact Huawei operations personnel.

Home Logo: Customize the home logo. Click  to upload the home logo, which is displayed only after the system administrator sets **Whether to allow custom home icons.** to **Yes** in the tenant space details.

Tenant space features that can be customized include:

– **Intelligent Recognition**: Configure whether agents are intelligent agents. After this feature is enabled, you can set the intelligent agent assistant and flow code parameters for intelligent agent access.

– **Mobile Agent/One-Click Bidirectional Call**

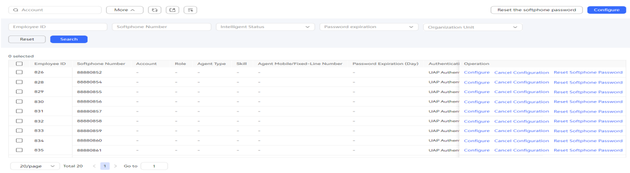
  - After the system administrator enables the mobile agent feature for your tenant space, you can enable this feature to implement mobile agent functions.

  - After the system administrator enables the one-click bidirectional call feature for your tenant space, you can enable this feature to implement one-click bidirectional call functions.

- **Voice Notification Flag**: After the system administrator enables the voice notification feature for your tenant space, you can enable this feature to implement voice notification functions.
- **Anonymous Outbound Call Flag**: After the system administrator enables the anonymous outbound call feature for your tenant space, you can enable this feature to implement anonymous outbound call functions.
- **Breakdown Voice**: You can enable this feature to play a prompt tone when the tenant space system is faulty. For details, see **2.3.3.1 Configuring the Fault Prompt Tone**.

- The most important AICC resources are agent resources. You can choose **Configuration Center** > **Employee Center** > **Agent Management** to view details about the agents in your tenant space.

Figure 2-4 Agent management



You can view the number of agents, and the agent ID and softphone number of each agent. These resources cannot be modified.

The number of agents of a type cannot exceed the number of agents of this type allocated by the system administrator. As a tenant space administrator, you need to configure roles of agents, business accounts associated with agents, skill queues of agents, and features of each agent. For details, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

- In addition to agents, you also need to configure skill queues and called routes for complete calls. A tenant space has a certain number of default skill queues. You can also create skill queues as required. Your tenant space has access codes that have been allocated during provisioning. To increase access codes, contact Huawei O&M personnel.

  After associating agents, skill queues, and access codes, you can use an OpenEye softphone number to test call functions.

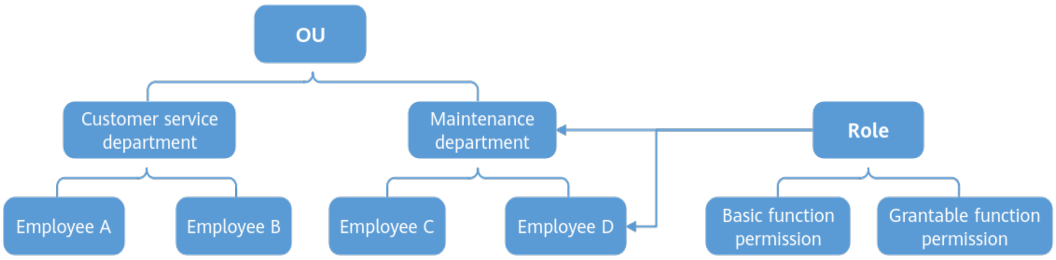
2.2 Configuring the Employee Center

The AICC allows you to maintain organization units (OUs) and employees of your customer service center. Different employees can perform different function operations by permission control.

Concept

You need to understand the following concepts before configuring employees.

Figure 2-5 Employee configuration



- OU: An enterprise tenant space has a default OU. You can create an OU under the default OU based on responsibilities. Multiple OUs can be created under each OU. For example, you can create the customer service department and maintenance department under an OU.
- Role: A role indicates a set of work permissions. When you assign a role to an employee, the employee has all the permissions contained in the role. For example, a role can be an agent, administrator, case owner, or task handler.

  Function permission: Function permissions are abstracted from GUI resources (for example, permission for using specified menus) and GUI operations (for example, addition, deletion, modification, and query). An employee can perform operations on a resource only when the role assigned to the employee has the corresponding permission. Function permissions are static resources that do not change with resource configuration data. Function permissions include the following:
  - **Basic Function Permission**: Permissions of a role.
  - **Grantable Function Permission**: Permissions that can be assigned to other roles by a role. Only the roles of the current account can be assigned to new roles.
- Employee: Employees indicate personnel employed by an enterprise. After a role is assigned to an employee, the employee can perform operations limited by the role permissions on the system.

Configuration flow

You can configure personnel by referring to the following brief description.

Step 1 For details about how to create an OU, see **2.2.1 Configuring OUs**. Because there is no employee or manager information, you do not need to configure the public role, employee, or manager for the new OU.

Step 2 The default roles **Tenant environment administrator** and **Default Agent Role** are preset in the AICC system. If the role does not meet the actual requirements, create a role by referring to **2.2.2 Configuring Role Permissions**.

Step 3 For details about how to create an employee, see **2.2.3 Configuring Employee Information**. When creating an employee, you can select a role and OU for the employee, but cannot configure a manager for the employee.

Step 4 Go back to **2.2.1 Configuring OUs** and configure information such as the manager and public role for the OU. The manager is the manager of all employees in the current OU, and the permission of the public role is granted to all employees in the OU.

----End

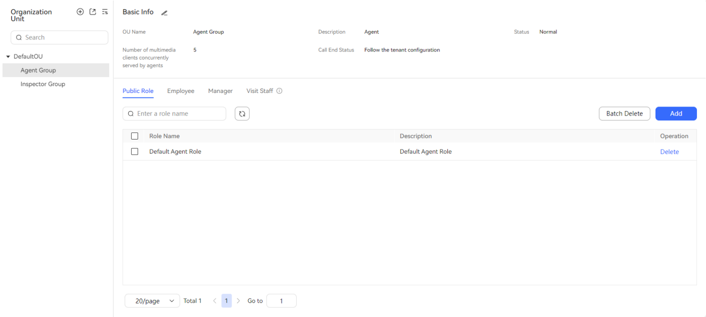
2.2.1 Configuring OUs

An enterprise tenant space has a default OU. You can create OUs under the default OU based on responsibilities.

Procedure

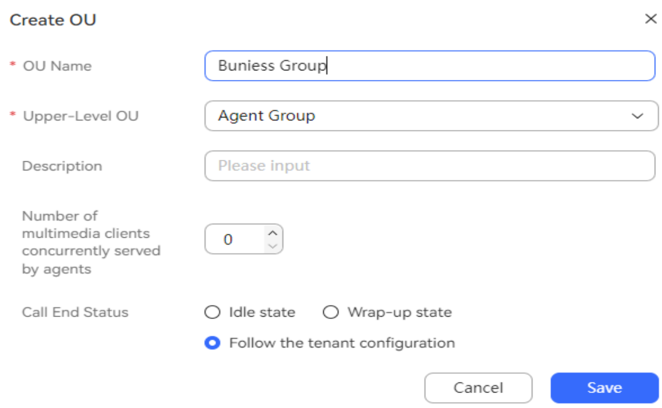
Step 1 Choose **Configuration Center** > **Employee Center** > **Organization Unit**. On the OU management page, select the default OU.

Figure 2-6 Organization Unit



Step 2 Click  to create an OU and configure OU information.

Figure 2-7 Create OU



- **OU Name**: Enter a customized OU name, which is mandatory.
- **Upper-Level OU**: The default value is the upper-level OU to which the selected OU belongs. The value can be changed.
- **Description**: Enter an OU description.
- **Number of multimedia clients concurrently served by agents**: The parameter priority is as follows: agent parameter > OU parameter > tenant parameter. If this OU parameter is set to **0**, it does not take effect.

NOTE

- Agent parameter: After a tenant administrator assigns the **Maximum Number Of Concurrent Service Customers** menu permission to an agent, the agent can change the value of **Number of clients served by a session at the same time** on the **Personal Center** > **Personalized Settings** page.
- Tenant parameter: A tenant administrator can change the value of **Multimedia Sessions Concurrently Processed by Agent** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

- **Call End Status**: The options are as follows:
  - **Follow the tenant configuration**
  - **Idle state**
  - **Wrap-up state**

  The parameter priority is as follows: OU parameter > tenant parameter. If this OU parameter is set to **Follow the tenant configuration**, it does not take effect.

  NOTE

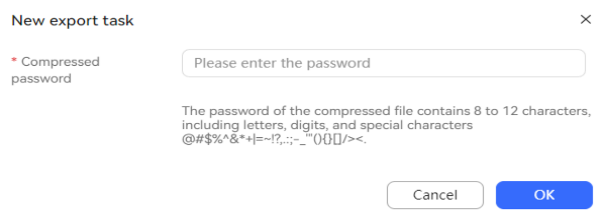
  Tenant parameter: A tenant administrator can change the value of **After-Call Agent State** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Step 3 Click **Save**. The OU is created.

Step 4 (Optional) Configure OU information.

- Export OU information.
  a. Click to create an export task.

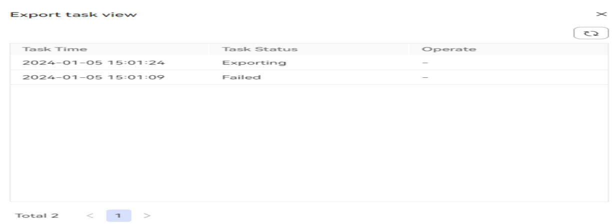
  Figure 2-8 New export task



  b. Enter the password for compressing the exported file and click **OK** to create an export task.

  c. Click to view the export task list. Click **download** corresponding to an export task based on **Task Time** to download OU information to the local PC.

  Figure 2-9 Export task view



- Click to disable the OU. Before disabling the OU, you need to delete all configured employees from the OU.

CAUTION

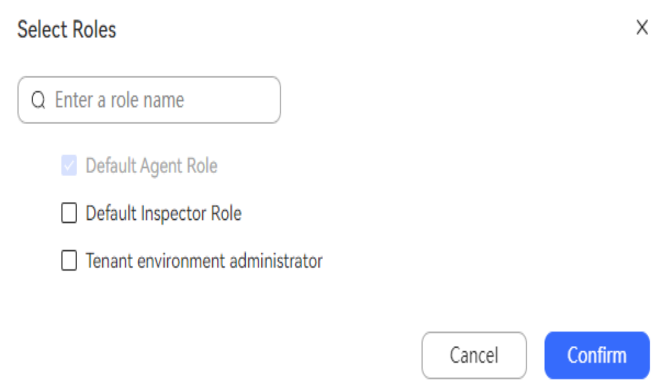
After an OU is disabled, the OU cannot be restored. Exercise caution when performing this operation.

- Click to suspend the OU. After an OU is suspended, the OU or the OU and its lower-level OUs cannot be used.
- Click to modify basic OU information.
- Click to resume a suspended OU.
- Click to enable a disabled OU.
- Enter an OU name and click to fuzzily search for OUs based on the OU name.

Step 5 Select the new OU and configure employee, role, manager, and accessible employee information for the OU. If there is no employee or manager information, you do not need to configure the public role, employee, or manager for the new OU.

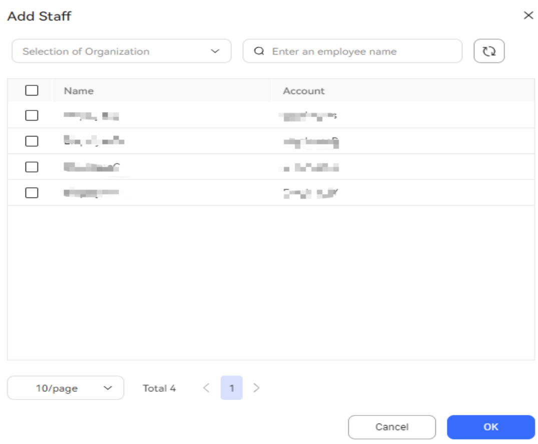
1. Click the **Public Role** tab, click **Add**, and select a role from the existing roles in the tenant space. The permission of the public role is granted to all employees in the OU.

Figure 2-10 Select Roles



2. Click **Confirm**. The role information is saved successfully.
3. Click the **Employee** tab, click **Add**, and select employees for the OU.

Figure 2-11 Add Staff



4. Click **OK**. The employee information is configured successfully.
5. Click the **Manager** tab. If no employee is available, add an employee by referring to **2.2.3 Configuring Employee Information**.
6. Click the **Visit Staff** tab. If no employee is available, add an employee by referring to **2.2.3 Configuring Employee Information**.

   Accessible employees do not belong to the OU but are allowed to access and use the resources of the OU.

----End

2.2.2 Configuring Role Permissions

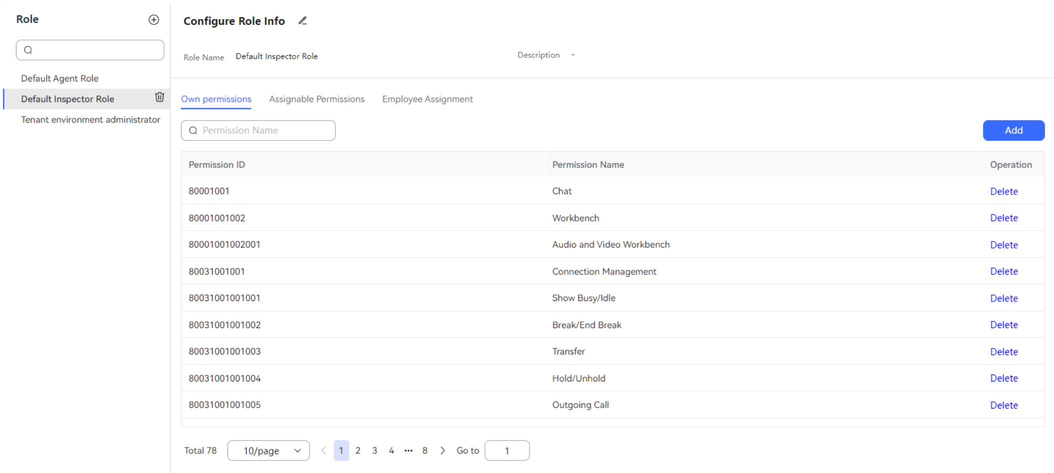
A role indicates a set of work permissions. Menu permissions and operation permissions can be customized for a role.

Procedure

Step 1 Choose **Configuration Center** > **Employee Center** > **Role**.

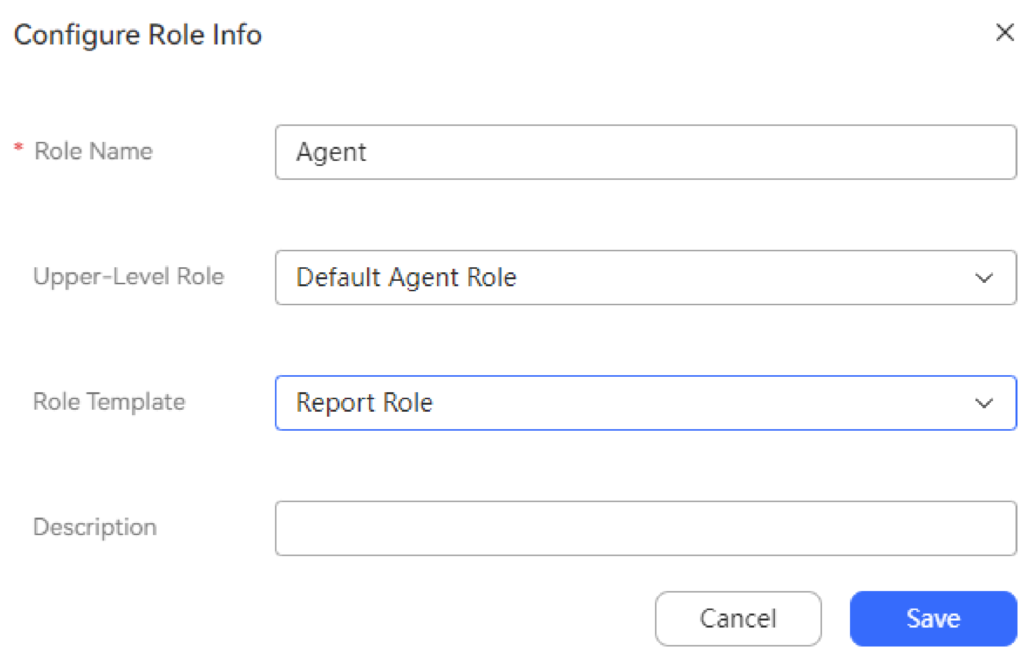
By default, the default roles **Tenant environment administrator** and **Default Agent Role** are preset in the system. The default role **Tenant environment administrator** cannot be deleted.

Figure 2-12 Role



Step 2 Click to create a role and configure role information.

Figure 2-13 Configure Role Info



- **Role Name**: Enter a customized role name, which is mandatory.
- **Upper-Level Role**: Set the parent role of the current role.
- **Role Template**: Select a preset role template to quickly create role permissions. The function permissions listed in the role template are the minimum permissions of the current role. If the sub-permissions are not listed, the current role does not have the function permissions. For details about function permissions, see **Table 2-1** and **Table 2-2**.
  – **O&M Role**: The preset function permissions of the current role are as follows:
    - **Menu permissions**: **Inspection Relationships**, **Tenant administrator home page**, **Agent Monitor**, **Full Screen Monitoring Configuration**, **Monitor Relationship**, **Home**, **Query User**, **Save Employee**, **Reset User Password**, **Canceling Configurations in Batches**, **Configuring Users in Batches**, **Query Organization**, **Modify Organization**, **Delete Organization**, **Account and Password Rule**, **Query Role**, **Query Lock**, **Create Lock**, **Delete Lock**, **Skill Queue**, **Agent Management**, **Transfer external number configuration**, **Variable Management**, **Business Interface**, **Cell Management**, **Stored Procedure**, **Resource Template**, **Dialog Test**, **RecordHistory Management**, **System Configuration**, **Process Trace**, **Process Orchestration**, **Gray Rule**, **Robot management**, **Auto Testing**, **Operation Log**, **Process Inspection**, **Intelligent Engine Parameter**, **Problem clustering task**, **Historical Message Review**, **Entity Management**, **Intent Management**, **Domain Management**, **FAQ**, **Knowledge gray rule**, **Flow Management**, **IVR Voice**, **Flow Configuration**, **Process Transfer Record**, **View Notification**, **Agent**

Send Notification, **Transfer Record**, **Sign-In Log**, **Contact Record**, **Operation Record**, **Rest Record**, **Channel Configuration**, and **Multimedia Library Management**.

  - **Operation permissions**: **Contact Record Export**, **Recording Download**, **Play Recording Online**, **Querying All Contact Records**, **Query ALL Sign-In Log**, **Query ALL Rest Record**, **Query ALL Operation Record**, **Query ALL Transfer Record**, **Sign-In Log export**, **User numbers are displayed in plaintext**, and **Configure Agent**.

- **Report Role**: The preset function permissions of the current role are as follows:
  - **Menu permissions**: **Tenant administrator home page**, **VDN Traffic Report**, **Skill Queue Traffic Report**, **Agent Summary Report**, **Agent Outbound Call Report**, **Agent Operation Report**, **IVR Traffic Report**, **IVR Traffic Report by AccessCode**, **Skill Queue Traffic Report by AccessCode**, **Traffic Summary Report**, **VDN Traffic Report by AccessCode**, **Abandoned Call in Ringing Report**, **Skill Queue Monitor**, **Audio&Video IVR Monitor**, **VDN Monitor**, **Incoming Call Record**, **Recording**, **Agent Monitor**, **Offline Message**, **Full Screen Monitoring Configuration**, **Monitor Relationship**, **Home**, **Query Organization**, **Modify Organization**, **Delete Organization**, **Agent Management**, **Parameter Configuration**, **View Notification**, **Agent Send Notification**, **Transfer Record**, **Sign-In Log**, **Contact Record**, **Operation Record**, and **Rest Record**.
  - **Operation permissions**: **Contact Record Export**, **Recording Download**, **Play Recording Online**, **Querying All Contact Records**, **Quality Check**, **Query ALL Sign-In Log**, **Query ALL Rest Record**, **Query ALL Operation Record**, **Query ALL Transfer Record**, **Sign-In Log export**, and **User numbers are displayed in plaintext**.

- **Manager role**: The preset function permissions of the current role are as follows:
  - **Menu permissions**: **Tenant administrator home page**, **VDN Traffic Report**, **Skill Queue Traffic Report**, **Agent Summary Report**, **Agent Outbound Call Report**, **Agent Operation Report**, **IVR Traffic Report**, **IVR Traffic Report by AccessCode**, **Skill Queue Traffic Report by AccessCode**, **Traffic Summary Report**, **VDN Traffic Report by AccessCode**, **Abandoned Call in Ringing Report**, **Skill Queue Monitor**, **Audio&Video IVR Monitor**, **VDN Monitor**, **Incoming Call Record**, **Recording**, **Agent Monitor**, **Offline Message**, **Full Screen Monitoring Configuration**, **Audio and Video Workbench**, **Home**, **Query Organization**, **Modify Organization**, **Delete Organization**, **Agent Management**, **Parameter Configuration**, **View Notification**, **Agent Send Notification**, **Transfer Record**, **Sign-In Log**, **Contact Record**, **Operation Record**, **Rest Record**, **Agent Parameters**, **Online Chat Workbench**, and **Personalized Common Language**.
  - **Operation permissions**: **Help-seeking**, **Three-Party Call**, **End Call**, **Mute/Unmute**, **Internal Call**, **Callback**, **Answer**, **Audio/Video switching**, **Two-stage Dialing**, **Reset Skill Queue**, **Transfer**,

Break/End Break, **Outgoing Call**, **Hold/Unhold**, **Show Busy/Idle**, **Contact Record Export**, **Recording Download**, **Play Recording Online**, **Querying All Contact Records**, **Whisper**, **Send a note**, **Forcible release**, **Queue adjustment**, **Forcible Set Idle**, **Forcible Set Busy**, **Intercept**, **Forcible Exit**, **Insert**, **Switchover**, **Listen**, **Query ALL Sign-In Log**, **Query ALL Rest Record**, **Query ALL Operation Record**, **Query ALL Transfer Record**, **Sign-In Log export**, **User numbers are displayed in plaintext**, **Local Multimedia File Sending by Agents**, **Transfer pop-up parameters**, and **Modifying Agent Fixed-Line Phone Number**.

  - **Agent Role**: The preset function permissions of the current role are as follows:
    - **Menu permissions**: **Tenant administrator home page**, **Audio and Video Workbench**, **Home**, **View Notification**, **Agent Send Notification**, **Transfer Record**, **Sign-In Log**, **Contact Record**, **Operation Record**, **Rest Record**, **Agent Parameters**, **Online Chat Workbench**, and **Personalized Common Language**.
    - **Operation permissions**: **Help-seeking**, **Three-Party Call**, **End Call**, **Mute/Unmute**, **Internal Call**, **Callback**, **Answer**, **Audio/Video switching**, **Two-stage Dialing**, **Reset Skill Queue**, **Transfer**, **Break/End Break**, **Outgoing Call**, **Hold/Unhold**, **Show Busy/Idle**, **Contact Record Export**, **Recording Download**, **Play Recording Online**, **User numbers are displayed in plaintext**, **Local Multimedia File Sending by Agents**, **Transfer pop-up parameters**, and **Modifying Agent Fixed-Line Phone Number**.
- **Description**: Enter a role description, which is optional.

Step 3 Click **Save**. The role is created.

Step 4 (Optional) Edit role information.

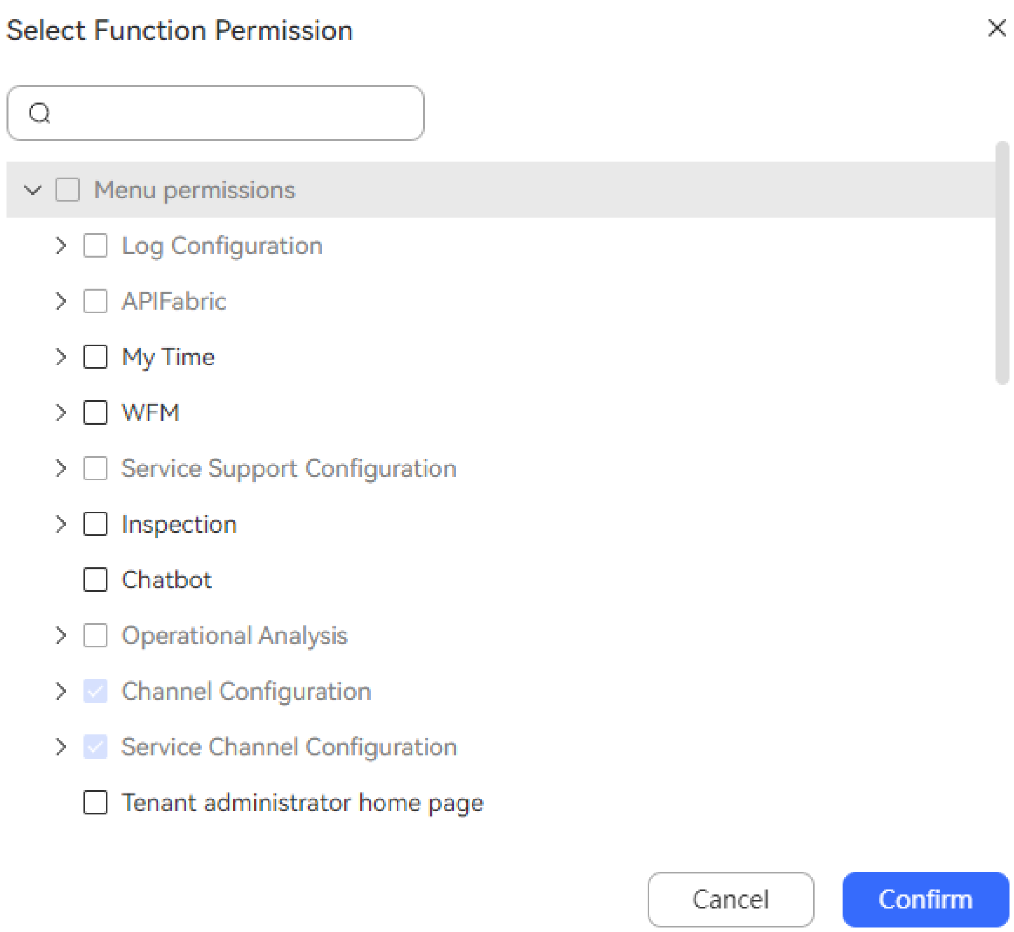
- Click 🗑 to delete role information.
- Click ✎ to modify role information.
- Enter a role name and click 🔍 to fuzzily search for roles based on the role name.

Step 5 Select the new role and configure its own permissions and assignable permissions.

1. Click the **Own permissions** or **Assignable Permissions** tab.
   - **Own permissions**: Permissions of the current role.
   - **Assignable Permissions**: Permissions that the current role can assign to other accounts.
2. Click **Add** and select function permissions.

   You can search for permissions. Permissions unavailable to the current role are dimmed, and the search results are highlighted.

Figure 2-14 Select Function Permission



Function permission status description:

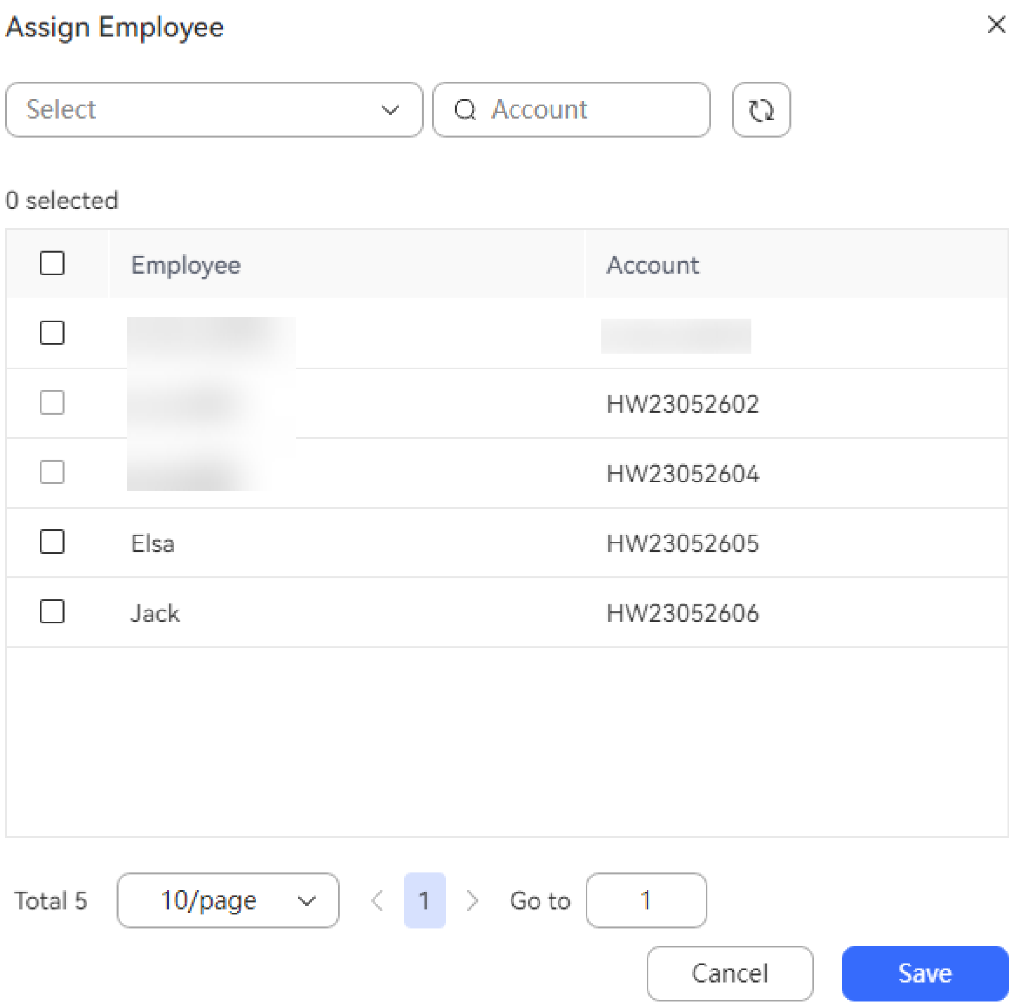
- : The function permission has not been configured for the current role and can be selected for configuration.
- : The function permission cannot be configured for the current role.
- : The function permission has been configured for the current role.

3. Click **Confirm** to save the configuration.

Step 6 Assign employees.

1. Click the **Employee Assignment** tab and click **Add**. The **Assign Employee** dialog box is displayed.

Figure 2-15 Assign Employee



2. Select employees to which the current role can be assigned and click **Save**.
3. (Optional) Select multiple employees and click **Batch Delete** to delete them in batches.

----End

Reference

- **Menu permissions**: Configure system menus to restrict the menus available to employees with the current role. For details, see **Table 2-1**.
- **Operation permissions**: Configure page operation functions to restrict the operation permissions of employees with the current role. For details, see **Table 2-2**.
- **API permissions**: Configure APIs that are available to employees with the current role. For details, see **Table 2-3**.

Table 2-1 Menu permissions

Permission		Description
System Management	Security Configuration	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	Tenantspace Management	
	Tenant Management	
	Service Type Management	
	Space Type Management	
	System Management	• **Operation Logs**: View details about operation logs of business accounts in the tenant space. • **Sign-in Logs**: View details about sign-in logs of business accounts in the tenant space. • **Menu Management**: Manage operation menus in the tenant space. • **Permission Management**: Manage operation permissions on menus in the tenant space.
User Management	User Management	• **Organization**: Manage OU information in the tenant space. • **Employee**: Manage business account information of employees in the tenant space. • **Role**: Manage function permission information of employees in the tenant space. • **Account and Password Rule**: Manage account and password rules in the tenant space. • **Account Lock Management**: Manage account lock status in the tenant space. • **User Group Management**: Manage employee group information in the tenant space. • **Session Management**: Manage sign-in sessions of accounts in the tenant space.

Permission		Description
Online Customer Service	Workbench	**Audio and Video Workbench**: When an agent signs in, the voice and video workbench is automatically opened for business handling.
Online Studio	-	Function permissions for the system administrator, which do not need to be configured at the tenant level.
Call Center Monitor	Monitor Configuration	• **QC Relation Management**: Manage inspection relations between inspectors and agents. • **Full Screen Monitoring Configuration**: Configure fullscreen monitoring indicators. • **Report Subscribe Configuration**: Configure subscribed reports and periodically send information about the subscribed reports to specified personnel via email. For details about the email sending configuration, see **Step 3**. • **CMS System Configuration**: This is a function permission for the system administrator, which does not need to be configured at the tenant level.
	Monitor Management	• **Agent Monitor**: View agent sign-in information in the tenant space, monitor agents, and dynamically adjust agent resources based on business requirements. Tenant administrators can monitor agent status, but cannot perform inspection operations, such as skill queue adjustment, on agents. Inspectors (whose platform role is **Quality checker**) can perform inspection operations, such as skill queue adjustment, on agents. • **Call QC**: View the voice and video call details of agents in the tenant space. Inspectors (whose platform role is **Quality checker**) can preview or download recording files of agent calls. • **Canceled Queuing Call Monitor**: View details about users who cancel queuing in the tenant space. • **Index Monitor**: View data about the VDN, IVRs, skill queues, and agents in the tenant space. • **Call Link Monitor**: View details and tracks of calls in the tenant space from 00:00 on the previous day. • **Offline Message Monitoring**: View offline messages received by agents in the tenant space.

<table>
<tr><th colspan="2">Permission</th><th>Description</th></tr>
<tr><td></td><td>Report</td><td>View the monitoring data of the call center, including the following reports: Skill Queue Performance Report, Agent Performance Report, Agent Outbound Call Report, Agent Connection Operation Report, IVR Traffic Report, IVR Traffic By AccessCode Report, Skill Queue Performance Statistics Report by Access Code, Skill Queue Summary Report, VDN Performance Report, VDN Performance Statistics Report by Access Code, Abandoned Calls (During Ringing) Summary Report, and Interval-based VDN Traffic Report.</td></tr>
<tr><td rowspan="3">Intelligent automatic dialing</td><td>ISales Management</td><td>ISales Task Management: Configure outbound call task details.
Holiday Management: Set special dates and plan the execution time of outbound call tasks.
ISales Task Statistics: Monitor outbound call tasks and check the execution of outbound call tasks.
Outbound Black List Management: Configure the outbound number blocklist to reduce invalid outbound calls.
Business Result Define: Define outbound call business results to summarize business status.
Outbound Call Result Definition: Define outbound call execution results.
Outbound Call Data Attribute Definition: Configure different attributes for outbound call data and add customer information.
Outbound Call Template Management: Configure outbound call task templates to reference templates during outbound call task configuration.
Special List Management: Configure the special list to filter out invalid data during outbound call task execution.
Agent Work Statistics: Collect statistics on the outbound call workbench and summarize outbound call tasks.
Multimedia Marketing Management: Perform multimedia marketing using SMS messages, emails, and WhatsApp messages.</td></tr>
<tr><td>Outbound Execute</td><td>Outbound Workbench: An agent can view and execute outbound call tasks on the outbound call workbench.
Appointment Outbound: An agent can reserve outbound call tasks at specified time in advance.</td></tr>
<tr><td>Outbound Call Configuration</td><td>Outbound Call File Server: Upload outbound call task data from the server.
Mapping Rule Import: Customize the mapping rules for importing data related to outbound call tasks.</td></tr>
</table>

Permission		Description
	Outbound Call DataSource Management	Back up and store outbound call data on other servers.
Outbound Call DataSource Management	-	Back up and store outbound call data on other servers.
Intelligent Training	Intelligent training management	**Training Task Management**: Configure training task details.
	My Training Tasks	**My Tasks**: An agent can participate in intelligent training tasks.
Operation Risk Control	Operation Risk Control	Function permissions for the system administrator, which do not need to be configured at the tenant level. The permissions include **Strategy Management**, **Tenant Strategy Configuration**, **Statistical Result**, and **Recording Wording**.
	Operation Risk Control	**Operation Risk Control**: View the execution of risk control strategies.
Inspection	Manual Inspection	Manage manual inspection rating rules, inspection tasks, inspection categories, inspection relationships, and inspection objects, view inspection results, and apply for inspection review.
	AI Inspection Rule	Manage AI inspection rules, including sensitive words, sentences, inspection rules, rating settings, and business scenarios.
	AI Inspection Result Review	View the inspected call list, set sample inspection plans, and view and handle inspection tasks.

Permission		Description
Knowledge Base	Knowledge Management	Manage and create knowledge.
	Knowledge Review	Review knowledge details.
	Knowledge Application	Search for knowledge and add knowledge to favorites.
	Template management	Create and manage knowledge templates.
Survey Config	Survey Config	• **Script Management**: Configure survey details. • **Template Management**: Manage survey templates. • **Questionnaire Query**: Query the answer details of surveys. • **Questionnaire Statistics**: Collect statistics on details about other business modules associated with surveys. • **My Answers**: Query the survey details of the current account.
Channel Configuration	Call Center Management	Function permissions for the system administrator, which do not need to be configured at the tenant level.

Permission		Description
	Call Center Configuration	Manage basic tenant space configurations. ● **Basic Information**: View basic tenant space information. ● **Skill Queue**: Manage tenant space skill queues. ● **Agent Management**: View tenant space agent configurations. ● **Called Route**: Configure called routes. ● **Access Code**: View access code information of the tenant space. ● **Settings**: Manage system parameter settings of the tenant space. For details, see **2.17 Configuring Public Resources** and **2.3 Enabling Manual Services**. The permissions include **Parameter Configuration**, **Screen Pop-up**, **Call Reason**, **Mobile Agent**, **Callback Url Configuration**, **Satisfaction Survey**, **SMS Configuration**, **Authentication Configuration**, **Gray Configuration**, **Gateway Configuration**, **Dynamic Data Table**, **Page Configuration**, **Gateway monitoring**, **Certificate**, **Rest Reason**, **Prompt Tone**, **Contact Data Item**, **Resource Dump**, **Encryption Information Management**, **Configuring the Voice Muting Agent**, **Agent Routing Rules Configuration**, **Message flow control management**, **Email Signature**, **System Parameter Configuration**, **Special List**, **SP Management**, **Federated App Management**, **UC Integration**, **Voice Notification**, **Authentication**, and **Harassment record review**. ● **Table Data**: Query and configure data values in dynamic data tables. ● **Resource Dump Task**: Manage business resource data dump tasks.

Permission		Description
	Agent Information	• **Agent Information**: View information such as agent IDs, skill queues, and business accounts. • **Contact Record**: Query agent call records. • **Operation Record**: Query agent operation record details. • **Transfer Record**: Query details about call transfer records of agents. • **Sign-In Log**: Query agent sign-in records. • **Leave Message**: Manage and reply to offline messages of the current account. • **Agent Parameters**: An agent can customize parameters such as the calling number for making outbound calls, agent answering mode, whether to integrate the OpenEye softphone in the web system, and video display of the OpenEye integrated with the web system. • **Rest Record**: Query details about agent rest records in the tenant space. • **Bidirectional Call Record**: Query details about bidirectional call records after the one-click bidirectional call feature is enabled. • **Document Management**: Query contract signing information after the contract digital signature feature is enabled. • **Reset Skill Record**: Query skill queue adjustment details. • **Identity Authentication Record**: Query details about all identity authentication records.
	Tenant Space Management	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	IVR Management	• **Intelligent IVR**: Configure intelligent IVR flows. • **IVR Voice**: Manage uploaded voice files. • **Flow Management**: Manage common IVR flows. • **Process Transfer Record**: View the records of call transfer to IVR flows in the tenant space.

<table>
<tr><th colspan="2">Permission</th><th>Description</th></tr>
<tr><td rowspan="3"></td><td>Notification Center</td><td>View Notification: View the content of received notifications.
Send Notification: This is a function permission for the system administrator, which does not need to be configured at the tenant level.
Notification Template Configuration: This is a function permission for the system administrator, which does not need to be configured at the tenant level.
Agent Send Notification: Agents can send only internal messages in internal notifications. They can send bulletin notifications only after an administrator configures the bulletin permission for them.
Administrator Send Notification: Send notifications to agents via email, SMS message, or bulletin.
Notification Template: Configure administrator notification templates.
Variable Configuration: Use variables when configuring internal message templates to send internal messages.
Message Route Configuration: Distinguish email messages from SMS messages.
Notification Type Configuration: Configure different notification types, for example, bulletin.</td></tr>
<tr><td>System Management</td><td>System Version: This is a function permission for the system administrator, which does not need to be configured at the tenant level.</td></tr>
<tr><td>Customer Center</td><td>Customer Center Management: Manage customer information in the tenant space.</td></tr>
<tr><td rowspan="2">Service Channel Configuration</td><td>Social Media Operations</td><td>Permissions for operations personnel.</td></tr>
<tr><td>Operation Management</td><td>Channel Configuration: Configure multimedia access channels, including WeChat, web, X (Twitter), email, WhatsApp, Facebook, LINE, and 5G RCS channels.
Multimedia Library Management: Configure multimedia data of the common phrase, voice, video, image, address, personalized emoji, and card template types for agents to make calls.
Workbench Configuration: Configure working time and non-working time.
Email Message Management: Manage emails.</td></tr>
</table>

<table>
<tr><th colspan="2">Permission</th><th>Description</th></tr>
<tr><td></td><td>Online Customer Service</td><td>Online Chat Workbench: An agent can handle business information accessed through the WeChat, web, X (Twitter), email, WhatsApp, Facebook, LINE, and 5G RCS channels.
Personalized Common Language: Configure common phrases used by agents to handle businesses.</td></tr>
<tr><td>Home</td><td>-</td><td>Configure functions frequently used on the home page.</td></tr>
<tr><td rowspan="3">Case Management 2.0</td><td>Case Workbench</td><td>Create cases, merge cases, and create tasks.</td></tr>
<tr><td>Case Configuration</td><td>Case Status
Case Field
Case Template
Case Template Content
Case Type
Case Role
User Role</td></tr>
<tr><td>Historical Case</td><td>View historical cases.</td></tr>
<tr><td rowspan="3">My Time</td><td>Agent Schedule</td><td>My Schedule: View my agent schedule.
Other Schedules: View the agent schedules of others.</td></tr>
<tr><td>Trade</td><td>Trade</td></tr>
<tr><td>Time-off</td><td>Details
Calendar</td></tr>
</table>

Permission		Description
WFM	Configuration	• **BU** – **Edit**: Edit BUs. • **Skill Queue** • **Agent** – **Edit**: Edit agents. – **Move Agent**: Move agents from an OU to another. • **Site** – **Edit**: Edit sites. – **Move Agent**: Move agents from an OU to another. • **Color** – **Edit**: Edit special colors. • **Activity** – **Edit**: Edit activities. • **State Group** – **Edit**
	Adherence	**Details**
	Trade	• **Trade List** – **Approve Trade**
	Performance	**Monitor**
	Schedule	• **Scenario** – **Publish**: Publish schedule scenarios to the master schedule. – **Edit**: Edit schedule scenarios. – **Build**: Build schedule scenarios. • **Master Schedule** – **Edit**: Edit the master schedule. – **Approve** – **Clear** – **Swap Shift** • **Approve Change**
	Calendar	• **Calendar Item** – **Change Status** – **Edit** • **Time-off Limit**

Permission		Description
	Policy	• Time-off – **Edit** • **Exception Type** – **Edit**: Edit exception types. • **Shift** – **Edit**: Edit shifts. • **Contract** – **Edit**: Edit contracts. • **Rotating Pattern** – **Edit**: Edit rotating patterns.
	Forecast	• **Scenario** – **Adjust**: Adjust the volume build data and staffing build data after forecasting. – **Edit**: Edit forecast scenarios. – **Build**: Build forecast scenarios. • **Overlay** – **Edit** • **Historical Data** – **Edit**
AppCube Application Configuration	AppCube service configuration center	• The AppCube feature must be enabled. • Go to the AppCube configuration page.

Table 2-2 Operation permissions

Permission		Description
Message Center	Message Send	Send internal messages.
Notification Center	Sending a Bulletin	Send bulletins through the notification center.

Permission		Description
	Group-send internal messages	Send internal messages to groups through the notification center.
Agent Management	Modifying Agent Fixed-Line Phone Number	An agent can modify **Fixed-Line/Mobile Number** on the agent information page.
	Configure Agent	Configure agents, cancel agent configuration, and configure agents in batches on the agent management page.

Permission		Description
Call Center Management	Connection Management	Configure call answering operations that can be performed by agents. ● **Show Busy/Idle**: The busy state indicates that the agent is handling an inbound call, and the idle state indicates that the agent is ready to answer an inbound call at any time. ● **Break/End Break**: An agent leaves and cannot handle businesses. The rest duration does not exceed 24 hours. ● **Transfer**: An agent can transfer an inbound call to an external number, another agent, or a skill queue. After an inbound call is transferred, the call-related information is also transferred. ● **Hold/Unhold**: An agent can hold a call with a customer. During the hold period, the customer can hear the hold music. The agent can perform other operations or make an outbound or help call, and then continue to talk with the customer. ● **Outgoing Call**: An agent can initiate a call. ● **Three-Party Call**: During a call between an agent and a customer, the agent can initiate a three-party call with another agent who is asked for help. If one party hangs up, the other two parties can still talk with each other. ● **Help-seeking**: When an agent encounters a task that cannot be handled immediately, the agent can ask for help. If the agent selects two-party help, the customer's call is held. If the agent selects three-party help, a three-party call is set up. ● **Mute/Unmute**: An agent can mute or unmute the local device. ● **End Call**: An agent can proactively end a call. ● **Answer**: An agent receives a call from a customer and chooses to answer the call. ● **Audio/Video switching**: An agent can switch a video call to a voice call or switch a voice call to a video call. ● **Internal Call**: An agent can dial the number of another internal agent when there is no customer call. ● **Agent multi-channel support**: An agent can chat with customers through multimedia access channels. ● **Callback**: The voice and video workbench allows agents to initiate calls based on historical contact records to continue interrupted businesses. ● **Two-stage Dialing**: An agent can call back a customer number that exists in call records. ● **Co-browsing**

Permission		Description
	Contact Record Management	• **Querying All Contact Records**: Query the contact records of all business accounts. • **Play Recording Online**: Play recordings in contact records online. • **Recording Download**: Download recording in contact records. • **Contact Record Export**: Export contact records.
	Quality Check	Inspectors can intervene in calls of common agents to ensure smooth business handling, and can manage inspection results. Inspection operations include **Listen**, **Insert**, **Switchover**, **Intercept**, **Forcible Exit**, **Forcible Set Idle**, **Forcible Set Busy**, **Whisper**, **Query All Inspection Results**, **Update Inspection Result**, **Delete Inspection Result**, **Multimedia Session Monitoring**, **Multimedia Session Insertion**, and **Multimedia Session Interception**.
	Operation Record Management	The permissions include **Query ALL Operation Record**, **Query ALL Transfer Record**, **Query ALL Sign-In Log**, **Query ALL Rest Record**, and **Sign-In Log export**. **Rest record export**: Export rest records. **Forwarding Logs export**: Export transfer records. **Operation Logs export**: Export operation records.
	Privacy Statement	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	Leave Message Management	• **Play Leave Message**: Play the recording of a message online. • **Download Leave Message**: Download the recording file of a message. • **Query All Leave Message**: Query all message records of an agent.
	IVR Voice Management	**File Upload**: Upload voice files for IVR flows.
	Reset Password	**Reset Tenant Password**: Reset the passwords of employee accounts in the tenant space.
	Reset Data	Reset tenant space system parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Permission		Description
	IVR Flow Management	-
	Tenant AK/SK Configuration	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	Email Attachment	Upload or download attachments in an email when sending an email notification. The permissions include **Upload Email Attachment** and **Download Email Attachment**.
	User numbers are displayed in plaintext	Customer numbers are displayed in plaintext and are not anonymized.

Permission		Description
	Agent Workbench	• **Transfer pop-up parameters**: If the page type of an inbound call screen pop-up is set to external page, parameters are carried when the third-party page is accessed. • **Query customized data on the pop-up screen**: Query the customized data values on an inbound call screen pop-up. • **Modify customized data on the pop-up screen**: Update the customized data values on an inbound call screen pop-up. • **Mail Agent Forwarding**: An agent can forward emails. • **Local Multimedia File Sending by Agents**: An agent can send multimedia files. • **Local Attachment Sending by Email Agents**: An agent can upload local attachments when sending an email. • **Email Agent CC Bcc**: An agent can set Cc and Bcc recipients when sending an email. • **Send SMS Notifications**: An agent can send SMS notifications to customers during customer contact, view message sending records in customer contact details, and resend SMS notifications to customers. • **Send WhatsApp Notifications**: An agent can send WhatsApp notifications to customers during customer contact, view message sending records in customer contact details, and resend WhatsApp notifications to customers. • **Send Email Notifications**: An agent can send email notifications to customers during customer contact, view message sending records in customer contact details, and resend email notifications to customers. • **Identity Verification**: An agent can perform identity authentication.
	Basic data table management	**View demasking data**: View demasked data in customized dynamic data tables.
	download SK	Download SK information to the local PC.
	Fullscreen Monitor	• **Viewing Public Large-Screen Monitoring**: View details about fullscreen monitoring data. • **Edit Public Large-Screen Monitoring**: Customize fullscreen monitoring data parameters. • **Querying Data of All Organizations**: View the fullscreen monitoring data of all OUs.

Permission		Description
	Email agent manag ement	● **Dispatch emails to other agents**: Forward emails to other agents for handling. ● **View all agent emails**: View the emails sent and received by all agents in the tenant space.
	Report	**Querying All Organization Report Data**: Query the report data of all OUs in the tenant space.
	Transfe r Record Manag ement	● **Play Recording Online**: Play recordings in call transfer records online. ● **Recording Download**: Download recordings in call transfer records.
	Docum ent Manag ement	**Preview Document**: Preview documents. **Download Document**: Download documents. **Operation All Documents**: Search for or invalidate any document in the tenant space.
	Skill Queue Manag ement	**Skill Queue Data Export**: Export skill queue information.
	index monito ring	**Querying Data of All Organizations**: Query the monitoring indicator data of all OUs in the tenant space.
	Special List	**Harassment record review**: Review harassment records submitted by agents. This permission is assigned to tenant administrators by default and does not need to be configured for tenants.

Table 2-3 API permissions

Permission	Description
MR rest api auth	Obtain the MR node service permission.
CaseBDF rest api auth	CaseBDF rest api auth
SLA rest api auth	Obtain the SLA node service permission.

2.2.3 Configuring Employee Information

Employees indicate personnel employed by an enterprise. Employee accounts can be used to sign in to the system and perform business operations.

Context

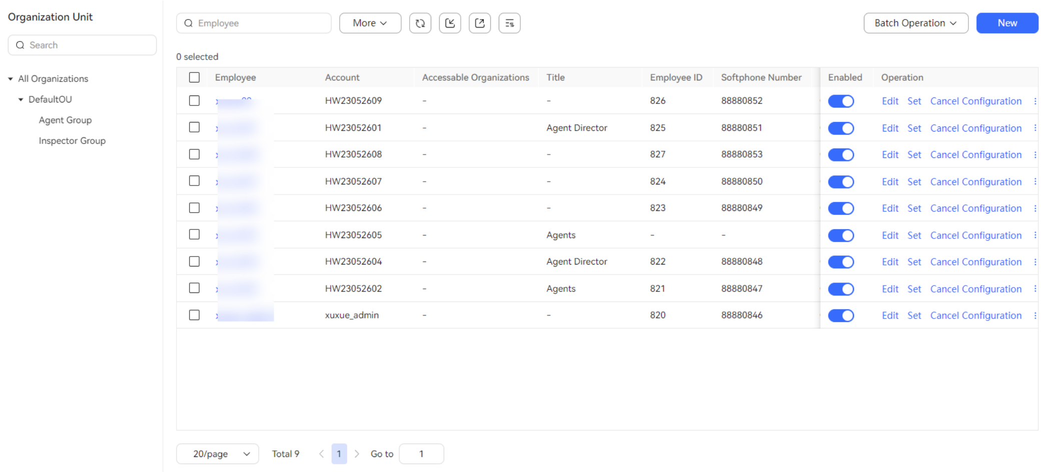
Assign administrator permissions to the new employee Jack in department A so that Jack can work as an administrator.

Procedure

Step 1 Configure an OU. For details, see **2.2.1 Configuring OUs**.

Step 2 Choose **Configuration Center** > **Employee Center** > **Employee**. The employee information management page is displayed. The OU information is displayed on the left, and employee information under the OU is displayed on the right.

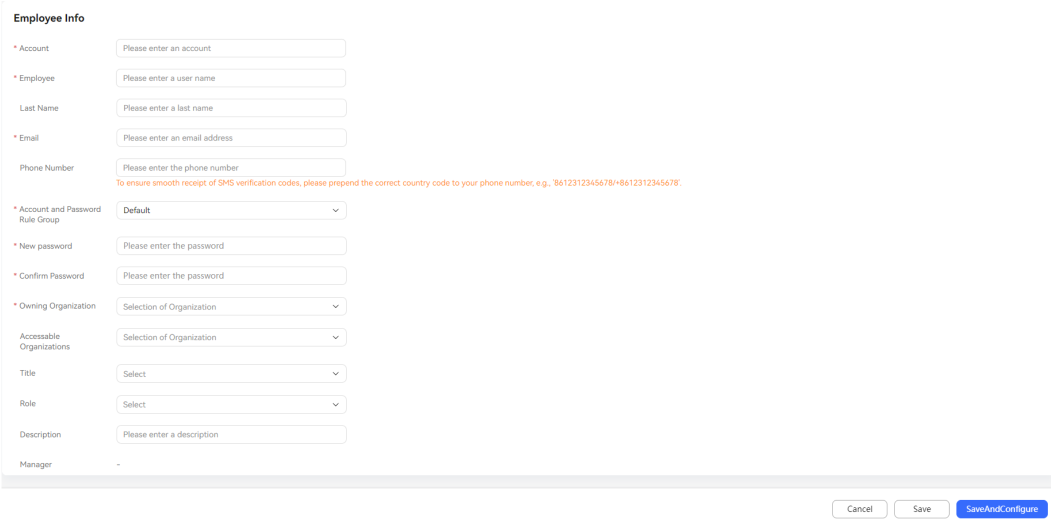
Figure 2-16 Employee



Step 3 (Optional) Enter an OU name to fuzzily search for all employee information under an OU based on the OU name.

Step 4 Click **New**. On the **Add Employee** page, configure employee information.

Figure 2-17 Employee Info



- **Account** (mandatory): Employee account used by business personnel to sign in to the AICC, for example, **j100006**.
- **Employee** (mandatory): Employee name, for example, **Jack**.
- **Email** (mandatory): Business email address used by an employee to receive notifications.
- **Phone Number**: Phone number of an employee.

  To receive the SMS verification code, you need to add the correct country code before the mobile number, for example, **8612312345678** or **+8612312345678**.
- **Account and Password Rule Group** (mandatory): Password setting rule of an employee. By default, **Default** is selected.
- **New password** and **Confirm Password** (mandatory): Password for the first sign-in.

  NOTE

  Set a new password based on this password during the first sign-in. The new password must contain at least two different characters from the initial password.

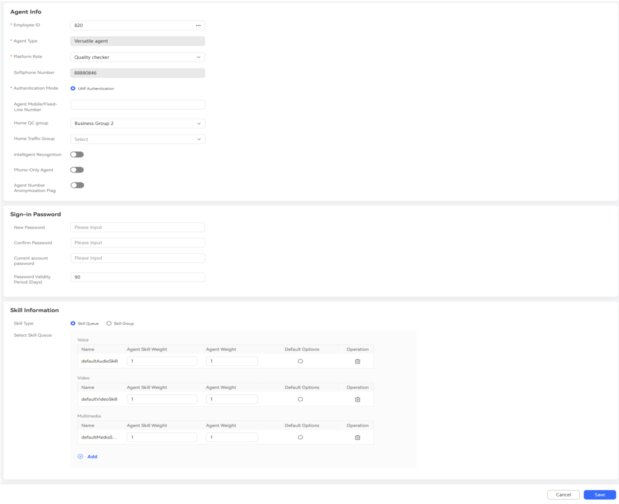
  Set a password that meets the password complexity requirements as prompted.
- **Owning Organization** (mandatory): OU to which an employee belongs.
- **Accessable Organizations**: OUs that can be accessed by an employee.
- **Title**: Title of an employee, which is used for the AI inspection business to determine the operation permissions of the employee in the inspection task handling process.
- **Role**: Function permissions and menu permissions that the business account of an employee has. For details about how to configure role permissions, see 2.2.2 Configuring Role Permissions.
- **Description**: Remarks about an employee.
- **Manager**: Unavailable when an employee is created. Configure the manager in the OU.

Step 5 Complete the employee creation and open the **Configure Agent** page.

- Click **Save** to complete the employee creation. On the **Employee** page, click **Set** corresponding to the new employee to open the **Configure Agent** page.
- Click **SaveAndConfigure** to complete the employee creation and directly open the **Configure Agent** page.

Step 6 Configure agent information.

Figure 2-18 Configure Agent



- **Agent Info**
  - **Employee ID** (mandatory): Select an agent ID and its softphone number, agent type, and platform role.
  - **Agent Type**: The default value is the agent type associated with the selected **Employee ID**.
  - **Platform Role** (mandatory): The default value is the platform role associated with the selected **Employee ID**. The value can be changed. The options are **Common agent**, **Quality checker**, and **Callout agent**.
  - **Softphone Number**: The default value is the softphone number associated with the selected **Employee ID**.
  - **Authentication Mode** (mandatory): Agent information authentication mode. The value is **UAP Authentication**.
  - **Agent Mobile/Fixed-Line Number**: Mobile number or fixed-line phone number of the agent.
  - **Home QC group**: Inspection group to which the agent belongs. This parameter is available when **Platform Role** is set to **Quality checker**.
  - **Home Traffic Group**: Agent group to which the agent belongs.
  - **Intelligent Recognition**: Configure whether the agent is an intelligent agent. This switch is turned off by default. In addition to basic voice control functions, intelligent agents support real-time ASR and related intelligent recommendation functions. Before turning on this switch, ensure that the number of agents for which intelligent recognition is enabled does not exceed the number of intelligent agents allocated when the tenant is created.
  - **Automatic Session Summary**: This switch is turned off by default. After this function is enabled, the system can intelligently summarize the call

content, issue resolution result, and customer satisfaction when **Call Reason** is configured on the workbench.

This parameter is available only when the **Automatic Conversation Summary** feature is enabled and the **Intelligent Recognition** function is enabled.

- **Smart Form Filling**: This switch is turned off by default. After this switch is turned on, the system automatically extracts the information from the dialog text between a customer and an agent when the agent creates a case on the workbench. The system fills the information in the corresponding case form to complete the case filling task, so that the agent does not need to manually enter the information.

  This parameter is available only when the tenant parameter **Enabling the Intelligent TT Filling Feature** is set to **Yes**.

  To turn on **Smart Form Filling**, turn on **Intelligent Recognition** first.
- **Reply polishing**: This switch is turned off by default. After this switch is turned on, online agents can polish the plain text in the text box during a session on the workbench. An agent can use the scripts to improve service professionalism.

  This parameter is available only for multimedia agents or versatile agents for whom **Reply polishing** and **Intelligent Recognition** are enabled.
- **Phone-Only Agent**: After this switch is turned on, an agent can dial a specified access code to access an IVR flow, press a key as prompted to enter the agent ID and password to sign in, and answer calls on a mobile phone. When this switch is turned on, system O&M personnel need to customize the phone-only agent process for the tenant based on the platform, and the tenant needs to provide number resources for accessing the phone-only agent process.
- **Agent Number Anonymization Flag**: Flag for a third-party to mark whether an agent has the anonymization feature. This is not a feature switch. The anonymization feature enables agents to customize the calling number displayed on the customer side (the calling number displayed to the customer) and the calling number displayed on the agent side (the calling number displayed to the agent).

● **Sign-in Password**
- **New Password** and **Confirm Password**: Password used by the agent to log in to the softphone.
- **Current account password**: Password of the business account for which employee information is configured, which is used to ensure account security.
- **Password Validity Period (Days)**: Validity period of the softphone login password.
- **Verification Code**: Authentication mode used for password settings to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

  Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Obtain** to obtain a verification code.

NOTE

- A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
- The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but password change fails, you can obtain a new verification code immediately.

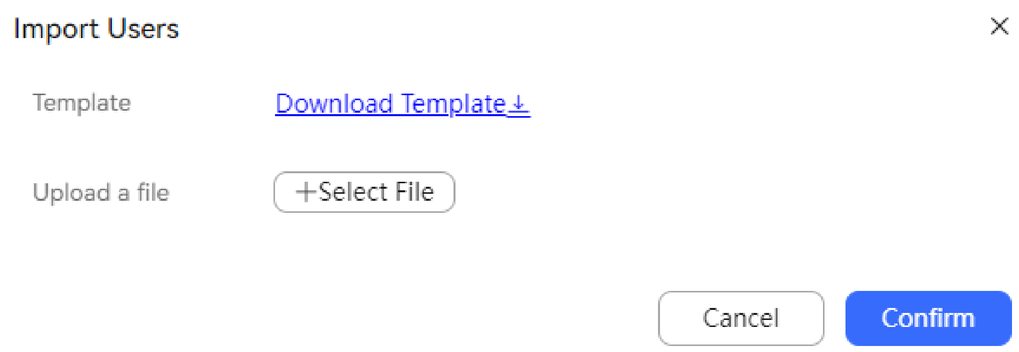
- **Skill Information**
  - **Skill Type**: Skill type of the agent configured for the current employee. The options are **Skill Queue** and **Skill Group**.
  - **Select Skill Queue**: Click to select skill queues to be associated with the agent configured for the current employee.

Step 7 (Optional) Filter data.

- Search for employee information by employee.
- Click **More**, enter an account, select a status, and click **Search** to filter detailed data.
- Click to refresh real-time data.
- Import employee information.

a. Click . The **Import Users** page is displayed.

Figure 2-19 Importing a user



b. Click **Download Template** to download the user information template to the local PC.

c. Enter the user information.

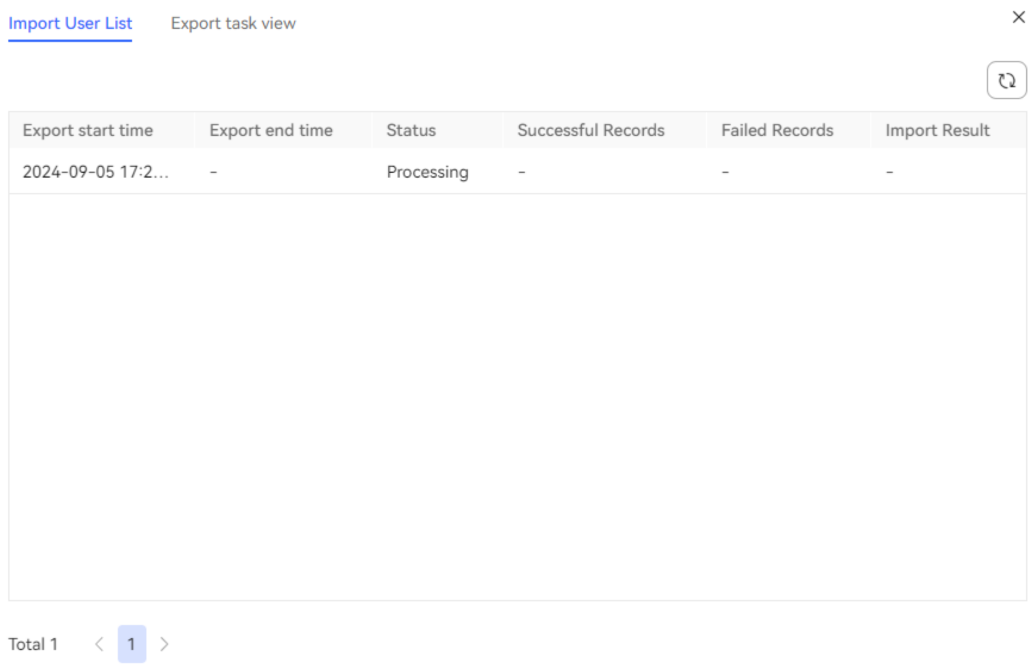
For details about the requirements for importing user information, see the description of **User import information** on the **readme** sheet.

d. Click +Select File to upload a user information list.

e. Click **Confirm**. An import task is created.

f. Click and select **Import User List** to view the user import task list. Select an import task according to the import time and click **download** to view the import result.

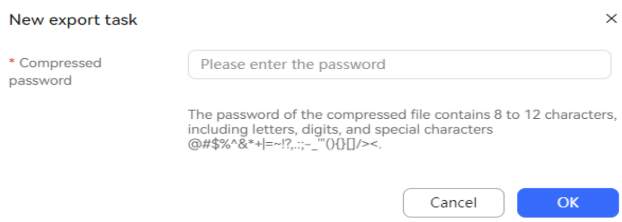
Figure 2-20 Importing a user list



- Download employee information.

a. Select employees to be downloaded in batches and click to create an export task. If no employee is selected, information about all employees is downloaded by default.

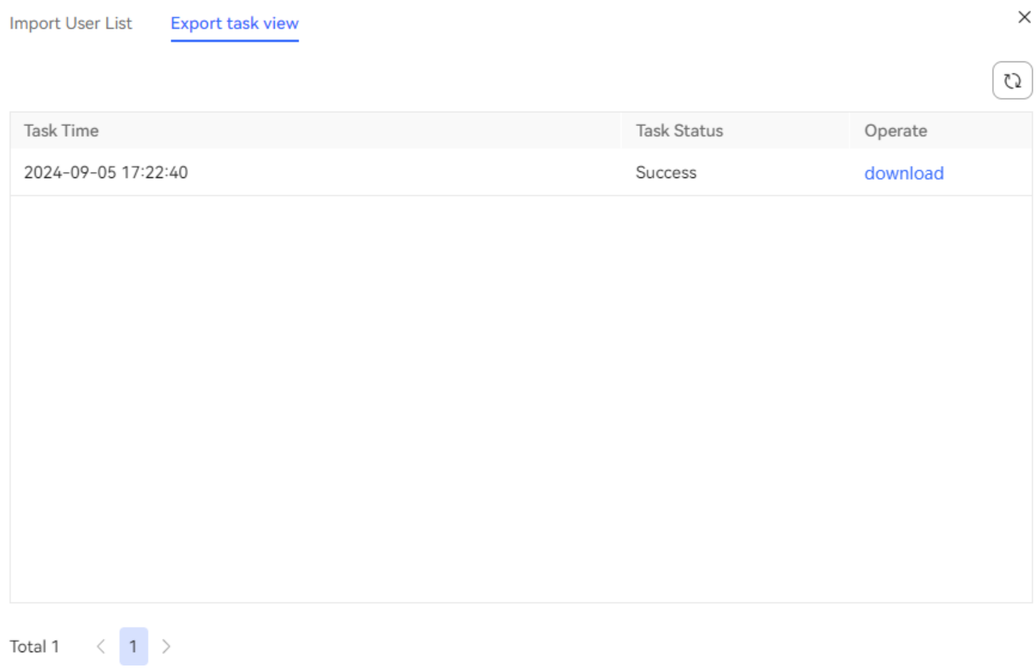
Figure 2-21 New export task



b. Enter the password for compressing the exported file and click **OK** to create an export task.

c. Click and select **Export take view** to view the export task list. Click **download** corresponding to an export task based on **Task Time** to download employee information to the local PC.

Figure 2-22 Export task view



Step 8 Operate employee information in batches.

- **Disable**: Disable employee accounts in batches.

  To search for a disabled account, set the search criterion **Status** to **Forbid** and click **Search**.

  CAUTION

  A disabled account can be used only after it is deleted and then created again. Exercise caution when performing this operation.

- **Delete**: Delete an invalid employee account.

  A created account cannot be directly deleted. You need to disable the account before deleting it.

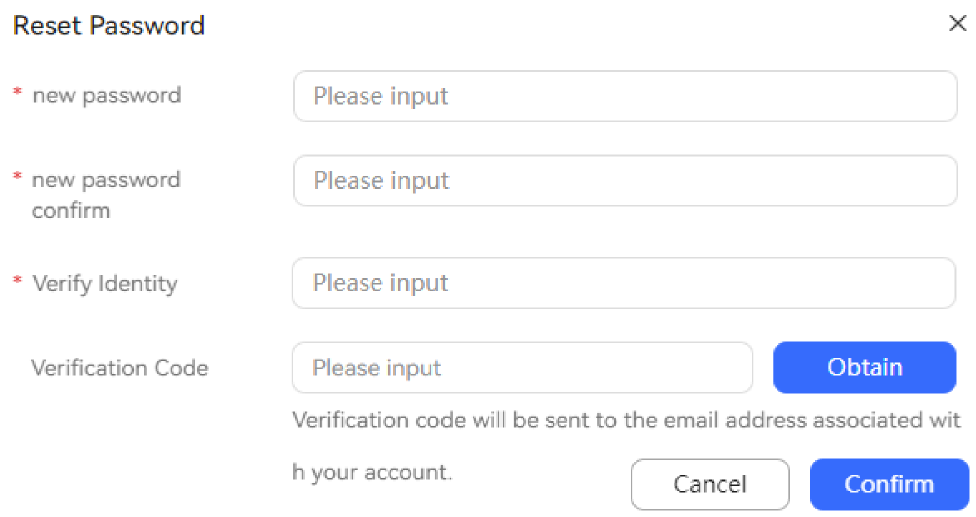
- **Suspend**: Suspend an account that has security issues so that the account cannot be used to sign in to the system.
- **Resume**: Resume a suspended account so that the account can be used to sign in to the system.
- **Reset Password**: Reset the password of an employee account. The new password takes effect only after the correct sign-in password of the current operator is entered.

  A verification code is required for resetting the password to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

  Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Obtain** to obtain a verification code.

NOTE

– A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
– The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but password reset fails, you can obtain a new verification code immediately.



- **Adding Roles in Batches** and **Deleting Roles in Batches**: Set roles for accounts in batches.
- **Add Access Organization**: Set accessible OUs for accounts in batches.
- **Configuring Employees**: If agent IDs have not been configured for employee accounts, you can configure agent IDs and related agent information for the employee accounts in batches.
- **Cancel Configuration**: If agent IDs have been configured for employee accounts, you can cancel the configured agent IDs and related agent information for the employee accounts in batches.

----End

2.2.4 Importing Federated Users

The VDN supports import of third-party system users, such as federated users.

Prerequisites

- The system administrator has added a federated app.
- The system administrator has configured a third-party authentication system for a tenant when creating the tenant.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Employee**.

Step 2 Choose **Import Federated User** > **Import Federated User**, click **Download Template**, open the template, and add information about the users to be imported.

A maximum of 10,000 records can be imported using a template. The template size cannot exceed 10 MB.

Step 3 Click , select the modified template, and click **Submit**.

Step 4 Click **OK** to close the dialog box.

Step 5 Choose **Import Federated User** > **Federated User Import Result** to view the import result.

If **Status** is **Success**, the import is successful.

Step 6 Click **Download** in the **Import Result** column to download the import result details.

NOTE

If the start time exceeds seven days, the **Download** button is not displayed and the import result cannot be downloaded.

The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

Step 7 Return to the **Configuration Center** > **Employee Center** > **Employee** page and view the new federated user in the employee account list.

Step 8 Configure a role for the federated user. For details, see **2.2.2 Configuring Role Permissions**.

----End

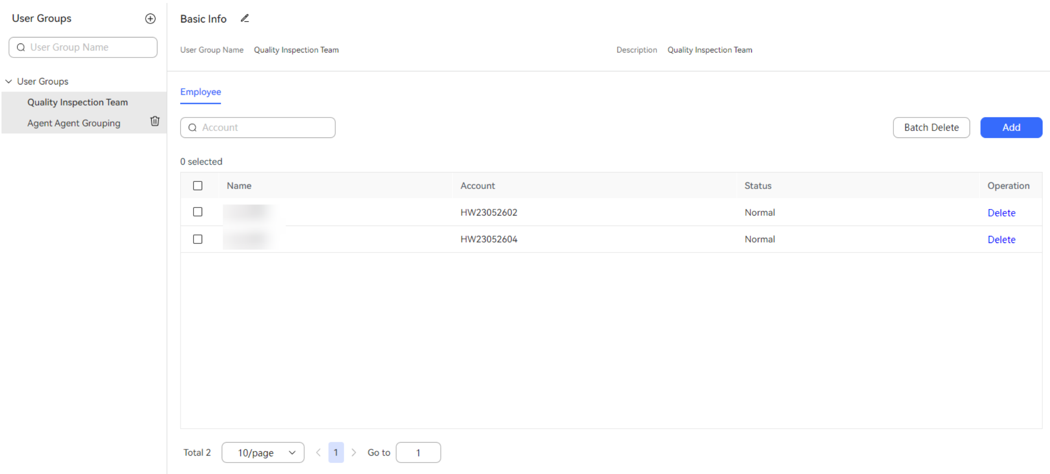
2.2.5 Configuring User Groups

User groups can be used to distinguish inspection objects during configuration of inspection relationships.

Procedure

Step 1 Choose **Configuration Center** > **Employee Center** > **User Group**.

Figure 2-23 User Group



Step 2 Click ⊕ to add a user group and configure basic user group information.

Figure 2-24 Creating a User Group

- **User Groups**: Enter a user group name, which is mandatory. An example is **Administrator group**. The value can contain a maximum of 64 characters and cannot contain the following special characters: <>
- **Description**: Enter a user group description, which is optional.

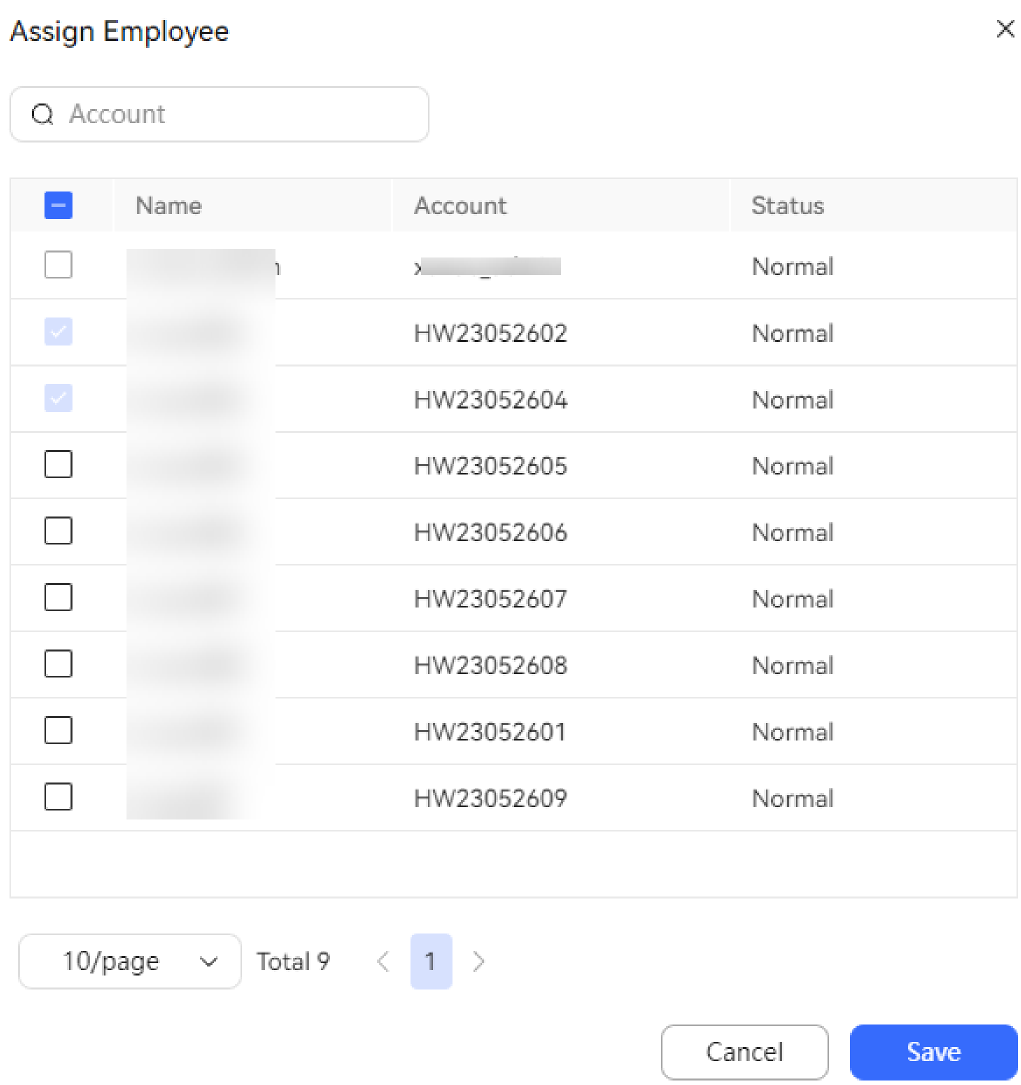
Step 3 Click **Save**. The user group is created successfully.

Step 4 (Optional) Customize user group information.

- Select a user group from the user group list and click the delete icon to delete the user group.
- Select a user group and click the edit icon on the **Basic Info** page on the right to modify the name and description of the user group.
- Enter a user group name and click the search icon to fuzzily search for user groups based on the user group name.

Step 5 Select the new user group and click **Add** to assign employees to the user group.

Figure 2-25 Assign Employee



Step 6 Click **Save** to save the assigned employees.

Step 7 (Optional) Configure employee information under the user group.

- Enter an account and click the search icon to fuzzily search for employee information based on the account.
- Select multiple employees and click **Batch Delete** to delete them from the user group in batches.
- Click **Delete** corresponding to an employee to delete a single employee from the user group.

----End

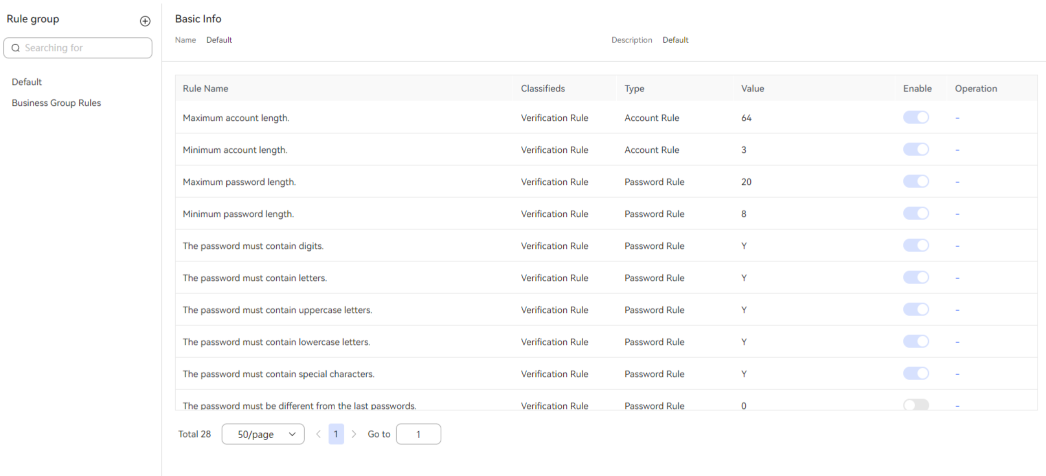
2.2.6 Configuring Account and Password Rules

The AICC provides a default account and password rule group **Default**, which cannot be modified or deleted. A tenant administrator can customize account and password rules.

Procedure

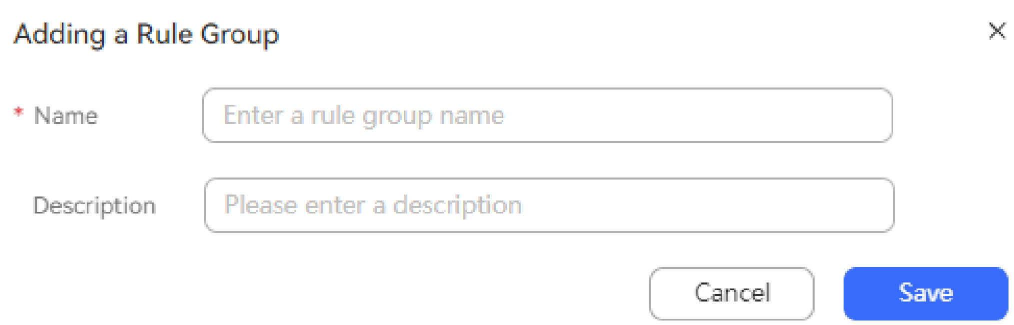
Step 1 Choose **Configuration Center** > **Employee Center** > **Account and Password Rule**.

Figure 2-26 Account and Password Rule



Step 2 Click + in the **Rule group** list to add a rule group.

Figure 2-27 Adding a Rule Group



Step 3 Customize the name and description of the rule group, and click **Save**. The rule group is added successfully.

Step 4 (Optional) Customize rule group information.

- Click to delete a customized rule group.
- Click to modify the name and description of the rule group.
- Enter a rule group name and click to fuzzily search for rule groups based on the rule group name.

Step 5 Select the new account and password rule group. In the **Rule List** on the right, click **Modify** corresponding to the rule to be modified to modify the rule.

NOTE

Changing or disabling some password rules (such as **Minimum password length.** and **The password must contain digits.**) will affect password security and bring security risks. Exercise caution when changing or disabling these rules.

Step 6 Change the settings in the **Value** and **Enable** columns, and click **Save**.

----End

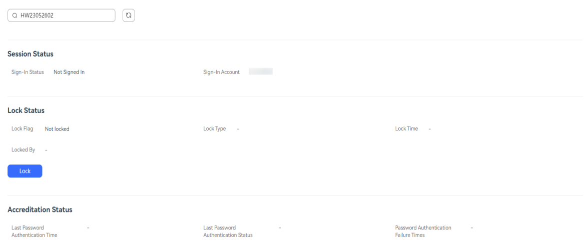
2.2.7 Managing Account Locks

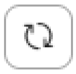
A tenant administrator can manually lock or unlock agent accounts to ensure agent account security and proper use.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Account Lock**.

Figure 2-28 Account Lock

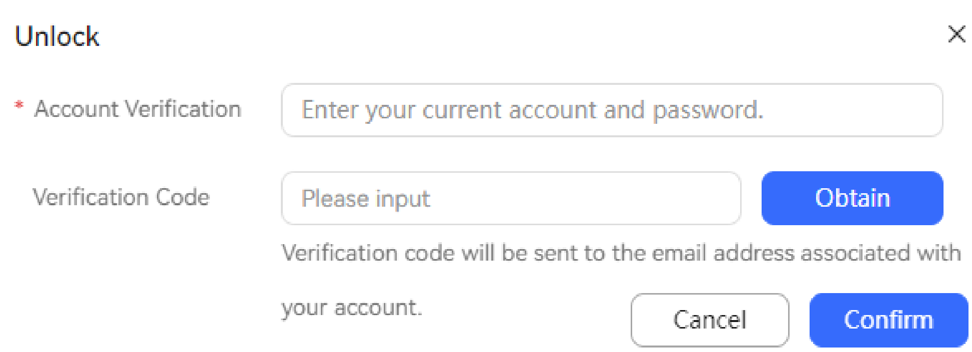


Step 2 Enter the agent account to be managed and click  to search for business account information.

Step 3 Manage the agent account.

- Click **Lock** to lock the business account and restrict agent sign-in.
- Click **Unlock**, enter the password of the current operator account, and click **OK** to unlock the business account and enable normal agent sign-in.

Figure 2-29 Unlock



A verification code is required for unlocking the account to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

NOTE

– A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
– The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but the account fails to be unlocked, you can obtain a new verification code immediately.

----End

2.2.8 Managing Sessions

A tenant administrator can view information about established sessions of agents online and manually terminate specified sessions.

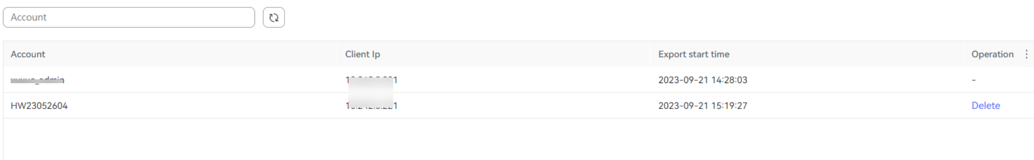
CAUTION

If the agent for whom session termination is performed is in a call, the session termination does not affect the call. If the agent performs other operations or refreshes the page, the system forcibly signs out the agent. Therefore, exercise caution when terminating sessions.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Session Management**.

Figure 2-30 Session Management



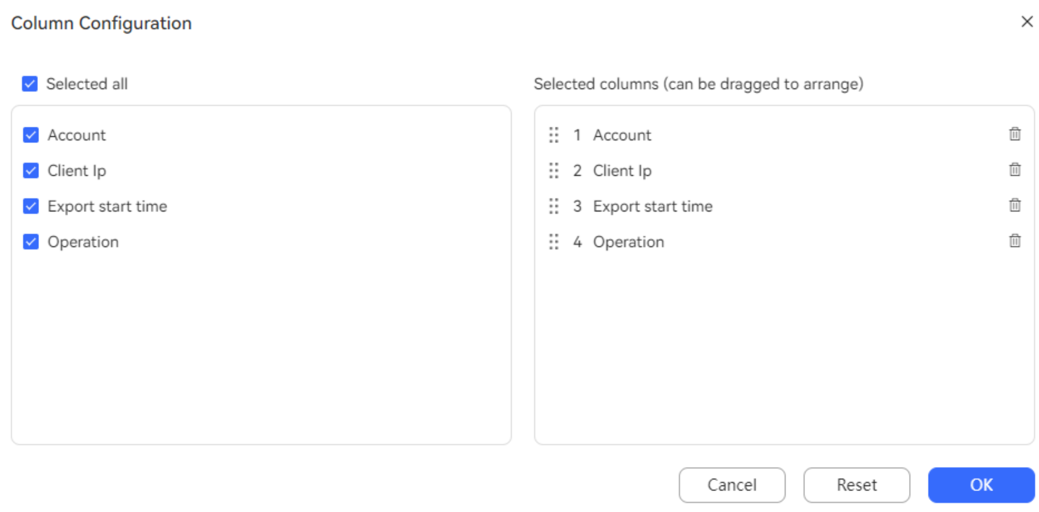
- **Account**: Signed-in business account.
- **Client Ip**: Agent sign-in IP address.
- **Begin Time**: Time when an agent signs in to the AICC.

Step 2 Set the data filter criterion.

- Enter an account to search for session information by account.
- Click to refresh data based on the criterion or refresh real-time data.

Step 3 Click to set the table header.

Figure 2-31 Column Configuration



- Click  or  to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 Click **Delete** corresponding to a session to terminate it.

NOTE

After a session is terminated, the client cannot continue to perform operations and returns to the sign-in page.

----End

2.3 Enabling Manual Services

After the employee information of the VDN is configured, you can configure the service content.

2.3.1 Voice and Video Services

After a tenant administrator configures skill queues and called party routes and associates business accounts with agent IDs, agents can handle call businesses.

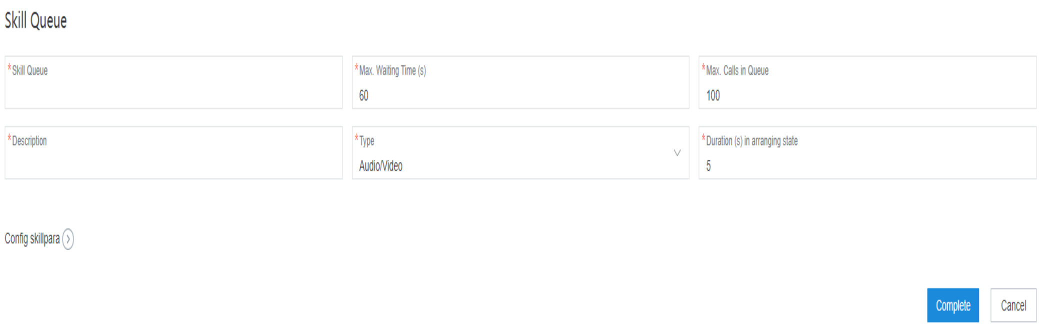
2.3.1.1 Maintaining a Tenant Space Skill Queue

After the VCC is added, the tenant administrator needs to maintain the skill queues and agent accounts on the VCC.

Step 1 Log in to the AICC as the tenant administrator.

The tenant administrator account is created by the system administrator during tenant space enabling and distributed to the enterprise.

Step 2 Choose > **Call Center Configuration** > **Skill Queue**, click **New** to add a skill queue for the VCC, and click **Complete**.



The parameters related to a skill queue are described as follows:

- **Max. Calls in Queue**

  Maximum number of customers who are allowed to enter a queue when all agents are busy.

  If the number of customers in the queue reaches this value, no more customers who dial the customer service hotline can be added to the queue.

- **Max. Waiting Time (s)**

  Maximum period for a customer to wait in the queue when all agents are busy.

  If the waiting duration of a customer in the queue exceeds this value, the customer will be disconnected.

- **Type**

  Agents of the audio/video type handle voice businesses only. Agents of the multimedia type handle multimedia services only.

- **Duration(s) in arranging state**

  Duration for an agent to enter the arranging state after a call ends. The default value is 5 seconds.

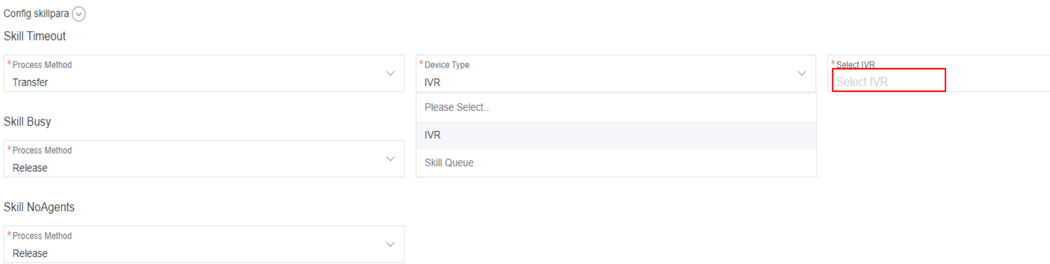
  If the duration exceeds this value, the agent enters the idle state and can answer calls from customers.

- **Config Skillpara**

  Three scenarios can be configured: **Skill Timeout**, **Skill Busy**, and **Skill NoAgents**.

  Process Method

  The options are **Release** and **Transfer**. If the process method is **Transfer**, you need to add an IVR flow or a skill queue. Then, calls are transferred to the new IVR or skill queue.



NOTE

- For compatibility purposes, **Type** of a skill queue is set to **Audio/Video** by default if it is left empty.
- You can click **Refresh** to display the latest data.
- **Process Method** is set to **Release** by default.
- If the new skill queue is set to an audio/video type, you can select **IVR** or **Skill Queue** from the **Type** column on the **Skill Queue** page.
- If the new skill queue is set to a multimedia type, you can select only **Multimedia** from the **Type** column on the **Skill Queue** page.

----End

2.3.1.1.1 Configuring the Queue Waiting Tone

After a skill queue is added, a tenant administrator can customize the queue waiting tone for the skill queue.

Prerequisites

The skill queue to be configured is of the voice or video type.

Business Scenarios

- A prompt tone needs to be played when a customer is waiting in a queue before being connected to an agent.
- A prompt tone needs to be played when a customer is waiting in a queue after an agent transfers the inbound call.

Procedure

Step 1 Upload the customized queuing tone.

For details, see 2.6.3.2 Managing Voice and Video Resources. Set **Usage Scenario** to **tone**.

Step 2 Contact the system administrator to approve the uploaded queue waiting tone.

After the waiting tone is approved, go to the next step.

Step 3 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, select a voice or video skill queue, and click **Edit** in the **Operation** column.

Step 4 Click to expand **Skill Parameter Configuration**.

Step 5 Under **Queuing and waiting configuration**, click **Queuing Method** and choose **Customizing the Wait Tone**.

Step 6 Click **Please select a waiting tone**, select the approved prompt tone, and click **OK**.

Step 7 Click **Save**.

----End

2.3.1.1.2 Configuring the Hold Waiting Tone

After a skill queue is added, a tenant administrator can customize the hold waiting tone for the skill queue.

Prerequisites

The skill queue to be configured is of the voice or video type.

Business Scenarios

A prompt tone needs to be played when an agent holds a voice call with a customer.

Procedure

Step 1 Upload the customized hold waiting tone.

For details, see **2.6.3.2 Managing Voice and Video Resources**. Set **Usage Scenario** to **tone**.

Step 2 Contact the system administrator to approve the uploaded hold waiting tone.

After the waiting tone is approved, go to the next step.

Step 3 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, select a voice or video skill queue, and click **Edit** in the **Operation** column.

Step 4 Click  to expand **Skill Parameter Configuration**.

Step 5 Under **Keeping and waiting configuration**, click **Keeping Method** and choose **Customizing the Keeping Tone**.

Step 6 Click **Please select a keeping tone**, select the approved prompt tone, and click **OK**.

Step 7 Click **Save**.

----End

2.3.1.2 Configuring Called Routes

After receiving a call from a customer, the CTI routes the call to an IVR or agent based on the routing policies. To allow agents to answer calls, you need to configure called routes.

Prerequisites

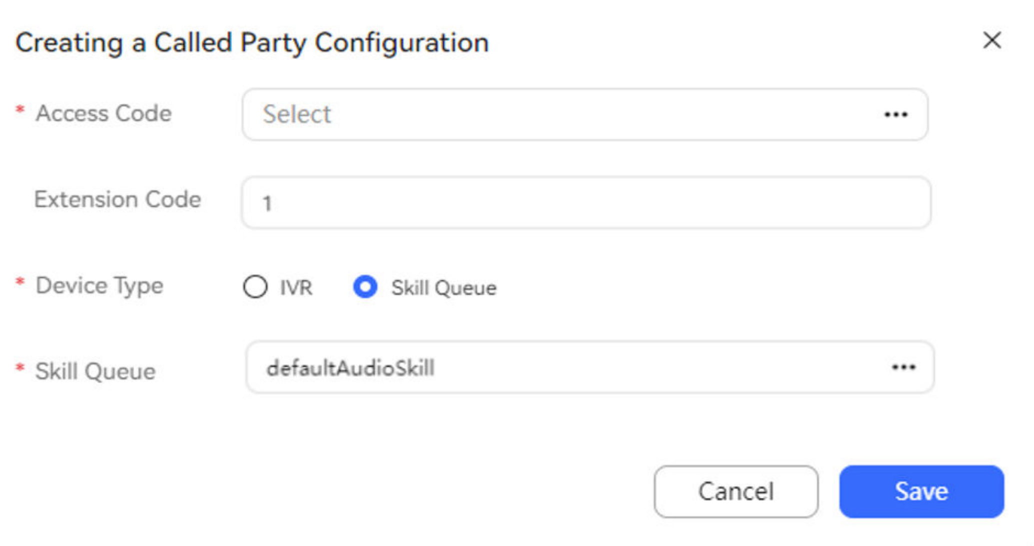
A tenant has been created.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Called Party**.

Step 2 Click **New** to create a called route for the VDN.

Figure 2-32 Creating a Called Party Configuration



The parameters are described as follows:

- **Access Code**: Click ••• to select an access code in the dialog box that is displayed. The access code type is displayed in the dialog box. Select an access code of the **Audio/Video** type for the manual voice business. You can select an access code of a different type as required.
- **Extension Code**: Enter the number that needs to be dialed following the access code to route to the target device. In this example, **Extension Code** is set to **1**, indicating that a customer needs to dial 66881 to access the **defaultAudioSkill** skill queue.
- **Device Type**: Select **Skill Queue** for the manual voice business.
- **Skill Queue**: Click ••• to select a skill queue in the dialog box that is displayed. The skill queues displayed in the dialog box are of the same type as that of the access code. For example, if the access code is of the **Audio/Video** type, all available skill queues are of the same type.

Step 3 Click **Save** to save the configuration.

----End

2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue

After a tenant administrator allocates a business account and skill queue to an agent ID, the agent can handle voice and video call businesses.

Prerequisites

A tenant has been created.

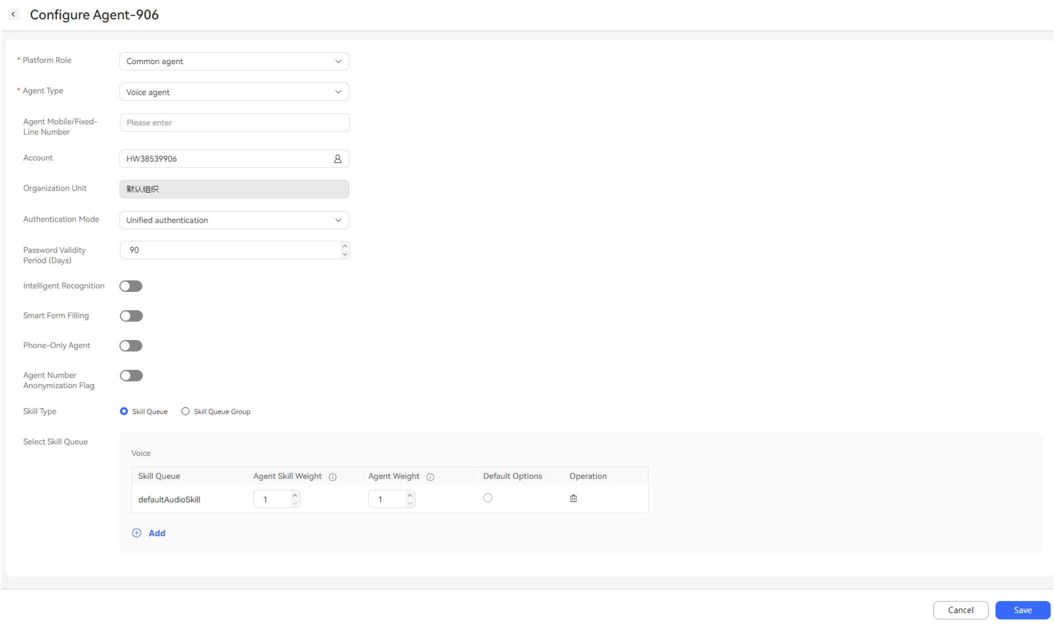
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Agent Management**.

Step 2 Select an agent ID and click **Configure** in the **Operation** column. The **Agent Info Configuration** page is displayed.

Step 3 Configure a business account and skill queue.

Figure 2-33 Agent Info Configuration page



- **Platform Role** (mandatory): Select an agent role. Select **Common agent** for the manual voice business.
  – **Common agent**: This role can answer or transfer inbound calls from customers.
  – **Quality checker**: This role can intervene in calls between common agents and customers. For example, this role can perform operations, such as insertion, interception, and forcible busy state setting, to coach and supervise agents' handling of inbound calls.
  – **Callout agent**: This role can answer, transfer, or reject inbound calls from customers.
- **Agent Type** (mandatory): Select an agent type based on the type of businesses to be handled. Select **Audio agent** for the manual voice business.
  – **Voice agent**
  – **Video agent**
  – **Multimedia agent**

  - **Versatile agent**
- **Agent Mobile/Fixed-Line Number**: Enter a mobile number or fixed-line phone number used by the agent. Leave this parameter empty for the manual voice business.
- **Account**: Select a created employee account. For details, see **2.2.3 Configuring Employee Information**. You can use the tenant administrator account created during tenant creation first.
- **Authentication Mode**: Select a softphone authentication mode. Retain the default value **UAP Authentication**.
  - **UAP Authentication**: A softphone number and password need to be used to log in to the OpenEye.
  - **Unified authentication**: The system automatically authenticates a softphone.
- **Password Validity Period (Days)**: Enter the validity period of the agent ID password, in days. Retain the default value.
- **Intelligent Recognition**: Configure whether the agent is an intelligent agent. This switch is turned off by default. In addition to basic voice control functions, intelligent agents support real-time ASR and related intelligent recommendation functions. Before turning on this switch, ensure that the number of agents for which intelligent recognition is enabled does not exceed the number of intelligent agents allocated when the tenant is created.
- **Automatic Session Summary**: This switch is turned off by default. After this function is enabled, the system can intelligently summarize the call content, issue resolution result, and customer satisfaction when **Call Reason** is configured on the workbench.

  This parameter is available only when the **Automatic Conversation Summary** feature is enabled and the **Intelligent Recognition** function is enabled.
- **Smart Form Filling**: This switch is turned off by default. After this switch is turned on, the system automatically extracts the information from the dialog text between a customer and an agent when the agent creates a case on the workbench. The system fills the information in the corresponding case form to complete the case filling task, so that the agent does not need to manually enter the information.

  This parameter is available only when the tenant parameter **Enabling the Intelligent TT Filling Feature** is set to **Yes**.

  To turn on **Smart Form Filling**, turn on **Intelligent Recognition** first.
- **Reply polishing**: This switch is turned off by default. After this switch is turned on, online agents can polish the plain text in the text box during a session on the workbench. An agent can use the scripts to improve service professionalism.

  This parameter is available only for multimedia agents or versatile agents for whom **Reply polishing** and **Intelligent Recognition** are enabled.
- **Phone-Only Agent**: After this switch is turned on, an agent can dial a specified access code to access an IVR flow, press a key as prompted to enter the agent ID and password to sign in, and answer calls on a mobile phone. When this switch is turned on, system O&M personnel need to customize the phone-only agent process for the tenant based on the platform, and the

tenant needs to provide number resources for accessing the phone–only agent process.

- **Agent Number Anonymization Flag**: Flag for a third-party to mark whether an agent has the anonymization feature. This is not a feature switch. The anonymization feature enables agents to customize the calling number displayed on the customer side (the calling number displayed to the customer) and the calling number displayed on the agent side (the calling number displayed to the agent).
- **Skill Type**: Select **Skill Queue** and click Add to set the skill queues of the agent. Alternatively, select **Skill Queue Group** and set the skill queue group of the agent. If multiple skill queues need to be added, ensure that the media types of all the skill queues are the same, except for versatile agents. For example, the media types of all the skill queues are voice and video, or multimedia. Click **default** to specify the default skill queue.

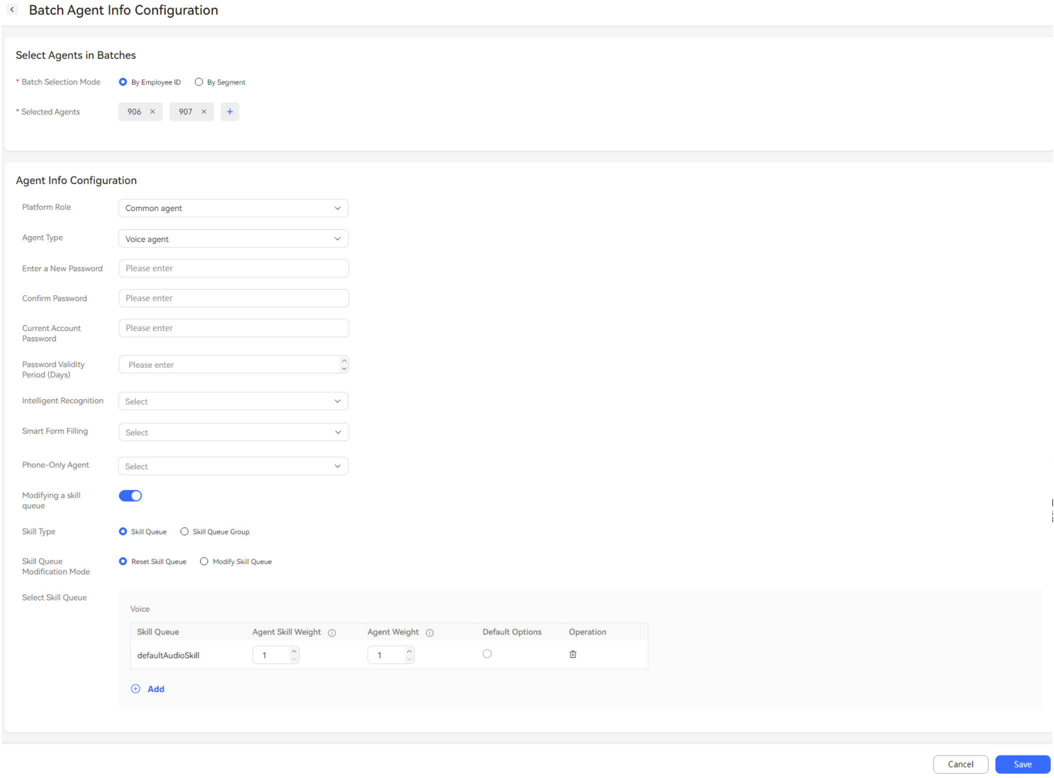
NOTE

- Multiple default skill queues can be set, but only one default skill queue can be set for each skill queue type.
- If **Agent Type** is set to **Video agent**, set the number of video agents allowed when applying for tenant resources.
- If **Agent Type** is set to **Multimedia agent**, set the number of multimedia agents allowed when applying for tenant resources.
- If **Agent Type** is set to **Versatile agent**, set the number of versatile agents allowed when applying for tenant resources.
- To add more business accounts, choose **Configuration Center** > **Employee Center** > **Employee**.

Step 4 Click **Save**. The business account and skill queue are associated with the agent ID.

Step 5 (Optional) Click **Configure** in the upper right corner of the page. On the **Batch Agent Info Configuration** page, configure agent information in batches.

Figure 2-34 Batch Agent Info Configuration page



- **Batch Select**: Select agents to be configured by agent ID or agent ID segment.
- **Agent Info Configuration**: Set parameters by referring to **Step 3**.

Step 6 (Optional) Select some agents and click  to export agent information in batches, or directly click  to export all agent information.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be added without entering a compression password.

----End

Follow-up Procedure

The tenant administrator needs to reset the agent's softphone password. The system randomly generates a password. The agent can change the password later.

Step 1 Sign in to the system as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Agent Management**.

Step 2 Select an agent ID and click **Reset Softphone Password** in the upper right corner of the page.

NOTE

Remember the softphone number bound to the agent ID, which will be used during verification.

Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Obtain** to obtain a verification code.

Step 3 Set **Current Account Password** and click **OK**.

----End

After the configuration of a signed-in agent is modified, the agent needs to sign in again for the modification to take effect.

2.3.1.4 Configuring the Agent Answering Mode

After a skill queue is added, a tenant administrator can customize the agent answering mode for the skill queue.

Prerequisites

The skill queue to be configured is of the voice or video type.

Business Scenario

A tone needs to be played to a customer when an agent answers a call from the customer.

Procedure

Step 1 Upload the customized voices before and after the employee ID.

For details, see **2.6.3.2 Managing Voice and Video Resources**. Set **Usage Scenario** to **before reporting employee ID** or **after reporting employee ID**.

Step 2 Contact the system administrator to review the uploaded voices before and after the employee ID.

After the voices are approved, go to the next step.

Step 3 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, select a voice or video skill queue, and click **Edit** in the **Operation** column.

Step 4 Click to expand **Skill Parameter Configuration**.

Step 5 In the **Skill AnswerMode** area, set **Answer Type** to **Report employee ID and customized voices**.

Step 6 Click the **Voice Before Employee ID** text box, select the approved voice before the employee ID, and click **OK**.

Step 7 Click the **Voice After Employee ID** text box, select the approved voice after the employee ID, and click **OK**.

Step 8 Click **Save**.

NOTE

When **Answer Type** is set to **Report employee ID and customized voices**, the total duration of the employee ID and voices before and after the employee ID cannot exceed 20 seconds. Otherwise, only the voice data of the first 20 seconds is played.

----End

2.3.2 Agent Workbench

A tenant administrator can centrally manage agent workbench settings for agents to use during call business handling.

2.3.2.1 Configuring Call Reasons

A tenant administrator can configure call reasons for agents to select during business handling.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Call Reason**.

Step 2 Click **New** to add a call reason.

Step 3 Set call reason parameters.

Figure 2-35 Create Call Reason

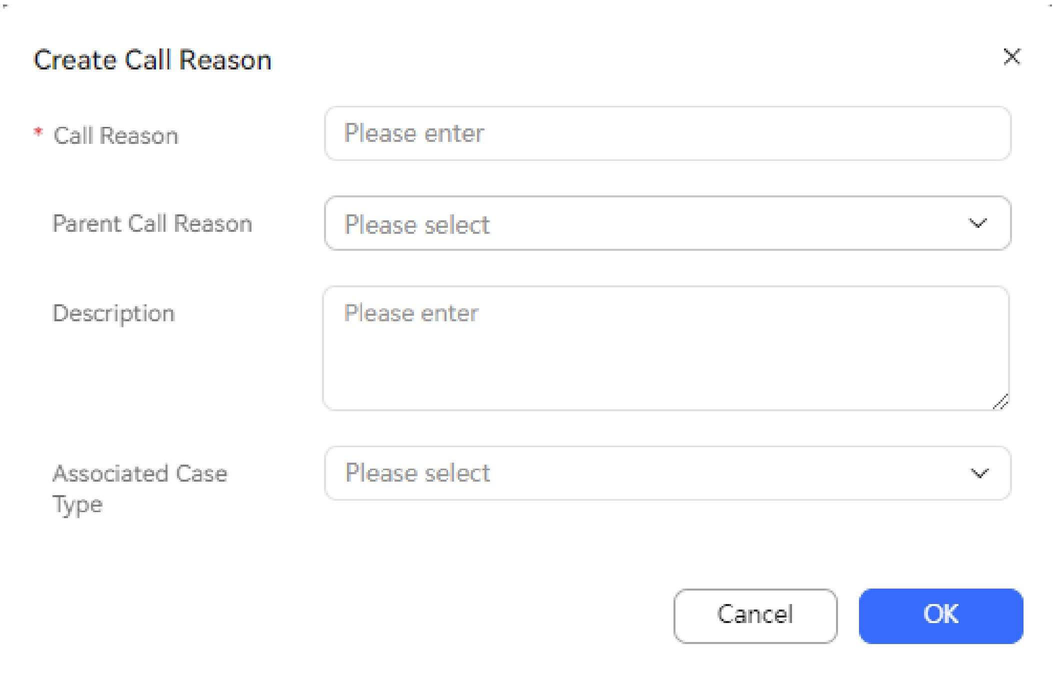


Table 2-4 Call reason parameters

Parameter	Description
Call Reason	Call reason name. This parameter is mandatory. The value can contain a maximum of 50 characters.
Parent Call Reason	Upper-level call reason of a call reason. This parameter is optional.
Description	Description. This parameter is optional. The value can contain a maximum of 500 characters.
Associated Case Type	Case type associated with a call reason. This parameter can be set only after the **Case 2.0** feature is enabled.

Step 4 Click **OK**.

Step 5 (Optional) Click **New** corresponding to the configured reason and choose **Add Sub Level** to configure a subreason for the reason. After the configuration is complete, click **OK**.

----End

2.3.2.2 Configuring Rest Reasons

A tenant administrator can configure rest reasons, including the rest duration, for agents to select for a rest.

Prerequisites

1. Sign in as a tenant administrator, choose **Configuration Center** > **System Management** > **Tenant Parameter**, and set the following parameters:
   - **Forcibly End Agent Rest After Timeout**: The options are **0** (no) and **1** (yes). Set this parameter to **0**.
   - **Internal Message Template for Notifying Supervisor of Agent Rest Timeout**: Set this parameter to the ID of a created internal message notification template. For details about how to configure an internal message notification template, see **Configuring an Internal Message Notification Template**.
2. The tenant administrator has set a manager for agents.

Scenario

When an agent needs to update the agent status to **Rest** after sign-in, the system allows the agent to select a rest reason. After a reason code is selected, the rest timing starts. After the agent has a rest, the agent can change the agent status and end the rest timing. If the rest time exceeds the duration specified by the selected reason code, the system displays a message indicating that the rest times out and sends an internal message to the manager of the agent, notifying the manager of the rest timeout.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Rest Reason**.

Step 2 Click **New**. The **Add Rest Reason** dialog box is displayed.

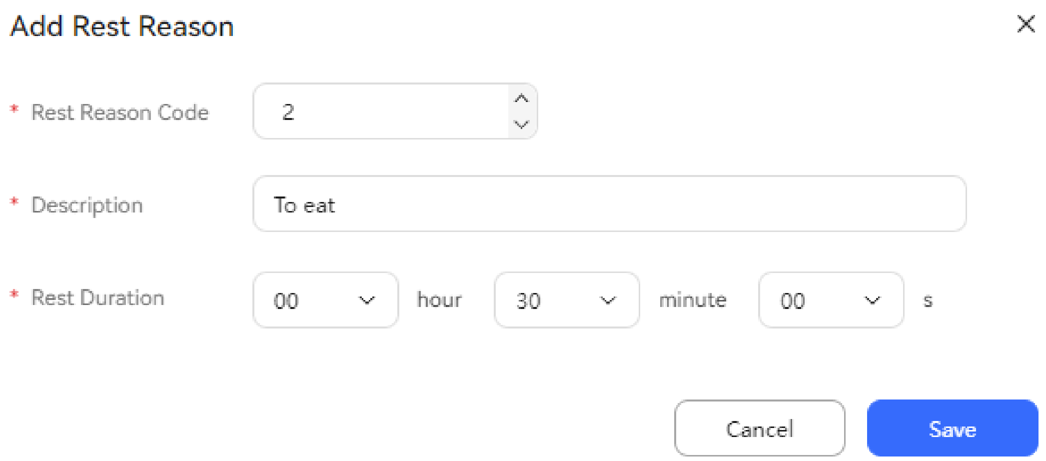


Table 2-5 Rest reason parameters

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Rest Reason Code	Text box	Reason code.	The value is a number ranging from 1 to 255.	Enter	The value must be unique.
Description	Text box	Reason description.	The value can contain a maximum of 100 characters.	Enter	-

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Rest Duration	Drop-down list	Rest duration.	The value contains only digits in the format of *hh:mm:ss*, for example, **00:00:00**. The rest duration must be greater than 0 seconds and less than 24 hours.	Enter	-

Step 3 Click **Save**.

Step 4 Click **Synchronize** to synchronize the information to the CTI.

----End

Follow-up Procedure

You can perform the following operations on rest reasons:

- Click **Edit** to modify a rest reason.
- Click **Delete** to delete a rest reason.
- Click **Delete** on the top of the page to delete rest reasons in batches.

NOTE

- If a reason code exists in the AICC but does not exist on the call center platform, delete the reason code from the AICC.
- If a reason code exists on the call center platform but does not exist in the AICC, add the reason code to the AICC. The rest duration is 10 minutes by default.
- If a reason code exists both in the AICC and on the call center platform, compare the basic information about the reason code. If any change occurs, update the reason code in the AICC.

2.3.2.3 Configuring Contact Record Data Items

Customer information is recorded in contact records. In addition, useful customer information can be obtained during contact record inspection, on the voice and video workbench, or during analysis.

2.3.2.3.1 Creating a Customized Extended Field

Prerequisites

The tenant has provided the AICC with the API for querying extended customer information, the AICC has provided the secondary development API for connecting to the customer query API, and the connection has been completed.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Contact Data Item**.

Step 2 Create a contact record dataset.

1. Click the **Extended Contact Information Dataset** tab and click **New**.
2. Set parameters based on **Table 2-6**.

Table 2-6 Dataset parameters

Parameter	Description
Dataset Name	Dataset name, which is customized. The value can contain a maximum of 1024 characters. Multiple datasets can be created, but their names must be unique.
Dataset Source Interface	API path developed by the AICC, which is used to connect to the API provided by the customer for querying extended customer information. Contact O&M personnel to obtain the value.

3. Click **Save**.

Step 3 Create a customized extended field.

NOTE

A maximum of 10 extended data items can be added.

1. Click the **Contact Record Data Item** tab and click **New**.
2. Set parameters based on **Table 2-7**.

Table 2-7 Parameters for creating a customized extended field

Parameter	Description
Data Type	Select **User-defined extended field**.
Field Name	Name of a customized extended field. The value can contain a maximum of 1024 characters.
Data Item ID	The value can contain a maximum of 128 characters.

Parameter	Description
Visible Contact Record	Whether an extended field is visible in the contact record list. The options are as follows: – : yes – : no
Field Order	Display sequence of a field in contact records. A field with a smaller No. is displayed in the front. Fields with the same No. are displayed based on their sequence in the list. The value is a number ranging from 1 to 100.
Source Dataset	The options are all extended contact information datasets added to the tenant space.
Dataset Mapping Field	Dataset mapping field. The value can contain a maximum of 32 characters.
Extended Writeback Field	Extended writeback field. The options are as follows: **extField1–extField10**
Data Type	Data type. The options are as follows: – **String** – **Data dictionary**
Data Dictionary Value	This parameter is mandatory when **Data Type** is set to **Data dictionary**. The format is *Key 1*:*Value 1*,*Key 2*:*Value 2*.

3. Click **Save**.

Step 4 After the configuration is complete, choose **Contact History** > **Contact** to view the display effect of the customized extended field.

----End

2.3.2.3.2 Creating a Basic Extended Field

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Contact Data Item**.

Step 2 Create a basic extended field.

1. Click the **Contact Record Data Item** tab and click **New**.
2. Set parameters based on **Table 2-8**.

Table 2-8 Parameters for creating a basic extended field

Parameter	Description
Data Type	Select **Basic extended field**.
Field Name	The options are as follows: – **Handled Number** – **Original Called Number** – **Contact Number** – **Call ID** – **Collaborative Call ID** – **Sign-In IP Address** – **Customer Name** – **Skill Queue ID** – **Agent Organization**
Data Item ID	After you set **Field Name**, the value of this parameter is automatically associated. It is dimmed and cannot be modified.
Visible Contact Record	Whether an extended field is visible in the contact record list. The options are as follows: – : yes – : no
Field Order	Display sequence of a field in contact records. A field with a smaller No. is displayed in the front. Fields with the same No. are displayed based on their sequence in the list. The value is a number ranging from 1 to 100.

3. Click **Save**.

Step 3 After the configuration is complete, choose **Contact History** > **Contact** to view the display effect of the basic data.

----End

2.3.2.3.3 Configuring the Contact Customer Information Area

Prerequisites

- You have configured an extended contact information dataset. For details, see **Step 2**.
- You have configured a dynamic data table. For details, see **2.3.2.8 Configuring Dynamic Data Tables**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Contact Data Item**.

Step 2 Add a data item to the contact customer information area.

1. Click the **Contact Customer Information Area** tab and click **New**.
2. Set parameters based on **Table 2-9**.

Table 2-9 Parameters for creating a data item in the contact customer information area

Parameter	Description
Field Name	Field name. The value can contain a maximum of 128 characters.
Data Item ID	Field ID. The value can contain a maximum of 64 characters.
Visible	Whether a data item is displayed in the customer information area on the voice and video workbench. The options are as follows: – : yes – : no
No.	No. of a data item in the contact customer information area. The value ranges from 1 to 100.
Data Source Type	Data source type. The options are as follows: – **Call-associated data** – **Information dataset** – **Local data**
Data Source Object	Data source object ID. – When **Data Source Type** is set to **Information dataset**, the value is the name of a dataset configured on the **Extended Contact Information Dataset** page. – When **Data Source Type** is set to **Local data**, the value is the data configured on the **Configuration Center** > **Expansion and Integration** > **Dynamic Data Table** page.

Parameter	Description
Data Source Object Mapping Field	Data source object mapping field. The value can contain a maximum of 32 characters. – When **Data Source Type** is set to **Call-associated data**, the value of this parameter is the mapping field of call-associated data. – When **Data Source Type** is set to **Information dataset**, the object name is the mapping field name of the dataset object. – When **Data Source Type** is set to **Local data**, the object name is the mapping field ID of the customized table object.
Extended Writeback Field	Extended contact record writeback field. This parameter is left blank by default. The value ranges from **extField1** to **extField10**. If the value is not empty, a record is added to the **Contact Record Data Item** page.
Data Type	Data type. The options are as follows: – **String** – **Data dictionary**
Data Dictionary Value	Data dictionary value. This parameter is displayed when **Data Type** is set to **Data dictionary**. The value can contain a maximum of 1024 characters. The format is *Key 1*:*Value 1*,*Key 2*:*Value 2*.
Display Style This parameter is displayed when **Data Type** is set to **Data dictionary**.	
Background Color	Background color.
Foreground Color	Font color.
Font	Font style. – **Regular** – **Bold** – **Italic** – **Underlined**

3. Click **Save**.

Step 3 After the configuration is complete, choose **Contact History** > **Contact** to view the display effect of the contact customer information area.

----End

2.3.2.4 Configuring the Voice Notification Function

You can configure callback information for voice notifications. When a voice notification ends, the system calls back the configured URL and transfers call data.

Prerequisites

- The voice notification feature has been enabled for the tenant space.
- You have contacted the system administrator to add voice notification callback URLs to the mobile agent callback URL trustlist.

Context

If the shared key is changed, you need to modify the involved voice notification item as follows: Sign in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Voice Notification**, click **Edit**, and update the value of **Shared Key**.

Obtain the shared key from the customer.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Voice Notification**, and configure the voice notification callback URL.

Step 2 Click **Edit** to configure the hang-up callback URL for voice notifications.

- **Hang-up Callback URL**: Hang-up callback URL. The URL must start with **http** or **https**.

  NOTE

  HTTP is not secure and may cause security risks. HTTPS is recommended.

- **HTTP request method**: The default value is **POST**.
- **Secret key**. The value must contain at least 16 characters.

  NOTE

  The shared key setting takes effect for configuration of the callback URL using an API. If the shared key is not set, no authentication is performed. For configuration of the callback URL on the GUI, no authentication is performed by default.

  No authentication may cause security risks. Exercise caution when using this mode.

Step 3 Click **Save**.

----End

2.3.2.5 Configuring the One-Click Bidirectional Call Function

You can select a one-click bidirectional call type (**CEC bidirectional call** or **ITA bidirectional call**) for the tenant space. The selected bidirectional call type is used when the agent bidirectional call API is invoked. In addition, you can configure callback information for one-click bidirectional calls. When a one-click bidirectional call ends, the system calls back the configured URL to transfer call data.

Prerequisites

- The one-click bidirectional call feature has been enabled for the tenant space.
- You have contacted the system administrator to add one-click bidirectional call callback URLs to the mobile agent callback address trustlist.

Context

- When the callback URL authentication mode is set to **Shared Key**, if the shared key is changed, you can modify the involved one-click bidirectional call item as follows: Sign in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**, click **Edit**, and update the value of **Shared Key**.
- When the callback URL authentication mode is set to **OAuth 2.0**, if the AK and SK authorized by OAuth 2.0 are changed, you need to modify the involved one-click bidirectional call items as follows: Sign in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**, click **Edit**, and update the values of **AK** and **SK**.
- When the one-click bidirectional call type is set to **ITA bidirectional call**, if the access key, app key, and secret key provided by the ITA are changed, you need to modify the involved one-click bidirectional call items as follows: Sign in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**, click **Edit**, and update the values of **AccessKey**, **AppKey**, and **SecretKey**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**.

Step 2 Click **Edit** to configure the one-click bidirectional call function.

Step 3 Select a one-click bidirectional call type. The options are **CEC bidirectional call** and **ITA bidirectional call**.

CEC bidirectional call indicates the bidirectional call function provided by the AICC, and **ITA bidirectional call** indicates the ITA bidirectional call API encapsulated on the AICC side. The selected bidirectional call type is used when the agent bidirectional call API is invoked.

NOTE

If **ITA bidirectional call** is selected, ensure that the CDR push URL has been configured on the ITA. Otherwise, the ITA cannot push CDRs to the CEC. An example push URL is as follows:

https://10.243.7.176:28090/apiaccess/rest/cc-management/v1/ita/twopartiescall/statusnotify

Step 4 Configure the CEC bidirectional call function.

1. Configure callback URLs.
   – **Connection Callback URL** and **Hang-up Callback URL**: Connection callback URL and hang-up callback URL. The URLs must start with **http** or **https**.

     NOTE

     HTTP is not secure and may cause security risks. HTTPS is recommended.
   – **Method of Connection Callback** and **Method of Release Callback**: The default values are **POST**.
2. Configure URL authentication for interface invocation.
   – **Callback URL Authentication Mode**: The options are **Shared Key**, **OAuth 2.0**, and **None**.

     NOTE

     The callback URL authentication mode setting takes effect for configuration of the callback URL using an API. For configuration of the callback URL on the GUI, no authentication is performed by default.

     No authentication may cause security risks. Exercise caution when using this mode.
   – **Shared Key**: This information is mandatory when **Callback URL Authentication Mode** is set to **Shared Key**. The key must contain at least 16 characters.
   – OAuth 2.0 authorization information: This information is mandatory when **Callback URL Authentication Mode** is set to **OAuth 2.0**.
     - **AK**: Access key ID (AK), which is the unique identifier associated with the SK.
     - **SK**: Secret access key (SK), which is used with the AK.
     - **OAuth 2.0 Authentication Login URL**: URL for obtaining the OAuth 2.0 access token. The OAuth 2.0 authentication mode is applicable only to the AppCube component.

Step 5 Configure the ITA bidirectional call function.

1. Configure URL authentication for interface invocation.
   – **Callback URL Authentication Mode**: The options are **Shared Key**, **OAuth 2.0**, and **None**.

     NOTE

     The callback URL authentication mode setting takes effect for configuration of the callback URL using an API. For configuration of the callback URL on the GUI, no authentication is performed by default.

     No authentication may cause security risks. Exercise caution when using this mode.
   – **Shared Key**: This information is mandatory when **Callback URL Authentication Mode** is set to **Shared Key**. The key must contain at least 16 characters.
   – OAuth 2.0 authorization information: This information is mandatory when **Callback URL Authentication Mode** is set to **OAuth 2.0**.

- **AK**: Access key ID (AK), which is the unique identifier associated with the SK.
- **SK**: Secret access key (SK), which is used with the AK.
- **OAuth 2.0 Authentication Login URL**: URL for obtaining the OAuth 2.0 access token. The OAuth 2.0 authentication mode is applicable only to the AppCube component.

2. Configure ITA parameters.
   - **AccessKey**: The value is provided by the ITA.
   - **SecretKey**: The value is provided by the ITA.
   - **AppKey**: The value is provided by the ITA.
   - **ITA Domain Name**: The value is provided by the ITA.
   - **X Number Allocation Mode**
     - **Automatic**
     - **Specified**
   - **X Number**: Purchased number provided by the ITA.

Step 6 Click **Save**.

----End

Follow-up Procedure (Only for ITA Bidirectional Calls)

If you select **ITA bidirectional call**, perform the following steps to configure the authentication certificate for ITA bidirectional calls.

Step 1 Obtain the ITA authentication certificate by referring to **2.17.6 Managing a Certificate**.

NOTE

To interconnect with the ITA bidirectional call function, you must upload the corresponding authentication certificate. You can obtain the certificate from **https://***ITA domain name***/v1/ngin/axmn**.

Step 2 Sign in to the AICC as the **sysadmin** user and choose **Configuration Center** > **System Management** > **Certificate**.

Step 3 Click **New**, set **Certificate Name** to **CERT_ITA**, set **Certificate Type** to **DER**, and select the obtained ITA authentication certificate.

Step 4 Click **Save**. After the certificate is uploaded, wait for 5 minutes for the certificate to take effect.

----End

2.3.2.6 Configuring Screen Pop-ups

A tenant administrator can configure pages frequently used or customized by agents as screen pop-ups. The screen pop-ups are displayed when agents answer calls.

Prerequisites

- You have contacted the system administrator to configure the third-party URL.
- If the page is an internal page, you have configured the internal page in advance. For details, see **2.3.2.7 Configuring Pages**.
- If the page is an AppCube-integrated page, you have enabled the AppCube feature and installed a non-AICC application package on AppCube.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Pop-Up Screen**.

Screen pop-up configuration support two page types: **Audio/Video** and **Multimedia**.

NOTE

Pop-up pages can be integrated into the agent workbench. For example, an **Audio/Video** pop-up page can be integrated into the voice and video workbench, and a **Multimedia** pop-up page can be integrated into the online chat workbench.

Step 2 Click **New**. On the **New Incoming Call Screen Pop-up** page that is displayed, configure screen pop-up information.

- The maximum number of screen pop-ups of the **Audio/Video** and **Multimedia** types is specified by the system parameter **Max. Screen Pop-ups for Each Tenant**. The value ranges from 1 to 10. By default, a maximum of five screen pop-ups can be created for each type.
- You can configure internal pages, external pages, and AppCube-integrated pages for the **Audio/Video** type, but can only configure external pages for the **Multimedia** type.

Figure 2-36 Internal page

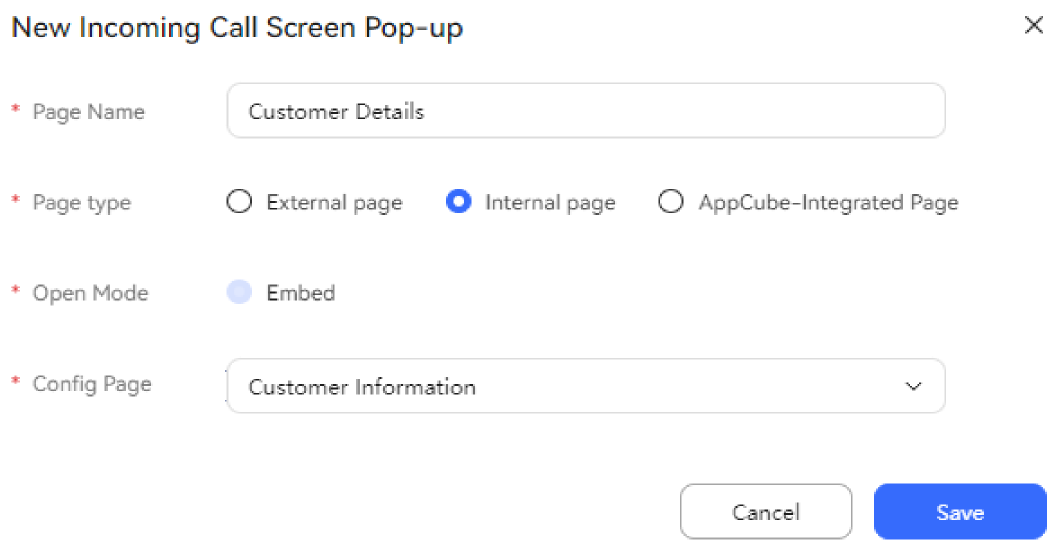


Figure 2-37 External page

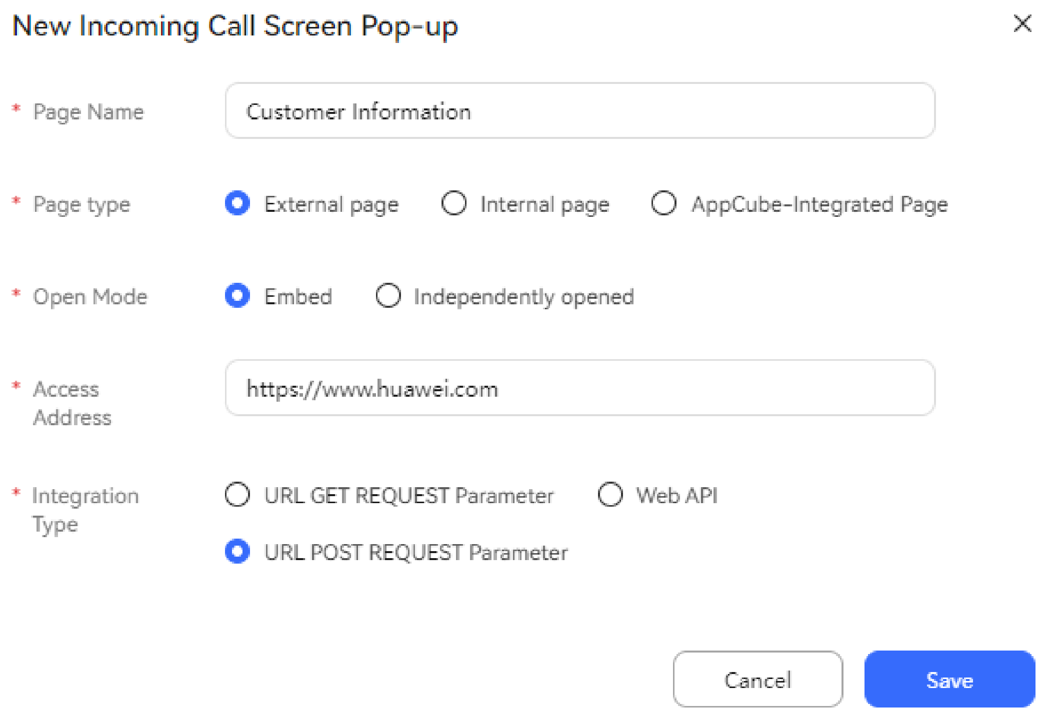


Figure 2-38 AppCube-Integrated Page

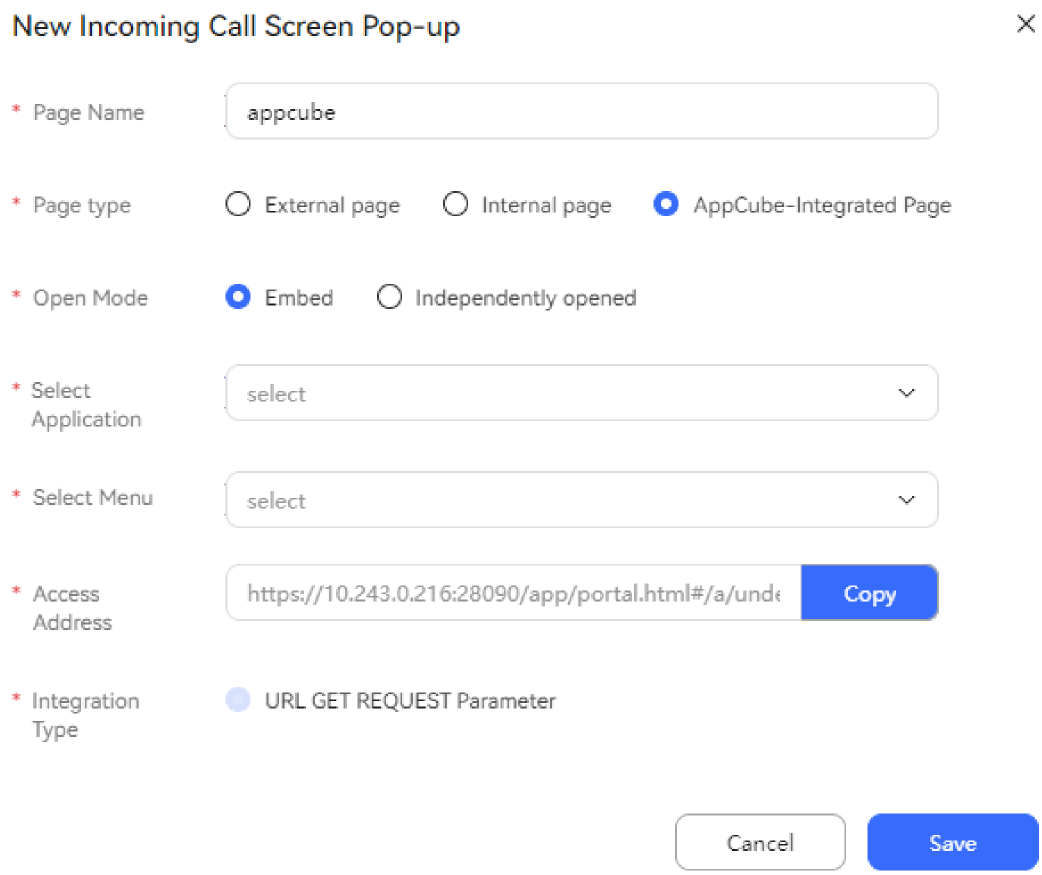


Table 2-10 Inbound call screen pop-up parameters

Parameter	Description
Page Name	Page name, which is customized.
Page type	The options are as follows: – **Internal page** – **External page** – **AppCube-Integrated Page**
Open Mode	The options are as follows: – **Embed** (By default, internal pages can be opened only in this mode.) – **Independently opened**
Config Page	This parameter is mandatory when **Page type** is set to **Internal page**. The value is the page customized and published in **2.3.2.7 Configuring Pages**.
Select Application	AppCube application that has been installed.
Select Menu	Menu under the selected AppCube application.
Access Address	This parameter is mandatory when **Page type** is set to **External page**. The value is the third-party URL configured by the system administrator. **CAUTION** For example, if this parameter is set to **https://www.huawei.com**, the passed URL is actually https://www.huawei.com?callerNum=*400124*&calledNum=*88880344*&callid=*1574662344-400*&mediaType=*1*&callType=*1*&workNo=*1511*&callskill=*defaultAudioSkill*&callskillid=*3*&agentName=*HW38539906*. The following parameters are added by default: – **callerNum**: calling number – **calledNum**: called number – **callid**: ID of the current session – **mediaType**: media type. The options are **1** (voice) and **5** (multimedia). – **callType**: call type. The options are **0** (inbound call) and **1** (outbound call). – **workNo**: platform agent ID – **callskill**: skill queue – **callskillid**: skill queue ID – **agentName**: business account of an agent

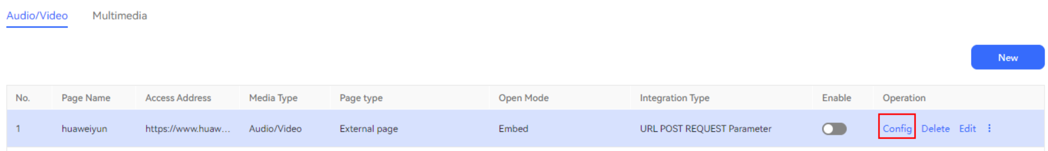
Parameter	Description
Integration Type	This parameter is mandatory when **Page type** is set to **External page** or **AppCube-Integrated Page**. The options are as follows: – **URL GET REQUEST Parameter**: The page is integrated by setting screen pop-up parameters. For details, see **Scenario 1: Integration by Using a URL (in GET Parameter Transfer Mode)**. – **URL POST REQUEST Parameter**: The page is integrated by setting screen pop-up parameters and processing form data. For details, see **Scenario 2: Integration by Using a URL (in POST Parameter Transfer Mode)**. – **Web API**: The page is integrated using **AICCSupport.js**. For details, see **Scenario 3: Integration by Using a URL (in Page JavaScript Invocation Mode)**.

Step 3 Click **Save**.

Step 4 (Optional) If the page is an external page or an AppCube-integrated page, set screen pop-up parameters for the page.

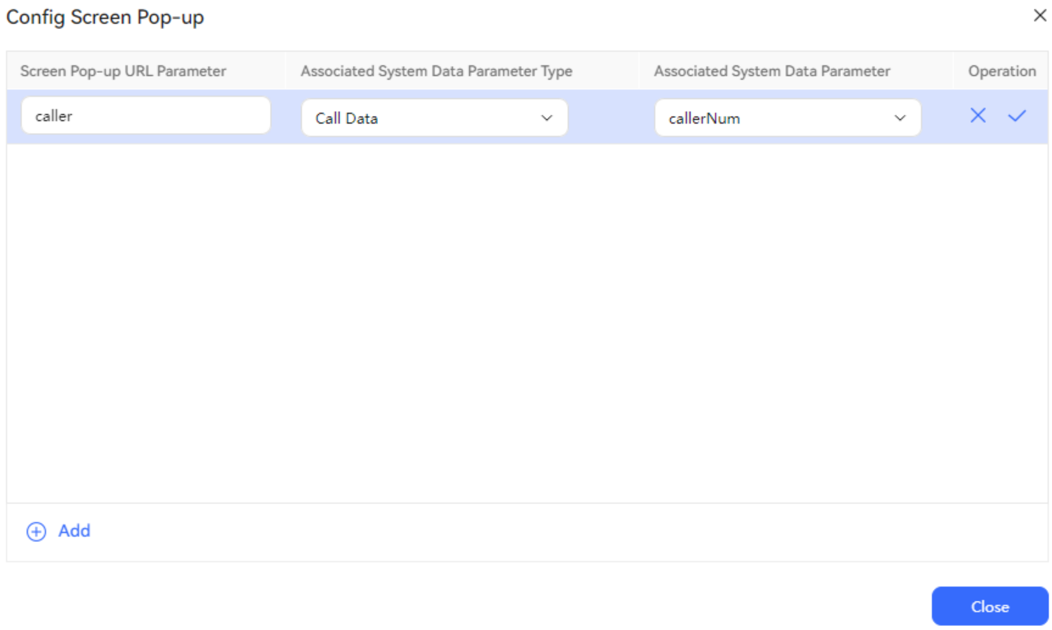
If screen pop-up parameters are not set, the following six parameters are transferred by default: **callerNum**, **calledNum**, **callid**, **mediaType**, **callType**, and **workNo**.

1. Select the configured inbound call screen pop-up and click **Config**. The page for setting external access address parameters is displayed.



2. Click Add to add screen pop-up URL parameters to be passed. The maximum number of parameters is specified by the system parameter **Max. Parameters Transferred in URL of Screen Pop-up for Each Tenant**. The value ranges from 1 to 20. By default, a maximum of 10 parameters can be added.
3. Set **Screen Pop-up URL Parameter**, **Associated System Data Parameter Type**, and **Associated System Data Parameter**.
   – **Call Data**

Figure 2-39 Selecting Call Data

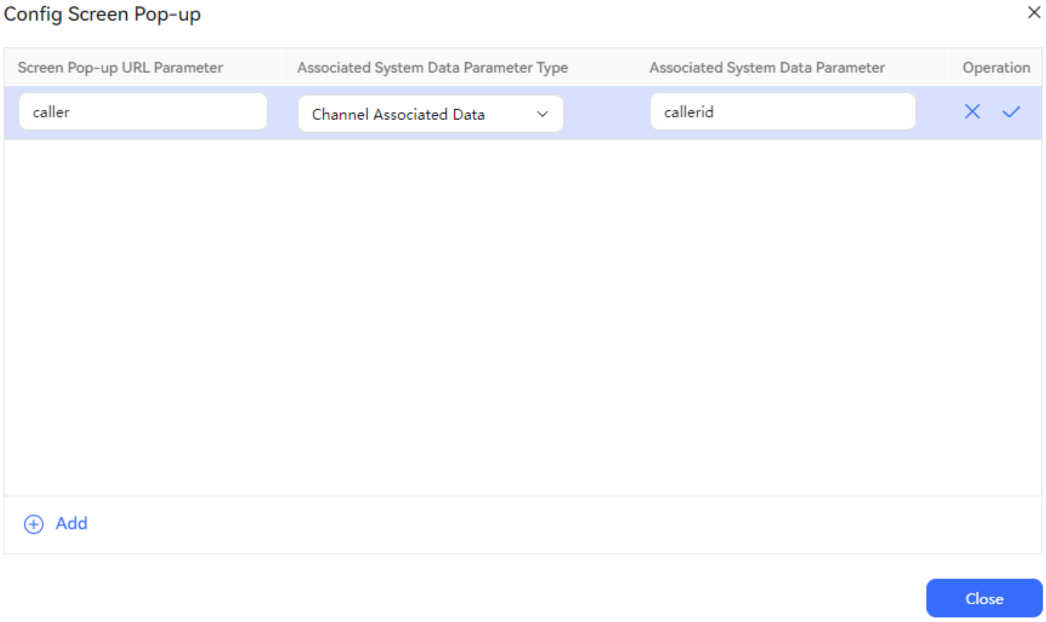


The value of **Associated System Data Parameter** can be:

- **callerNum**: calling number
- **calledNum**: called number
- **callid**: ID of the current session
- **mediaType**: media type. The options are **1** (voice) and **5** (multimedia).
- **callType**: call type. The options are **0** (inbound call) and **1** (outbound call).
- **workNo**: platform agent ID
- **callskill**: skill queue
- **callskillid**: skill queue ID
- **agentName**: business account of an agent

– **Channel Associated Data**

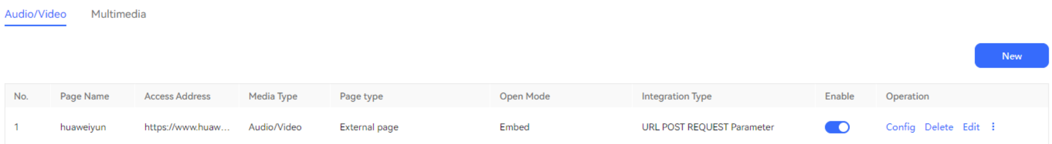
Figure 2-40 Selecting Channel Associated Data



The value of **Associated System Data Parameter** is customized.

4. Click **Close**.

Step 5 Select the configured pop-up page and click  in the **Enable** column to enable the pop-up page.



Step 6 If multiple inbound call screen pop-ups are enabled, click **Up** or **Down** in the **Operation** column to adjust the pop-up sequence of a screen pop-up. The screen pop-up on the top of the list pops up first.

----End

NOTE

Sign out and then sign in again for the configuration to take effect.

2.3.2.7 Configuring Pages

A tenant administrator can customize pages that can be referenced by inbound call screen pop-ups.

Prerequisites

- The system administrator has enabled the **Data customization** feature for the tenant space.
- A dynamic data table has been configured. For details, see **2.3.2.8 Configuring Dynamic Data Tables**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Page Configuration**.

Step 2 Click ⊕. The **New Page** dialog box is displayed.

Step 3 Configure information about the customized page. The value of **Certificate Description** can contain a maximum of 256 characters and must be unique.

Step 4 Click **Save**.

Step 5 The configuration of a customized page includes the page layout and page interface. Select the added customized page and configure it.

1. Configure the page layout.

Figure 2-41 Page Layout

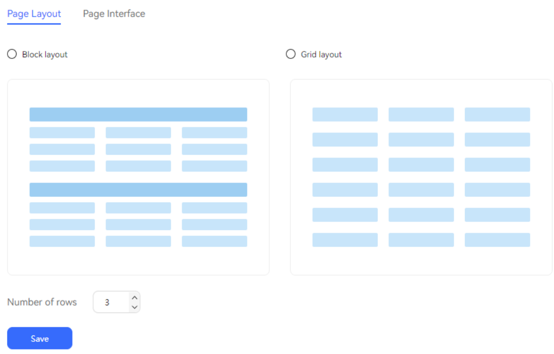


Table 2-11 Page parameters

Parameter	Description
Page Layout	
Layout type	The options are as follows: – **Block layout** – **Grid layout**
Number of rows	The options are as follows: – **2** – **3** – **4**
Save	Save the current page layout information.
Page Interface	
Internal interface	Configure the object list.
External interface	External interfaces are configured on the **API Management** page. Contact the system administrator.

Parameter	Description
Save	Save the current page interface information.

2. Configure the page interface.
   – Internal interface

Figure 2-42 Internal interface

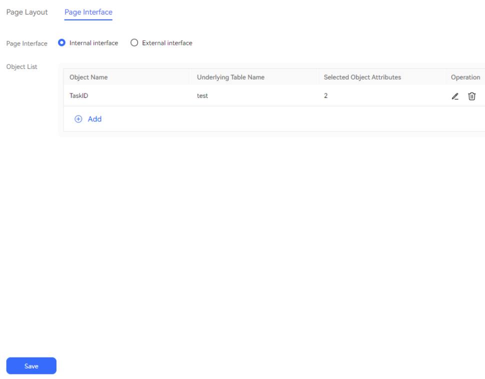


Figure 2-43 Select Object Attribute

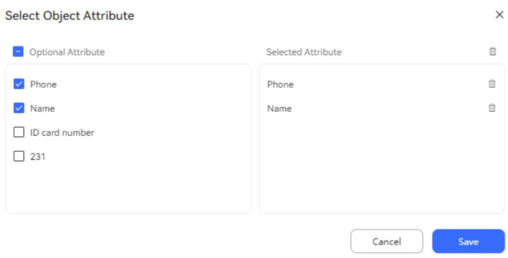


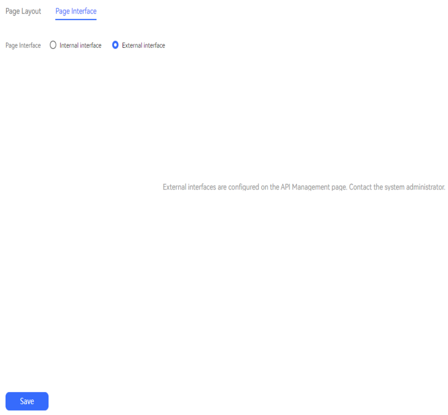
Table 2-12 Internal interface parameters

Parameter	Description
	Add an object to the internal interface. A maximum of five objects can be added.
Object List	
Object Name	Customize an object name.
Underlying Table Name	Select a published dynamic data table.
Selected Object Attributes	Select dynamic data table fields. You can select multiple fields.

Parameter	Description
Operation	Perform operations on an object. ▪ : Save a new object. ▪ : Delete an object. ▪ : Edit an object. ▪ : Move an object down. ▪ : Move an object up. ▪ : Cancel a new object.

– External interface

Figure 2-44 External interface



External interfaces are configured on the **API Management** page. Contact the system administrator.

Step 6 Click **Save**.

Step 7 Click the name of the customized page. The **Page Layout** page is displayed. Click on the left of the page name to publish the customized page.

----End

NOTICE

- Only published pages can be referenced by inbound call screen pop-ups. Pages that have been referenced by inbound call screen pop-ups cannot be unpublished.
- A maximum of five customized pages can be created. Delete unnecessary pages promptly.

Follow-up Procedure

You can perform the following operations on a configured page:

- Click to modify the selected page.
- Click to delete the selected page.

2.3.2.8 Configuring Dynamic Data Tables

A tenant administrator can customize dynamic data table fields to display stored customer information on customized pages.

Prerequisites

The system administrator has enabled the **Data customization** feature for the tenant space.

Business Scenario

When an enterprise tenant needs to store small-scale customer data in the call center, the AICC provides a customized dynamic data table to store customer information. Based on the customized page, the uploaded customer information can be automatically queried when an inbound call is made. For details about how to customize a page, see 2.3.2.7 Configuring Pages.

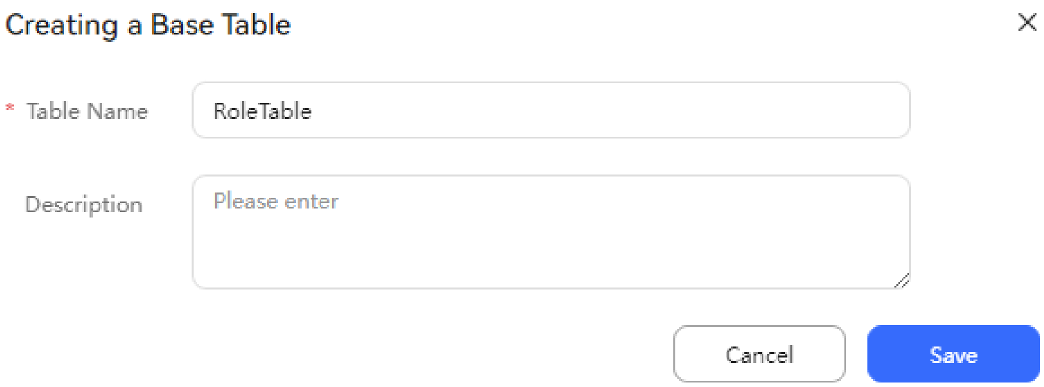
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Basic Table**.

Step 2 Click **New**. The **Creating a Base Table** dialog box is displayed.

Step 3 Set dynamic data table parameters.

Figure 2-45 Creating a Base Table



NOTE

A maximum of five dynamic data tables can be created.

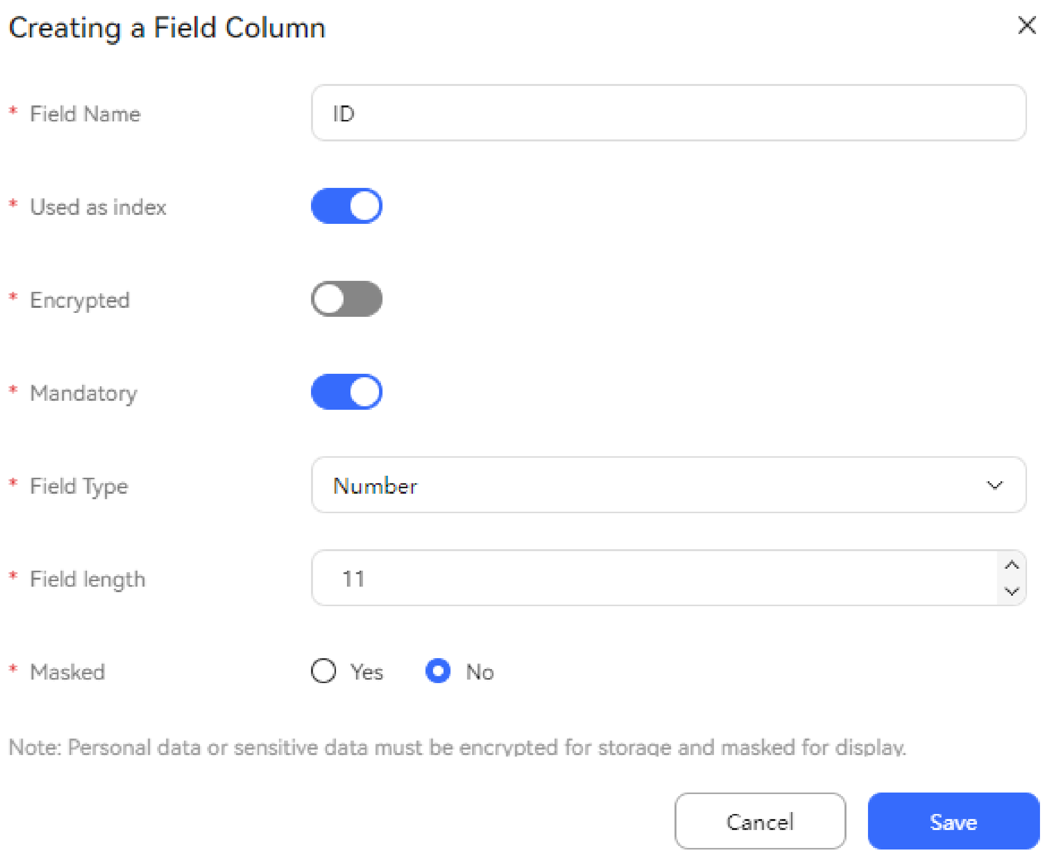
- **Table Name** (mandatory): Enter a customized dynamic data table name. The table name cannot contain special characters and can contain a maximum of 64 characters.
- **Description** (optional): Enter a dynamic data table description. The description cannot contain special characters and can contain a maximum of 1024 characters.

Step 4 Click **Save**.

Step 5 On the **Basic Table** page, click **Field Settings** corresponding to the new dynamic data table to configure fields for the dynamic data table.

Step 6 Click **New**. In the **Creating a Field Column** dialog box, set parameters, as shown in **Figure 2-46**.

Figure 2-46 Creating a Field Column



NOTE

A maximum of one index field, 30 common fields, and 20 encrypted fields can be created.

- **Field Name**: This parameter is mandatory. The table name cannot contain special characters and can contain a maximum of 64 characters.
- **Used as index**: This parameter is mandatory.

  The options are as follows:

  – : yes

– : no

NOTE

If **Used as index** is set to **Yes**, the field cannot be encrypted and is mandatory.

- **Encrypted**: This parameter is mandatory.

  The options are as follows:

  – : yes

  – : no

  NOTE

  If the data is personal or sensitive data, set this parameter to **Yes** to ensure data security.

- **Mandatory**: This parameter is mandatory.

  The options are as follows:

  – : yes

  – : no

- **Field Type**: This parameter is mandatory. The options are **String**, **Number**, **Date**, **DateTime**, and **Dictionary**.
- **Field length**: This parameter is mandatory. The value ranges from 1 to 256.
- **Masked**: This parameter is mandatory. The options are **Yes** and **No**.

  NOTE

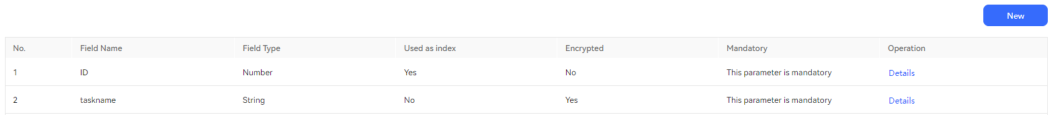
  If the data is personal or sensitive data, set this parameter to **Yes** to ensure data security.

- **Mask style**: This parameter is mandatory when **Masked** is set to **Yes**. The following uses **1234567890** as an example to describe the options.
  - **Reserve last four digits**: ********7890** is displayed.
  - **Reserve first four digits**: **1234******** is displayed.
  - **Mask last four digits**: **123456****** is displayed.
  - **Mask first four digits**: ******567890** is displayed.
  - **Mask all digits**: ************ is displayed.
  - **Email mask**: The first two digits and the last digit of an email address are reserved, for example, **to****3@aabbcc.com**.
  - **Bank account mask**: The first six digits and last four digits are reserved, for example, **620000******1234**.
  - **ID card number mask**: The date of birth and last four digits are masked, for example, **123456**************.

Step 7 Click **Save**.

Step 8 (Optional) Click **Top**, **Up**, **Down**, or **Bottom** corresponding to a field to adjust the field sequence.

Figure 2-47 Basic Table Configuration



No.	Field Name	Field Type	Used as index	Encrypted	Mandatory	Operation
1	ID	Number	Yes	No	This parameter is mandatory	Details
2	taskname	String	No	Yes	This parameter is mandatory	Details

Step 9 On the **Basic Table Configuration** page, click **Release** corresponding to a dynamic data table for which fields have been configured. In the **Tips** dialog box, click **OK** to publish the dynamic data table.

----End

Follow-up Procedure

You can perform the following operations on a dynamic data table in **Draft** state:

- Click **Edit** to modify the dynamic data table name and description.
- Click **Field Settings** to configure fields for the dynamic data table.
- Click **Delete** to delete an unnecessary dynamic data table.
- Click **Release** to enable a dynamic data table for which fields have been configured.

You can perform the following operations on a dynamic data table in **Release** state:

- Click **Field Settings** to configure fields for the dynamic data table.
- Click **Withdraw** to update the dynamic data table status to **Draft**.
- Click **Discard** to update the dynamic data table status to **Discard**.

You can perform the following operations on a dynamic data table in **Discard** state:

- Click **Field Settings** to configure fields for the dynamic data table.
- Click **Delete** to delete an unnecessary dynamic data table.

NOTE

- Only dynamic data tables in **Release** state can be referenced by pages.
- Dynamic data tables in **Release** state cannot be deleted. Only dynamic data tables in **Draft** or **Discard** state can be deleted.

2.3.2.9 Querying Table Data

A tenant administrator needs to add specific table data to the configured dynamic data table so that the data can be displayed on the configured screen pop-up after a call is connected.

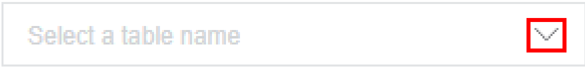
Prerequisites

- The data customization feature has been enabled for the tenant.
- A dynamic data table has been released. For details, see **2.3.2.8 Configuring Dynamic Data Tables**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion Management** > **Table Data**.

Step 2 Click and select a released dynamic data table to configure table data.



Step 3 Import table data.

1. Choose **Import Data**. The data import page is displayed.
2. Click **Export Template** to download the table data template to a local path and fill in table data.

   NOTE

   – Only an Excel file can be uploaded. The file size cannot exceed 20 MB. The file name can contain only Chinese characters, letters, digits, and underscores (_).

   – The header of the uploaded Excel file must match that of the downloaded template. Otherwise, the file processing fails.

   – The imported data cannot start with **+**, **=**, or **@**. If the data starts with **-**, the data must be in the format of **-***{One or more digits}{Several characters}*.
3. Click . In the dialog box that is displayed, select the configured table data file.
4. Click **Submit**. In the dialog box that is displayed, click **OK** to import the table data.

Step 4 Click **Import Result View**. On the import result list page that is displayed, confirm that the **Status** of the data import record is **Completed**.

Step 5 Click **Return**. The table data list page is displayed, showing details about the imported data.

----End

Follow-up Procedure

- Data editing: Imported table data can be edited again.
  – Click **Edit**. On the **Edit** page, edit table data except index data. After confirming that the data is correct, click **Submit** to save the table data.
  – Click **Delete**. In the dialog box that is displayed, click **Yes** to delete unnecessary table data.
- Data export: Existing table data can be exported.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

  a. Click **New Export Task**. The **Enter compression password** dialog box is displayed.

  b. Enter the customized compression password and click **Confirm**. The data is exported successfully.

c. In the dialog box that is displayed, click **OK** to return to the table data configuration page.

d. Click **Export Task View**. The export result page is displayed.

e. Select the export record whose **Status** is **Success**, and click **Download** to export the table data file to a local path.

f. After the download is successful, open the exported file and enter the compression password to view table data.

2.3.2.10 Managing the Multimedia Library

A tenant administrator can preconfigure some multimedia library data, including common phrases, voices, videos, images, documents, addresses, personalized emojis, rich texts, card templates, co-browsing URLs, and plain texts for agents to improve work efficiency.

Prerequisites

To configure a card template for which a URL needs to be configured as a card option, an application for adding the URL to the address trustlist has been submitted to the system administrator and approved.

Context

After a version earlier than 23.100.0 is upgraded to the current version, the uploaded AAC file needs to be uploaded again. Otherwise, the old AAC file fails to be sent after the WhatsApp channel is connected to Infobip.

The multimedia file types supported by each channel are as follows.

Table 2-13 Multimedia data and channels

Multimedia Data Type	Supported Sending Channel
Common phrase (including common phrases in the multimedia library and personalized common phrases)	• Web • 5G RCS • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • SMS • Instagram • Telegram

<table>
<tr><th colspan="2">Multimedia Data Type</th><th>Supported Sending Channel</th></tr>
<tr><td colspan="2">Voice</td><td>• Web: MP3 or AAC
• WeChat: MP3
• Facebook: MP3
• LINE: M4A
• WhatsApp: ACC
• Instagram: M4A
• Telegram: MP3 or M4A</td></tr>
<tr><td colspan="2">Video</td><td>• Web
• WeChat
• X (Twitter)
• Facebook
• LINE
• WhatsApp
• Instagram
• Telegram</td></tr>
<tr><td colspan="2">Image</td><td>• Web
• WeChat
• X (Twitter)
• Facebook
• LINE
• WhatsApp
• Telegram</td></tr>
<tr><td colspan="2">Address</td><td>• Web
• 5G RCS
• LINE
• WhatsApp
• Instagram
• Telegram</td></tr>
<tr><td colspan="2">Personalized emoji</td><td>• Web
• WeChat</td></tr>
<tr><td rowspan="5">Card template</td><td>5G card</td><td rowspan="2">5G RCS</td></tr>
<tr><td>5G rotating card</td></tr>
<tr><td>WhatsApp template message</td><td rowspan="2">WhatsApp</td></tr>
<tr><td>WhatsApp interactive message</td></tr>
<tr><td>Web card</td><td>Web</td></tr>
<tr><td colspan="2">Rich text</td><td>Web</td></tr>
</table>

Multimedia Data Type	Supported Sending Channel
Email draft (not maintained on the **Multimedia Library** menu)	Email
SMS template (not maintained on the **Multimedia Library** menu)	SMS
Co-browsing URL	Web
Document	• Web: DOC, DOCX, PDF, or ZIP • WhatsApp: DOC, DOCX, PDF, PPT, PPTX, XLSX, or XLS • Telegram: PDF or ZIP
Plain text	• Web • 5G RCS • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • SMS • Instagram • Telegram

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Multimedia Library**.

Step 2 Configure the common phrase library.

1. Click the **Phrase** tab and click ⊕ to add a common phrase category and set the following parameters:
   - **Category Name**: Enter a maximum of 20 characters.
   - **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.

   Only one common phrase can be added at a time. A common phrase can contain a maximum of 500 characters. If there are multiple common phrases, click **Create** to add them one by one.

Step 3 Configure the voice library, video library, image library, document library, and personalized emoji library. The following uses the voice library as an example.

1. Click the **Voice** tab and click ⊕ to add a voice category and set the following parameters:
   – **Category Name**: Enter a maximum of 20 characters.
   – **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.
3. Set **Name** and click **+Select File** to select a local voice file in MP3, AAC, or M4A format.
4. Click **Save**. The file is uploaded.

   You can perform the following operations on uploaded files:
   – : Enter the list mode and display data in a list. This button is available only for the video library, image library, and personalized emoji library.
   – : Enter the preview mode and display data on cards. This button is available only for the video library, image library, and personalized emoji library.
   – Click **Play** to play a voice file online.
   – Click **Preview** to preview a video or image file online.
   – Click **Download** to download an uploaded document online.
   – Click **Edit** to modify the description of an uploaded file.
   – Click **Delete** to delete an unnecessary multimedia file.
   – Click **Release** to publish an image, video, or voice file to the 5G VAS CSP. This button is not displayed in preview mode. The validity period of multimedia data published to the 5G platform is two months.
   – Click **Release Result** to view the result of releasing multimedia data to the 5G platform.

   NOTE

   Before creating a 5G card or 5G rotating card, ensure that a multimedia resource of the image, video, or voice type has been released and approved.

Step 4 Configure the address library.

1. Click the **Address** tab and click ⊕ to add an address category and set the following parameters:
   – **Category Name**: Enter a maximum of 20 characters.
   – **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.
3. Set **Name**, **Longitude**, and **Latitude**. The longitude ranges from –180 to 180 and can contain 0 to 6 decimal places. The latitude ranges from –90 to 90 and can contain 0 to 6 decimal places.
4. Click **Save**. The address is configured.

   You can perform the following operations on uploaded addresses:
   – Click **Edit** to modify the description of an uploaded address.

– Click **Delete** to delete an unnecessary address.

Step 5 Configure rich texts or plain texts. The following uses rich texts as an example.

1. Click the **Rich Text** tab and click ⊕ to add a rich text category and set the following parameters:
   – **Category Name**: Enter a maximum of 20 characters.
   – **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.
3. Set **Name** and **Description**, and enter the rich text content.
4. Click **Save**. The rich text is configured.
   You can perform the following operations on created rich texts:
   – Click **View** to view a rich text.
   – Click **Edit** to modify a rich text.
   – Click **Delete** to delete an unnecessary rich text.

Step 6 Configure a card template.

Click the **Card Template** tab. The template list page is displayed.

- Configure a 5G card.
  a. Choose **5G Card** and click **Create**.
  b. Set the following parameters:
     ▪ **name**, **title**, and **Description**: Customize the values.
     ▪ **Media Type**: The options are **IMAGE**, **VIDEO**, and **AUDIO**.
     ▪ **Multimedia Resource**: Select a media resource of the corresponding type. The options are media resources that have been published and approved in **3**.
     ▪ **Media height**: The options are **Short Height**, **Medium Height**, and **Tall Height**.
     ▪ (Optional) **Organization Unit**: Assign an OU.
     ▪ **Card Options**
       1) Click **Add Card Options** to add a card option. A maximum of three card options can be added.
       2) Set **Card Option Name** and **Card Display Text**.
       3) Select an option type and configure the option content.
          If **linking** is selected, the option content must be a URL for customers to click to go to the specified page.

          NOTE

          HTTP has security risks. Exercise caution when using it. You are advised to use HTTPS, which is more secure.

          If **dial** is selected, the option content must be a number for customers to dial.

If **reply** is selected, the option content must be a phrase for customers to reply with.

4) Click **Move Up** to adjust the sequence.

c. Click **Save**. The 5G card template is configured.

- Configure a 5G carousel card.
  a. Choose **5G Rotating Card** and click **Create**.
  b. Set the following parameters:
     - **name**, **title**, and **Description**: Customize the values.
     - **Card Arrangement Direction**: Currently, the value can only be **leveling**.
     - **Image Alignment Mode**: The options are **Left Alignment** and **Right Alignment**.
     - **Card Width**: The options are **Medium Width** and **Smaller width**.
     - (Optional) **Organization Unit**: Assign an OU.
     - **Card Options**: Click **Select Card**, select a maximum of five created 5G card templates, and click **Save**. Click **Move Up** to adjust the playback sequence of a card.
  c. Click **Save**.
- Configure a WhatsApp template message.
  a. Choose **WhatsApp Template Message** and click **Create**.
  b. Click **Create**. The **Create WhatsApp Template** page is displayed.

     If you have created a template on the **Configuration Center** > **Resource Management** > **WhatsApp Template** page, you can directly go to **Step 6.e**.
  c. Set the following parameters:
     - **Template Name** and **Template Description**: Customize the values.
     - **Template Channel**: Select the WhatsApp channel configured on the **Channel Configuration** page. For details about how to configure the WhatsApp channel, see **2.5.8 Configuring the WhatsApp Channel**.
     - **Language**: Select the language of the template.
     - **Template availability times per day**: Customize the number of times the template can be sent in a day. If the value is exceeded, the template message fails to be sent.
     - **Template Content**: Configure the template content as required, including **Header**, **body**, **footer**, and **buttons**.
  d. Click **Save** to return to the WhatsApp template message configuration page.
  e. Set the following parameters:
     - **Template Message Name** and **Description**: Customize the values.

  - **Template Name**: Select the WhatsApp template created in **Step 6.b**.

    After a WhatsApp template is selected, other parameters are automatically filled in with the data of the WhatsApp template.

f. Click **Save**.

- Create an interactive WhatsApp message.

  a. Click the **Card Template** tab. The template list page is displayed.

  b. Choose **WhatsApp Interactive Messages** and click **Create**. The WhatsApp configuration page is displayed.

  c. Configure basic information.

     - Customize **Message Name** and **Description**.
     - Set **Business Solution Provider**. The options are as follows:
       - infobip
       - Twilio
     - Customize **Unique ID of a template**. This parameter is displayed when **Business Solution Provider** is set to **Twilio**.
     - Set **Organization Unit**.
     - Set **Message Type**. The options are as follows:
       - **Button Message**
       - **List Message**

  d. Set parameters in the **Template Content** area.

     - Customize **body** and **footer**.
     - Set **Header**. This parameter is displayed when **Business Solution Provider** is set to **infobip**.
       - When **Message Type** is set to **Button Message**, select **None**, **Text**, **Image**, **Video**, or **Attachments**.

         If **Text** is selected, you need to set **Header Content**.

         If you select **Image**, **Video**, or **Attachments**, you also need to select a multimedia resource. Click to select a media resource of the corresponding type from the multimedia library.
       - When **Message Type** is set to **List Message**, set **Header Content**.
     - Customize **body**.
     - Set **footer**. This parameter is displayed when **Business Solution Provider** is set to **infobip**.
     - Set **Button** (mandatory when **Message Type** is set to **Button Message**).

       Click **Create** to create a button. A maximum of three buttons can be created.

      - Set **List** (mandatory when **Message Type** is set to **List Message**).
        1) Enter a list title.
        2) Click **Create** to create a list group. A maximum of 10 groups can be added to a list.
        3) Enter a group title and click to expand the group.
        4) Click **Create** to create a group option. A maximum of 10 options can be added to a group.
   e. Click **Save**. The interactive WhatsApp message is created.
- Configure a web card.
   a. Choose **WebCard** and click **Create**.
   b. Set the following card template parameters:
      - **name**: Customize the value.
      - **template type**: The options are as follows:
        - **Common type**: If this option is selected, you need to set the following parameters:
          - **title** and **Description**: Customize the values.
          - **Media Type**: The options are **IMAGE**, **Address**, and **VIDEO**.
          - **Multimedia Resource**: Select a multimedia resource of the corresponding type.
          - **linking**: Enter a URL for customers to click to go to the specified page.

            NOTE

            HTTP requests have security risks. HTTPS is recommended.
        - **Card Options**
      - **Organization Unit**: Select the OU created in **2.2.1 Configuring OUs**.
   c. Select a card display style. The options are as follows:
      - **transverse**
      - **longitudinal**
   d. Add card options.

      NOTE

      When **Card display style** is set to **transverse**, a maximum of 15 card options can be added. When **Card display style** is set to **longitudinal**, a maximum of five card options can be added.
      i. Click **Add Card Options**.
      ii. Set the following parameters:
        - **Image property**: Select an image resource configured in **Step 3**.
        - **Card display text**: Enter a maximum of 32 characters. The value cannot contain the following special characters: <>'"/\

- **Option Type**: The options are as follows:
  - **reply**
  - **linking**
- **select content**
  - When **Option Type** is set to **reply**, the value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\
  - When **Option Type** is set to **linking**, the value must start with **http** or **https**.

    NOTE

    HTTP has security risks. Exercise caution when using it. You are advised to use HTTPS, which is more secure.

e. Click **Save**. The web card template is configured.

Step 7 Create a co-browsing URL.

1. Click the **Cobrowse Site** tab. The co-browsing URL list page is displayed.
2. Click **Create**.
3. Set the following parameters:
   - **Name** and **Describe**: Customize the values.
   - **Cobrowse Site**: Enter a proper URL for agents to click to send co-browsing requests to customers.

     NOTE

     HTTP requests have security risks. HTTPS is recommended.
4. Click **Save**.

----End

2.3.2.11 Configuring Identity Authentication Processes

A tenant administrator can configure identity authentication processes for agents to authenticate the customer identity.

Prerequisites

- The **Authentication** permission has been enabled.
- An IVR flow voice has been configured.

Scenario

A third-party system needs to be connected when an agent needs to authenticate the customer identity during a call.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Authenticate**.

Step 2 Click **New**. The **Add Identity Authentication Process** dialog box is displayed.

Figure 2-48 Add Identity Authentication Process

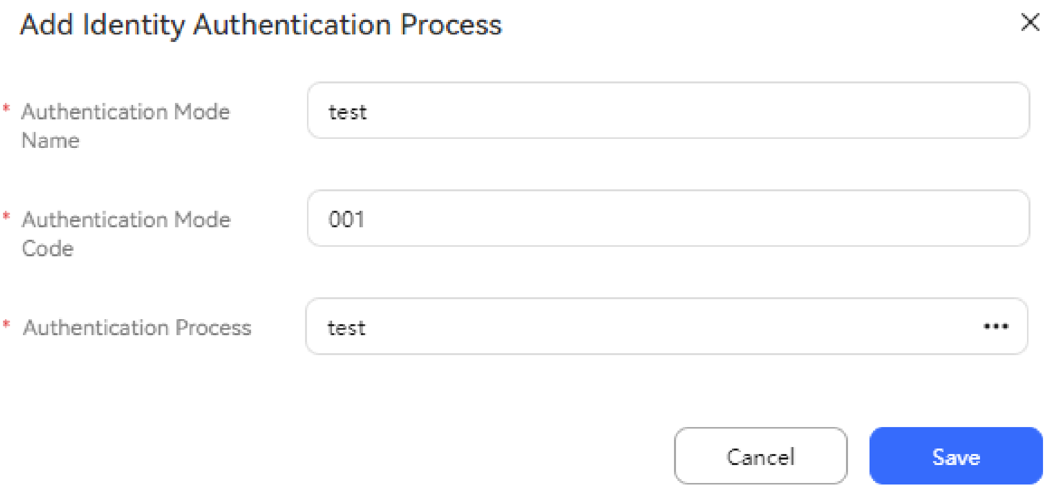


Table 2-14 Parameters for adding an identity authentication process

Parameter	Description
Authentication Mode Name	Authentication mode name. The value can contain a maximum of 128 characters.
Authentication Mode Code	Authentication mode code. The value can contain a maximum of 128 characters.
Authentication Process	IVR flow that has been published in the tenant.

Step 3 Click **Save**.

Step 4 Click  to enable the identity authentication process.

----End

Follow-up Procedure

You can perform the following operations when the configured identity authentication process is not enabled:

- Click **Edit** to modify the identity authentication process.
- Click **Delete** to delete the identity authentication process.

2.3.3 Other Configurations

A tenant administrator can optimize tenant space configurations to improve agent and customer experience.

2.3.3.1 Configuring the Fault Prompt Tone

A tenant administrator can customize the fault prompt tone, which is played to users when system agents are faulty.

Prerequisites

You have configured a customized fault prompt tone by choosing **Configuration Center** > **Resource Management** > **Audio and Video Resource Management** and uploading a voice file whose **Usage Scenario** is **error**. The voice file can be used only after being approved by the system administrator.

Scenario

After a tenant administrator enables the fault prompt tone function, the transfer-to-agent function of the tenant space becomes invalid. When a fault occurs, the configured fault prompt tone is played. However, the function of directly calling an agent is not affected by this feature.

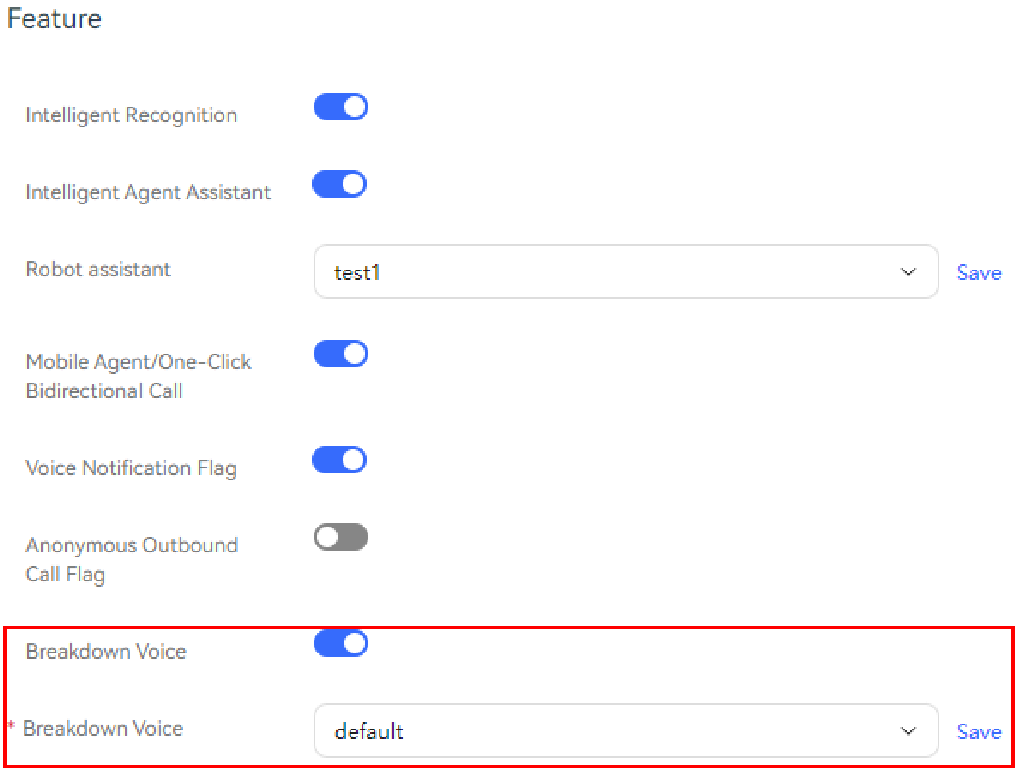
For example, a transfer diagram element is configured in an IVR flow, and an agent who transfers a call to a skill queue is configured for the diagram element. When a customer accesses the IVR flow and chooses to transfer the call to a skill queue, the system plays the fault prompt tone. In addition, the function of transferring the call to an agent is invalid for all agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator. Choose **Configuration Center** > **System Management** > **Tenant Information**.

Step 2 Under **Feature**, click  next to **Breakdown Voice** to enable the fault prompt tone function for the tenant space.

Figure 2-49 Breakdown Voice



Step 3 Select an approved prompt tone and click **Save**.

NOTE

- The function is disabled by default. Each time the function is disabled, the message "Update tenant fault success." is displayed.
- The system provides a default prompt tone.

----End

2.3.3.2 Configuring Satisfaction Surveys

A tenant administrator can set satisfaction levels for tenant space satisfaction surveys.

Business Scenarios

- Scenario 1: web channel satisfaction survey

  When a customer connected to an agent on the web page clicks the button for closing the chat window, a satisfaction survey page is displayed. The customer selects a satisfaction level, enters comments, and closes the chat window.
- Scenario 2: SMS satisfaction survey

  When an agent or customer hangs up after the customer service call ends, the system automatically sends a satisfaction survey SMS message to the customer. The customer replies to the SMS message to provide the satisfaction survey result.

- Scenario 3: IVR voice satisfaction survey

  When an agent hangs up after the customer service call ends, the customer is transferred to the satisfaction survey. The customer presses a key to provide the satisfaction survey result.
- Scenario 4: Instagram, WeChat, Facebook, X (Twitter), WhatsApp, 5G RCS, Telegram, LINE, and SMS channel satisfaction surveys

  After an agent ends a session, the system automatically sends a satisfaction survey text message to the customer.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Satisfaction**.

Step 2 Set parameters on the **Satisfaction Level** tab page.

- **Satisfaction Level Configuration**: The default satisfaction levels are **1: Very dissatisfied**, **2: Dissatisfied**, **3: General**, **4: Satisfied**, and **5: Very satisfied**.
  - Click ⊕ in the last row to add a satisfaction level. The ⊕ button is displayed only when the number of satisfaction levels does not reach the maximum.
  - Click 🗑 to delete a satisfaction level.
  - Click ↑ or ↓ to adjust the sequence of a satisfaction level.
  - Select a satisfaction level from the **Description** drop-down list.
- **Satisfaction Survey Type**: Select a multimedia satisfaction survey type.

  The options are as follows:
  - **Satisfaction evaluation**
  - **Questionnaire**
- **Satisfaction Survey Template Content Configuration**: Configure the satisfaction survey template content. The content can contain a maximum of 500 characters.

  This parameter is displayed only when **Satisfaction Survey Type** is set to **Satisfaction evaluation**.
- **Questionnaire Content**: Configure the multimedia satisfaction survey content.

  The options are as follows:
  - **Has your issue been resolved?**
    - **Yes**
    - **No**
  - **Please rate my service.**
    - **Very dissatisfied**
    - **Dissatisfied**
    - **General**

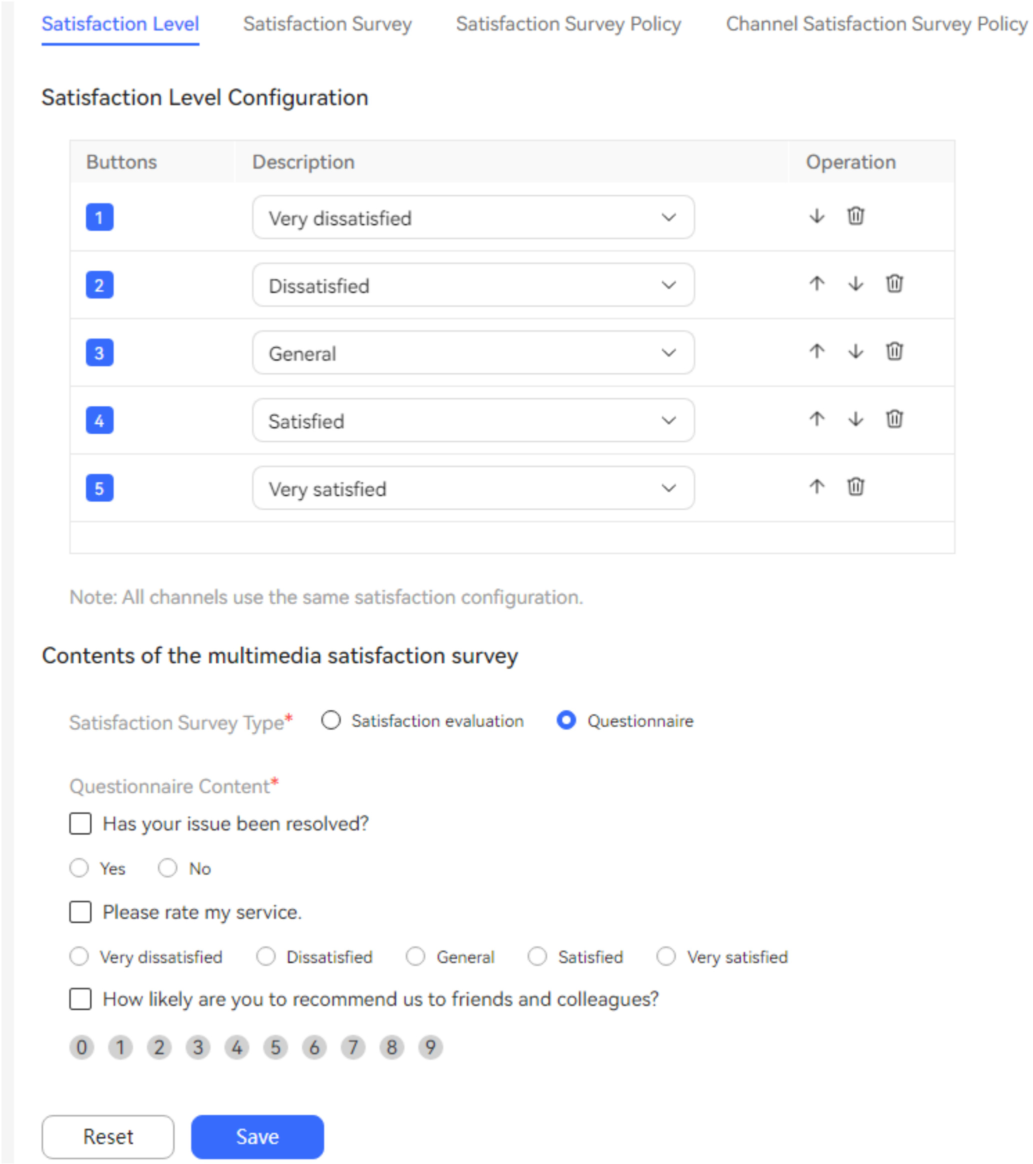
- **Satisfied**
- **Very satisfied**

– **How likely are you to recommend us to friends and colleagues?**

0–9

This parameter is displayed only when **Satisfaction Survey Type** is set to **Questionnaire**.

Figure 2-50 Satisfaction Level



NOTE

Three to five satisfaction levels must be configured.

The satisfaction levels used in the satisfaction survey of each channel are the same. The satisfaction surveys include the voice satisfaction survey, SMS satisfaction survey, and web, Instagram, WeChat, Facebook, X (Twitter), WhatsApp, 5G RCS, Telegram, LINE, and SMS channel satisfaction surveys.

If a satisfaction-related voice flow already exists, perform the following operations after satisfaction levels are updated:

- If the flow is an intelligent IVR flow, click **Cancel Release** corresponding to the flow on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration** page and click **Edit**. After confirming that satisfaction levels have been synchronized, save and publish the flow.
- If the flow is a common IVR flow, click **Cancel Release** corresponding to the flow on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Common IVR** page and click **Edit**. After confirming that satisfaction levels have been synchronized, save and publish the flow.

The system uses the default language of the tenant to generate the satisfaction survey template content.

The satisfaction survey message template is used to send satisfaction survey messages to customers through Instagram, Telegram, WhatsApp, LINE, Web Chat, Facebook, X (Twitter), 5G RCS, and SMS channels.

Step 3 Click **Save**.

Step 4 Set parameters on the **Satisfaction Survey** tab page.

- **Switch**: Click to enable the satisfaction survey function. If this function is enabled, the customer is automatically transferred to a satisfaction survey after an agent releases the call.
- **Satisfaction Survey Flow**: Select a published IVR flow and ensure that the flow contains the **Satisfaction Configuration** diagram element.

NOTE

- The procedure for configuring a common IVR flow is as follows:
  1. Choose **Configuration Center** > **Resource Management** > **Audio and Video**, upload the voice or video file used in the **Satisfaction Configuration** diagram element, and approve the file.
  2. Confirm that a main flow and an exception handling flow have been created and published successfully.
  3. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** and add a subflow.

     Set **Is Referenced** to **Yes**.
  4. Select the **Satisfaction Survey** diagram element on the flow editing canvas, configure related information, and save the flow configuration.
  5. Select the new flow and click **Release**. After the flow is published, it can be used.

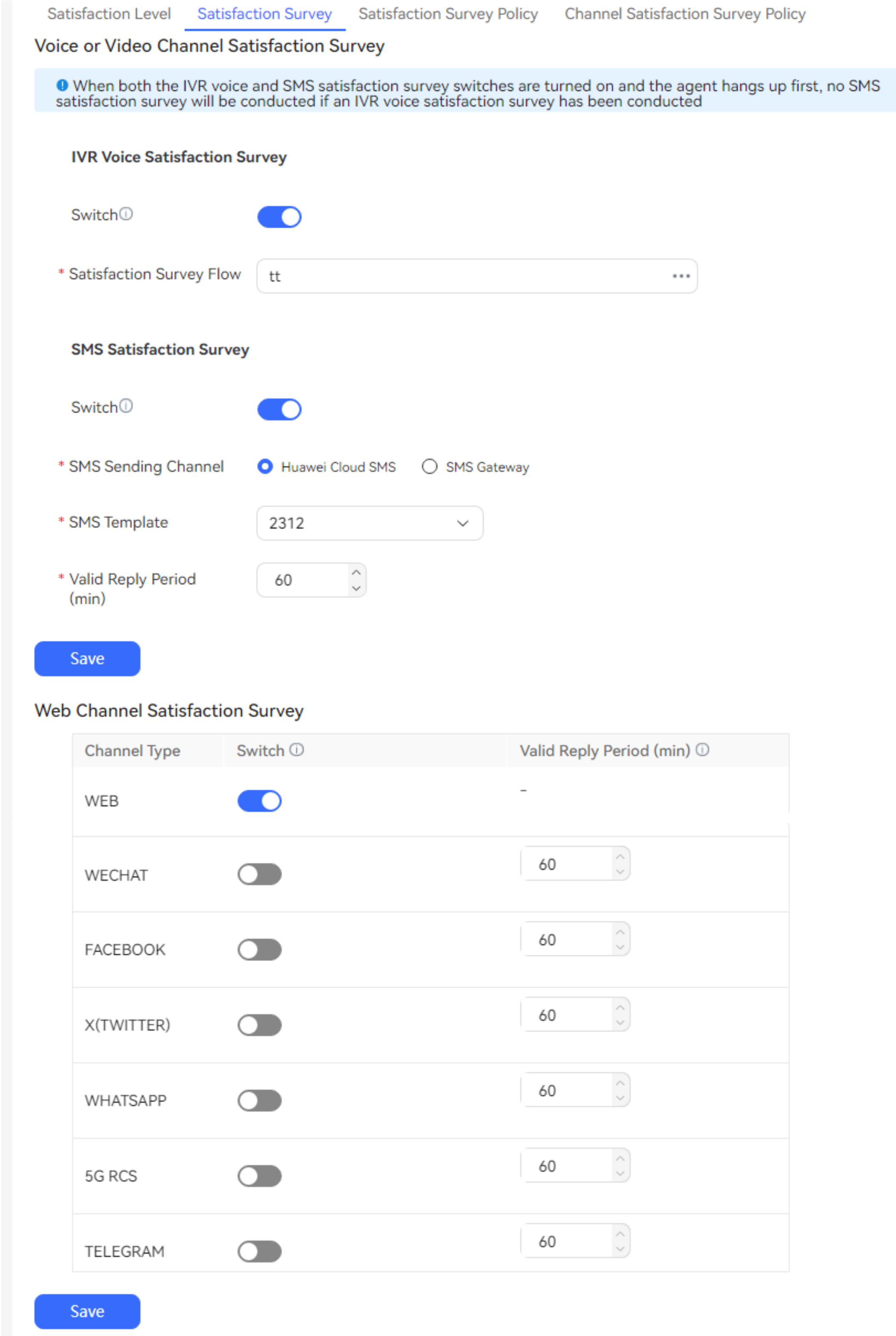
  For details, see **2.6.3 Operator: Configuring a Common IVR**.
- The procedure for configuring an intelligent IVR flow is as follows:
  1. Choose **Configuration Center** > **Resource Management** > **Audio and Video**, upload the voice or video file used in the **Satisfaction Configuration** diagram element, and approve the file.
  2. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration** and create an IVR flow.
  3. Select the **Satisfaction Survey** diagram element on the flow editing canvas, configure related information, and save the flow configuration.
  4. Select the new flow and click **Release**. After the flow is released, it can be used.
  5. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot** and create a chatbot.

     Set **Flow Name** to the flow created in **Step 4.ii**.

  For details, see **2.6.2 Configuring an Intelligent Robot**.

- **SMS Sending Channel**
  - **Huawei Cloud SMS**
  - **SMS Gateway**
- **SMS Template**: Select an SMS template whose **Notification Type** is **External Notification** configured on the **Notification Template** page. For details, see **2.11.5 Configuring Notification Templates as an Administrator**.
- **Valid Reply Period (min)**: Validity period for replying to a satisfaction survey. The value ranges from 1 to 1440, in minutes.

Figure 2-51 Satisfaction Survey page



Step 5 Click **Save**.

Step 6 Set parameters on the **Satisfaction Survey Policy** tab page.

- **Policy Group Name**: Name of a satisfaction survey strategy group. The value can contain a maximum of 20 characters.
- **Available Policies** and **Selected Policies**: Under **Available Policies**, click ☐ to select policies.
- **Handling Time**
  - **Start Time**: Start time of the time range in a day in which calls need to be transferred to the satisfaction survey.
  - **End Time**: End time of the time range in a day in which calls need to be transferred to the satisfaction survey.
- **Handling Date**
  - **Start date**: Start date of the time range in which calls need to be transferred to the satisfaction survey.
  - **End date**: End date of the time range in which calls need to be transferred to the satisfaction survey.
- **Call Duration**
  - **Minimum Call Duration (s)**: Minimum call duration of calls transferred to the satisfaction survey. The value is a number of 1 to 12 digits.
  - **Maximum Call Duration (s)**: Maximum call duration of calls transferred to the satisfaction survey. The value is a number of 1 to 12 digits.
- **Skill Queue**: Skill queue to which calls transferred to the satisfaction survey belong.
- **Call Type**: Type of calls transferred to the satisfaction survey.
  - **Inbound call**
  - **Outbound call**

Step 7 Click **Save**.

Step 8 Set parameters on the **Channel Satisfaction Survey Policy** tab page.

- **Channel Type**: Channel type to which a satisfaction survey policy applies.
  - **Voice or video channel**
  - **Multimedia channels-WEB**
  - **Multimedia channels-WECHAT**
  - **Multimedia channels-FACEBOOK**
  - **Multimedia channels-X(TWITTER)**
  - **Multimedia channels-WHATSAPP**
  - **Multimedia channels-5G RCS**
  - **Multimedia channels-TELEGRAM**
  - **Multimedia channels-LINE**
  - **Multimedia channels-SMS**
  - **Multimedia channels-INSTAGRAM**
- **Channel**: Select a multimedia channel configured on the **Configuration Center** > **Access Configuration** > **Channel Configuration** page. For details, see **2.5 Configuring Multimedia Channels**.

  This parameter is displayed only when **Channel Type** is set to a value other than **Voice or video channel**.

- **Priority**: Priority of a channel satisfaction survey policy. The value ranges from 1 to 100. A smaller value indicates a higher priority. The policy with a higher priority is preferentially matched to conduct the survey.
- **Survey Type**: Type of the channel satisfaction survey.
  - When **Channel Type** is set to **Voice or video channel**, the options are as follows:
    - **IVR voice**
    - **SMS**
    - **No survey**
  - When **Channel Type** is set to **Multimedia channels-WEB**, the options are as follows:
    - **Web**
    - **No survey**
  - When **Channel Type** is set to other multimedia channels, the options are as follows:
    - **Text Message**
    - **No survey**
- **Survey Policy**: Select a policy group configured on the **Satisfaction Survey Policy** page.

Step 9 Click **Save**.

----End

2.3.3.3 Configuring the Customized Tone (Agent Ringback Tone)

The customized tone (agent ringback tone) is centrally configured by a tenant administrator. The ringback tones of all agents in the tenant space are the same.

Prerequisites

A voice file whose **Usage Scenario** is **tone** is available on the **Configuration Center** > **Resource Management** > **Audio and Video Resource Management** page.

Context

After a call is allocated to an idle agent, the agent ringback tone is played to the calling party before the agent answers the call.

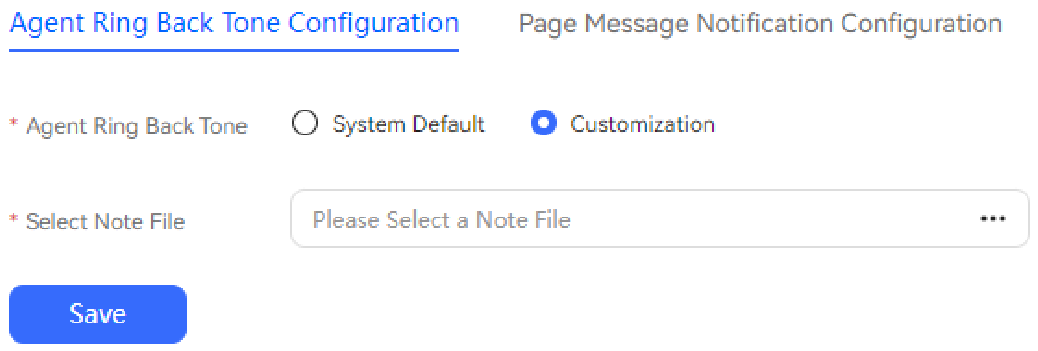
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Prompt Information**.

Step 2 Set parameters on the **Agent Ring Back Tone Configuration** tab page.

- **Agent Ring Back Tone**: Select **Customization**.
- **Select Note File**: Select an uploaded voice file and click **OK**.

Figure 2-52 Agent Ring Back Tone Configuration



Step 3 Click **Save**.

----End

2.3.3.4 Configuring Page Message Notifications

Customized page message notifications are centrally configured by a tenant administrator. The page message notifications of all agents in the tenant space are the same.

Prerequisites

None

Context

This configuration applies only when the page is hidden, such as when the browser is minimized, or when the page is tabbed in the background.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Prompt Information**.

Step 2 Click **Page Message Notification Configuration**.

Step 3 Set **Ringtones** and **Pop-up dialog box reminder** under **Audio and video incoming call notification**, **Multimedia incoming call notification**, and **New multimedia message notification**.

The system provides the following ringtones, which can be played online. Select a ringtone as required.

- **msg**
- **news**
- **genie**
- **tip**

- **tinkle**

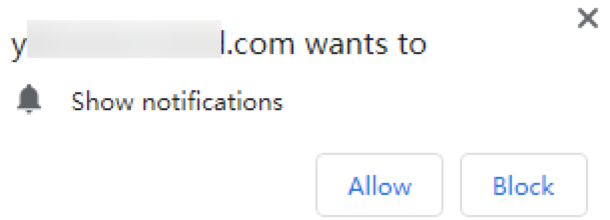
Step 4 Click **OK**.

----End

Follow-up Procedure

If a pop-up dialog box reminder is configured, when an agent signs in, the browser displays a dialog box asking whether to allow notifications. The pop-up dialog box reminder is valid only after the agent allows notifications.

Figure 2-53 Dialog box asking whether to allow notifications



2.3.3.5 Configuring Voice Silent Agents

Voice silent agents are used to assist the intelligent voice robot. If the robot training is incomplete, agents can assist the robot in replying.

Prerequisites

- You have configured and published an intelligent IVR flow whose **Work Mode** is **Monitor** or **Insert**.
- You have configured the following called routes. For details, see **2.3.1.2 Configuring Called Routes**.
  - Called route whose **Device Type** is **IVR** and **Type** is **Audio/Video** created using the preceding intelligent IVR flow
  - Called route whose **Device Type** is **Skill Queue** and **Type** is **Multimedia**
- A skill queue whose **Type** is **Voice** exists. For details, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Voice Silent Agent**.

Step 2 Choose **New**. In the **New Voice Silent Agent** dialog box, set voice silent agent parameters.

Figure 2-54 New Voice Silent Agent

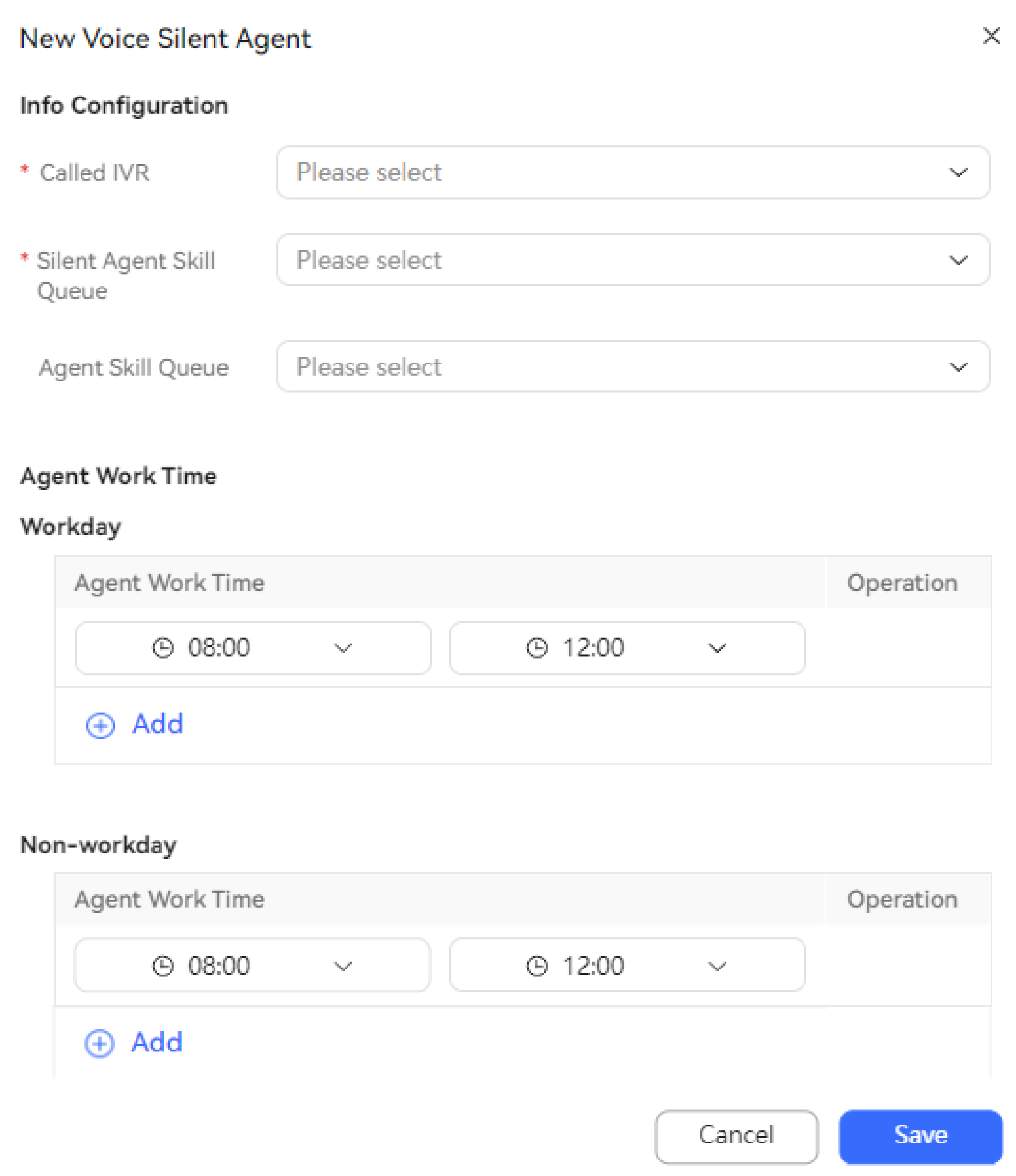


Table 2-15 Voice silent agent parameters

Parameter	Description
Info Configuration	
Called IVR	Called IVR created using a published intelligent IVR flow whose **Work Mode** is **Monitor** or **Insert**.
Silent Agent Skill Queue	Multimedia called route.
Agent Skill Queue	Voice skill queue.

Parameter	Description
Agent Work Time: A maximum of four working time segments can be added.	
Workday	Working time segment of the agent on workdays.
Non-workday	Working time segment of the agent on non-workdays.

Step 3 Click **Save**.

----End

2.3.3.6 Managing Messages

A tenant administrator can query messages in the current tenant space by page based on criteria, or assign, handle, play, or download them.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Message**.

Step 2 Manually search for messages based on criteria.

Figure 2-55 Message list page

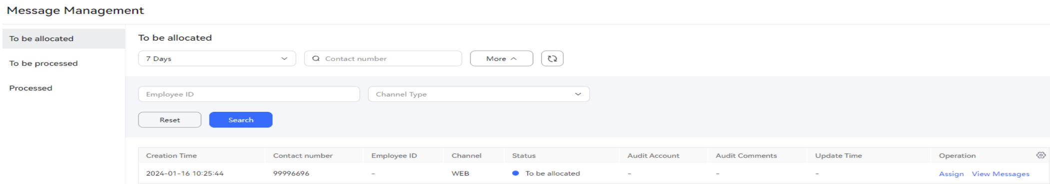


Table 2-16 Parameters for searching for messages

Parameter	Description
Time	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
Contact number	Customer number.
Employee ID	Agent ID of a tenant space agent.

Parameter	Description
Channel Type	The options are as follows: ● **Voice**: Message handling, playback, and download are supported. ● **WEB**: Message assignment, viewing, and handling are supported.

Step 3 Choose **To be allocated** to assign messages to agents for handling.

1. Click **Assign**. The **Assigning Messages** dialog box is displayed.
2. Search for all agents that have been bound to accounts in the tenant space or search for agents based on criteria. Click ○ to select an agent.
3. Click **Submit**. The message is assigned to the selected agent.
4. On the **To be processed** page, the agent ID and handler are updated to the agent ID and business account of the selected agent, the update time is the current time, and the message status changes from **To be allocated** to **Unprocessed**.

Step 4 Play a message. You can perform the following operations:

- : Play or pause a voice message.
- 00:04/00:04 : Fast forward or rewind the recording.
- : Adjust the playback volume.
- 1.0X : Select a playback speed. The options are **0.5X**, **0.75X**, **1.0X**, **1.25X**, **1.5X**, and **2.0X**.

Step 5 Download a message.

NOTE

The downloaded message contains personal data. Exercise caution when processing the exported message to prevent personal data leakage and abuse.

The playback and download functions are available only for the current drive letter. For example, if the current drive letter is Y and the drive letter is switched from Y to Z, playback and download will fail. To play and download historical files properly, switch the drive letter from Z back to Y.

1. Select the message to be downloaded and click **Download**.
2. Enter a customized compression password.

   The compression password must contain letters, digits, and the following special characters: _@%

   The compression password can contain a maximum of 12 characters.
3. Click **OK**.

Step 6 Handle a received message as an agent.

1. Choose **To be processed**.
2. Click **Process** corresponding to a message. The **Process Message** dialog box is displayed. The message status changes from **Unprocessed** to **Processing**.

3. After confirming that the agent status is idle, click to initiate a call to the contact number to handle the message.
4. Return to the **Handling Comments** text box, enter comments, and click **Submit** to complete the message handling. After the submission is successful, the message status changes from **Processing** to **Processed**.

----End

2.3.3.7 Viewing Contact Records

A tenant administrator can search for or export contact records of the current tenant space to learn about the working status of agents.

Prerequisites

To display contact record fields that are not displayed by default after the tenant is created, configure them by referring to **2.3.2.3 Configuring Contact Record Data Items**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Contact**.

Step 2 Set search criteria to search for contact records based on the criteria.

Figure 2-56 Contact page

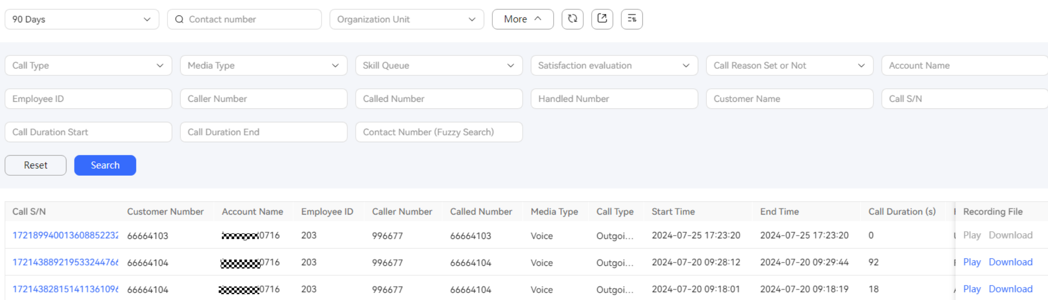
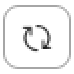
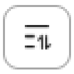


Table 2-17 GUI elements on the Contact page

Element	Type	Description
1 Day	Drop-down list and calendar component	Time when a contact record is generated. Search criterion. The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization** Default value: **1 Day** **NOTE** The maximum time span for searching for contact records is determined by the **Time Span for Contact Record Query** parameter.
Contact number	Text box	Calling number, called number, or handled number. Search criterion. This parameter is used for exact search. Only contact records whose numbers are the same as the entered number are displayed.
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⓧ to delete the selected OU.
More	Button	Expand advanced search criteria.
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Create an export task. **NOTE** Whether this button is displayed is determined by the **Contact Record Export** permission. Agents without this permission cannot export contact records. By default, a tenant administrator has this permission.
	Button	View export tasks. **NOTE** Whether this button is displayed is determined by the **Contact Record Export** permission. Agents without this permission cannot view export tasks. By default, a tenant administrator has this permission.

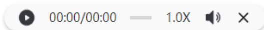
Element	Type	Description
Call Type	Drop-down list	Call type. Search criterion. The options are as follows: • **Outgoing Call** • **Incoming Call** • **Predicted outbound call** • **Preview outgoing call** • **Preempted outbound call** • **ITA bidirectional call** • **Fixed Outbound Call** • **Double call** • **Collaborative call** • **Click-to-dial** • **Intelligent Robot Outbound Call**
Media Type	Drop-down list	Media type. Search criterion. The options are as follows: • **Voice** • **Video** • **Multimedia**
Skill Queue	Drop-down list	Skill queue. Search criterion.
Satisfaction evaluation	Drop-down list	Satisfaction level. Search criterion. The options are as follows: • **Very dissatisfied** • **Dissatisfied** • **General** • **Satisfied** • **Very satisfied** • **Not evaluated** • **Evaluation failed** **NOTE** Satisfaction levels can be customized. For details, see **2.3.3.2 Configuring Satisfaction Surveys**.
Call Reason Set or Not	Drop-down list	Whether the call reason is set. Search criterion. The options are as follows: • **Yes** • **No**
Account Name	Text box	Business account name. Search criterion.

Element	Type	Description
Employee ID	Text box	Agent ID. Search criterion.
Caller Number	Text box	Calling number. Search criterion. If the number of agents of the tenant does not exceed the value of the system parameter **Maximum number of agents for fuzzy query of calling, called, and handled numbers in a tenant contact record**, a fuzzy search can be performed when no record is exactly matched based on the calling number and the time range for the search does not exceed seven days.
Called Number	Text box	Called number. Search criterion. If the number of agents of the tenant does not exceed the value of the system parameter **Maximum number of agents for fuzzy query of calling, called, and handled numbers in a tenant contact record**, a fuzzy search can be performed when no record is exactly matched based on the called number and the time range for the search does not exceed seven days.
Handled Number	Text box	Handled number. Search criterion. If the number of agents of the tenant does not exceed the value of the system parameter **Maximum number of agents for fuzzy query of calling, called, and handled numbers in a tenant contact record**, a fuzzy search can be performed when no record is exactly matched based on the handled number and the time range for the search does not exceed seven days.
Customer Name	Text box	Customer name. Search criterion.
Call S/N	Text box	Call SN. Search criterion.
Call Duration Start	Text box	Minimum call duration of a contact record. Search criterion. The value is a number greater than 0. The unit is second. This parameter is unavailable when the time span for searching for contact records exceeds 31 days.

Element	Type	Description
Call Duration End	Text box	Maximum call duration of a contact record. Search criterion. The value is a number greater than 0. The unit is second. This parameter is used for fuzzy search. Contact records whose numbers contain the entered number are displayed. This parameter is unavailable when the time span for searching for contact records exceeds 31 days.
Contact Number (Fuzzy Query)	Text box	Calling number, called number, or handled number. Search criterion. This parameter is unavailable when the time span for searching for contact records exceeds 31 days.
Reset	Button	Reset search criteria.
Search	Button	Search for contact records.
Call S/N	Label	Call SN, which is a 19-digit number randomly generated by the system. You can click a value to view the operations related to the handled number in a call, including the conversation content, call reason, contact records, and transfer records.
Customer Number	Label	Customer number.
Account Name	Label	Business account name.
Employee ID	Label	Agent ID.
Caller Number	Label	Calling number.
Called Number	Label	Called number.

Element	Type	Description
Media Type	Label	Media type. If the media type is multimedia, the specific multimedia channel is also displayed. The options are as follows: ● **Voice** ● **Video** ● **Multimedia –web** ● **Multimedia –WeChat** ● **Multimedia –Facebook** ● **Multimedia –Twitter** ● **Multimedia –5G** ● **Multimedia –Email** ● **Multimedia –LINE** ● **Multimedia –WhatsApp** ● **Multimedia –Telegram** ● **Multimedia –Instagram** ● **Multimedia –SMS**
Call Type	Label	Call type. The options are as follows: ● **Outgoing Call** ● **Incoming Call** ● **Predicted outbound call** ● **Preview outgoing call** ● **Preempted outbound call** ● **ITA bidirectional call** ● **Fixed Outbound Call** ● **Double call** ● **Collaborative call** ● **Click-to-dial** ● **Intelligent Robot Outbound Call**
Start Time	Label	Start time.
End Time	Label	End time.
Call Duration (s)	Label	Call duration, in seconds. The call duration is the duration from the time when a call is connected to the time when the call is released. If the call duration is shorter than 1 second, **0** is displayed. The recording file can be played and downloaded.

<table>
<tr><th>Element</th><th>Type</th><th>Description</th></tr>
<tr><td>Hang-up Party</td><td>Label</td><td>Hang-up party.
The options are as follows:
User
Agent</td></tr>
<tr><td>Skill Queue</td><td>Label</td><td>Skill queue.</td></tr>
<tr><td>Call Reason</td><td>Label</td><td>Call reason.</td></tr>
<tr><td>Call Remarks</td><td>Label</td><td>Call remarks.</td></tr>
<tr><td>Satisfaction evaluation</td><td>Label</td><td>Satisfaction level.
The options are as follows:
Very dissatisfied
Dissatisfied
General
Satisfied
Very satisfied
Not evaluated
Evaluation failed
NOTE
After the IVR voice satisfaction survey switch is turned on and a satisfaction survey IVR flow is bound, if the customer does not evaluate the service, the value is empty.
After the SMS satisfaction survey switch is turned on and an SMS template is bound, if the customer does not evaluate the service, the value is empty.
After the channel satisfaction survey switch is turned on, if the customer does not evaluate the service, the value is empty.
If the customer is not transferred to the satisfaction survey flow, the value is empty.</td></tr>
</table>

Element	Type	Description
Recording File	Button group	Operations that can be performed on the recording file in a contact record. The options are as follows: ● **Play** ● **Download** **NOTE** ● Voice files can be played and downloaded in WAV format. ● When the video application mode of an agent is SFU video, the video file in the contact record generated for a video call between the agent and a customer can be played online or downloaded in MP4 format. ● When the video application mode of an agent is MCU video, the video file in the contact record generated for a video call between the agent and a customer can be downloaded in TS format. ● If **Video application mode** is set to **MCU(CloudVC)**, an agent can download video files only after signing in. After you click **Play**, the voice playback component  is displayed above the list. This component is used to play the recording in a contact record. You are advised to use video software other then Windows Media Player to play downloaded videos. If the **Screen recording and screen inspection** feature is enabled to automatically record agents' screen operations: ● After you click **Play** for a voice contact record, the agent's screen operation video is displayed. ● After you click **Play** for a video contact record, the **Recording File Details** dialog box is displayed. Then, after you click **Play** for the record whose **Media Type** is **VRC**, the agent's screen operation video is displayed.

Step 3 Export contact records (excluding voice and video files) to the local PC in batches.

1. Click , set **Data Scope** and **Export Field**, and enter a compression password.

NOTE

- For details about the complexity requirements of the compression password, see the prompt on the page. The compression password is used to open the downloaded package.
- The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
- The **Compressed password** parameter is not displayed when the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**.

2. Click  to view the export tasks in the last seven days. To open a file, you need to enter the compression password set during export task creation.

Step 4 Play or download the recording file in a contact record.

1. Click **Play** in the **Recording File** column to play the recording file.
   - After you click **Play** for a voice contact record, the agent's screen operation video is displayed.
   - After you click **Play** for a video contact record, the **Recording File Details** dialog box is displayed. Then, after you click **Play** for the record whose **Media Type** is **VRC**, the agent's screen operation video is displayed. After you click **Play** for the record whose **Media Type** is **Video**, the video of the video call is displayed.
2. Click **Download** in the **Recording File** column and enter a compression password to download the recording file.

NOTE

The downloaded recording file contains personal data. Exercise caution when processing the exported file to prevent personal data leakage and abuse.

You are advised to use video software other then Windows Media Player to play downloaded videos.

----End

2.3.3.8 Viewing Bidirectional Call Records

A tenant administrator can search for or export bidirectional call records of the current tenant space by page based on criteria, or play or download recording files. In this version, bidirectional call records are available only for ITA bidirectional calls.

Prerequisites

The one-click bidirectional call feature has been enabled for the tenant space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **ITA Call**.

Step 2 Set search criteria to search for bidirectional call records based on the criteria.

Figure 2-57 ITA Call page

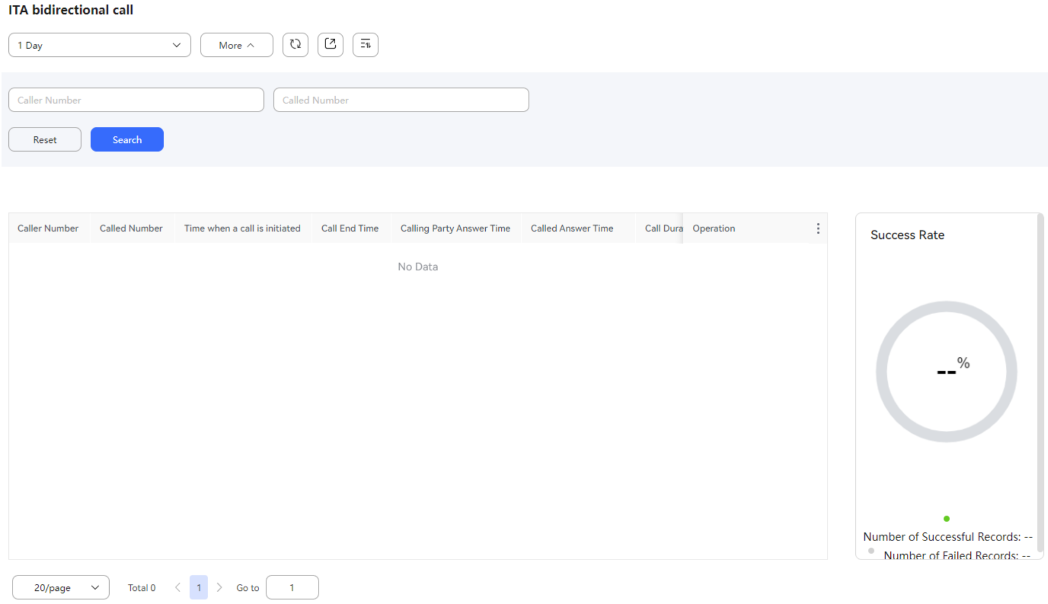
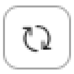
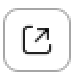


Table 2-18 GUI elements on the ITA Call page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
Caller Number	Text box	Agent number dialed after a one-click bidirectional call. Advanced search criterion.
Called Number	Text box	Customer number dialed after a one-click bidirectional call. Advanced search criterion.
Reset	Button	Reset search criteria.
Search	Button	Search for bidirectional call records.
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Add a task for exporting bidirectional call records.

Element	Type	Description
	Button	View export tasks.
Caller Number	Label	Agent-side number of a one-click bidirectional call. The calling number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Called Number	Label	Customer-side number of a one-click bidirectional call. The called number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Time when a call is initiated	Label	Time when a bidirectional call is initiated, that is, time when the calling party is called.
Call End Time	Label	Time when the last party of a bidirectional call releases the call.
Calling Party Answer Time	Label	Time when the calling party answers a call after the call is set up.
Called Answer Time	Label	Time when the called party answers a call after the calling party answers the call.
Call Duration (s)	Label	Call duration, in seconds. The call duration is calculated from the time when the call is set up.
Release Reason	Label	Call release reason.
Operation	Label	• **Play** • **Download**

Element	Type	Description
Success Rate	Label	Bidirectional call success rate. ● **Number of Successful Records**: Number of successful calls in the list. ● **Number of Failed Records**: Number of failed calls in the list.

Step 3 Export bidirectional call records (excluding voice and video files) to the local PC in batches.

1. Click  and enter a compression password.

   NOTE

   – For details about the complexity requirements of the compression password, see the prompt on the page. The compression password is used to open the downloaded package.
   – The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2. Click  to view the export tasks in the last seven days. To open a file, you need to enter the compression password set during export task creation.

Step 4 Play a bidirectional call recording. You can perform the following operations:

- : Play or pause the recording.
- 00:04/00:04: Fast forward or rewind the recording.
- : Adjust the playback volume.
- 1.0X : Select a playback speed. The options are **0.5X**, **0.75X**, **1.0X**, **1.25X**, **1.5X**, and **2.0X**.

Step 5 Download a bidirectional call recording.

1. Select the bidirectional call recording to be downloaded and click **Download**.

   NOTE

   The downloaded bidirectional call recording contains personal data. Exercise caution when processing the exported recording to prevent personal data leakage and abuse.

2. In the confirmation dialog box, click **Yes**.

----End

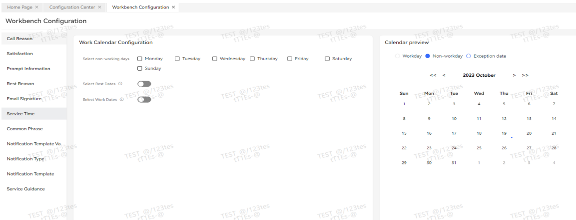
2.3.3.9 Configuring the Online Chat Service Time

A tenant administrator can set workdays and non-workdays in advance so that agents can manage working hours more conveniently.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Service Time**.

Figure 2-58 Workbench Configuration



Step 2 Configure the work calendar.

- **Select non-working days**: Select several days in a week as non-workdays. For example, select **Saturday** and **Sunday** as non-workdays. The selected dates are synchronized to all months.
- **Select Rest Dates**: Select several dates as non-workdays. For example, select the dates from October 1, 2019 to October 7, 2019 (National Day) as non-workdays.

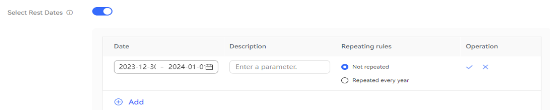
  a. Click  to expand the area for adding rest dates.

  NOTE

  Disabling this function will clear all data in the table. Exercise caution when performing this operation.

  b. Click **Add** and set rest date parameters based on **Figure 2-59**.

  Figure 2-59 Select Rest Dates

  c. Click **Save** to save the configuration.
- **Select Work Dates**: Select several dates as workdays. The earliest date is the current date of the last year. For example, select July 13, 2019 (Saturday; temporary overtime) as a workday.

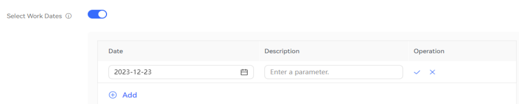
  a. Click  to expand the area for adding work dates.

  NOTE

  Disabling this function will clear all data in the table. Exercise caution when performing this operation.

  b. Click **Add** and set work date parameters based on **Figure 2-60**.

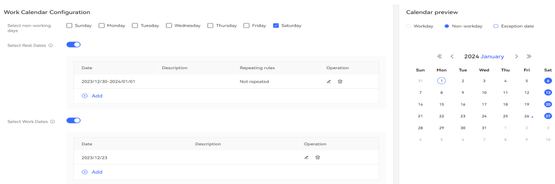
  Figure 2-60 Select Work Dates

c. Click **Save** to save the configuration.

Step 3 The configured workdays and non-workdays are displayed in the **Calendar preview** area in real time. You can directly view the configuration result.

Figure 2-61 Calendar preview



----End

2.3.3.10 Viewing Skill Queue Adjustment Records

An agent or a tenant administrator can query skill queue adjustment details.

Prerequisites

- The agent has the **Reset Skill Record** menu permission.
- The agent's skill queue has been adjusted by referring to **Follow-up Procedure**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Work Log** > **Adjustment Log**.

Step 2 Set search criteria to search for skill queue adjustment records based on the criteria.

Figure 2-62 Adjustment Log page

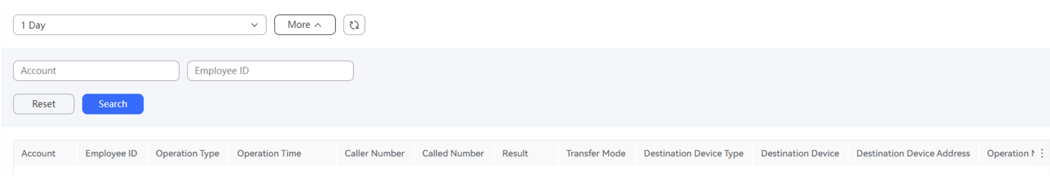
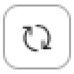


Table 2-19 GUI elements on the Adjustment Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**

Element	Type	Description
Adjust Service Account	Text box	Search criterion. ● Business account of the agent who adjusts a skill queue. ● Business account of an inspector.
Adjust Agent WorkNo	Text box	Search criterion. ● ID of the agent who adjusts a skill queue. ● Agent ID of an inspector.
Adjusted Service Account	Text box	Search criterion. ● Business account of the agent whose skill queue is adjusted. ● Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent WorkNo	Text box	Search criterion. ● ID of the agent whose skill queue is adjusted. ● ID of the agent whose skill queue is adjusted by an inspector.
Reset	Button	Reset search criteria.
Search	Button	Search for skill queue adjustment records.
	Button	Search for data based on search criteria again and refresh data on the page.
Adjust Service Account	Label	● Business account of the agent who adjusts a skill queue. ● Business account of an inspector.
Adjust Agent WorkNo	Label	● ID of the agent who adjusts a skill queue. ● Agent ID of an inspector.
Adjusted Service Account	Label	● Business account of the agent whose skill queue is adjusted. ● Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent WorkNo	Label	● ID of the agent whose skill queue is adjusted. ● ID of the agent whose skill queue is adjusted by an inspector.
Adjust Time	Label	Time when a skill queue is adjusted.

Element	Type	Description
Skill Queue Before Adjustment	Label	Skill queue to which an agent has signed in before skill queue adjustment.
Skill Queue After Adjustment	Label	Skill queue to which an agent signs in after skill queue adjustment.

----End

2.3.3.11 Viewing Identity Authentication Records

An agent or a tenant administrator can query identity authentication details.

Prerequisites

The agent has the **Identity Authentication Record** menu permission.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Work Log** > **Auth Log**.

Step 2 Set search criteria to search for identity authentication records based on the criteria.

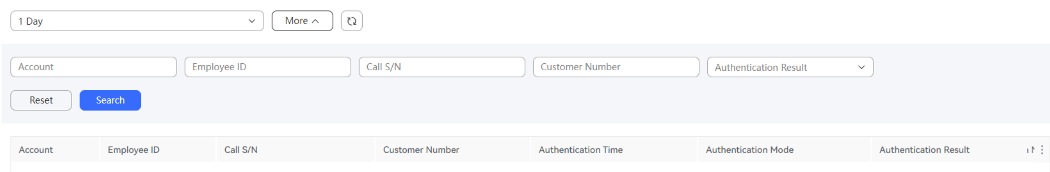
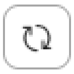


Figure 2-63 Auth Log page

Table 2-20 GUI elements on the Auth Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**

Element	Type	Description
Account	Text box	Business account of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Employee ID	Text box	ID of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Call S/N	Text box	Call SN. Advanced search criterion.
Customer Number	Text box	Customer number. Advanced search criterion.
Authentication Result	Drop-down list	Search criterion. • **Not returned** • **Pass** • **Fail** • **Error**
Reset	Button	Reset search criteria.
Search	Button	Search for identity authentication records.
	Button	Search for data based on search criteria again and refresh data on the page.
Account	Label	Business account of the agent who performs identity authentication.
Employee ID	Label	ID of the agent who performs identity authentication.
Call S/N	Label	Call SN.
Customer Number	Label	Customer number.

Element	Type	Description
Authentication Time	Label	Time when identity authentication is performed.
Authentication Mode	Label	Identity authentication mode.
Authentication Result	Label	Identity authentication result. • **Not returned** • **Pass** • **Fail** • **Error**

----End

2.3.3.12 Managing Documents

A tenant administrator can search for documents of the current tenant space by page based on criteria, or invalidate, preview, or download documents.

Prerequisites

The contract digital signature feature has been enabled for the tenant space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Document Management**.

Step 2 Set search criteria to search for documents based on the criteria.

Figure 2-64 Document Management page

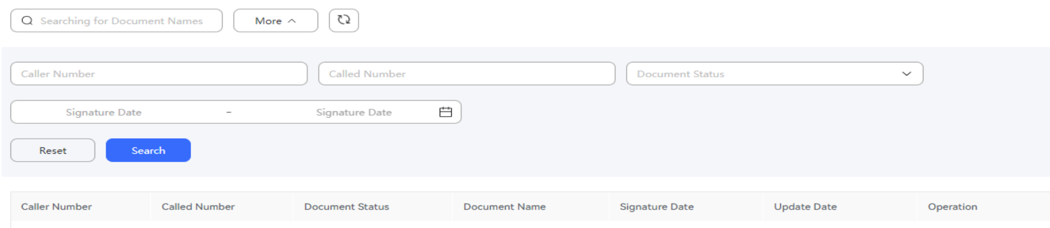
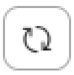


Table 2-21 GUI elements on the Document Management page

Element	Type	Description
Searching for Document Names	Text box	Document name.
Caller Number	Text box	Advanced search criterion. ● When an agent initiates a call, the calling number is an access code. ● When a customer initiates a call, the calling number is a customer number.
Called Number	Text box	Advanced search criterion. ● When an agent initiates a call, the called number is a customer number. ● When a customer initiates a call, the called number is an access code.
Document Status	Drop-down list	Document status. Advanced search criterion. ● **Unsigned** ● **Signed** ● **Expired**
Signature Date	Drop-down list	Signature date. Advanced search criterion.
Reset	Button	Reset search criteria.
Search	Button	Search for document management records.
	Button	Search for data based on search criteria again and refresh data on the page.

Element	Type	Description
Caller Number	Label	• When an agent initiates a call, the calling number is an access code. • When a customer initiates a call, the calling number is a customer number. The calling number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Called Number	Label	• When an agent initiates a call, the called number is a customer number. • When a customer initiates a call, the called number is an access code. The called number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Document Status	Label	Document status. • **Unsigned** • **Signed** • **Expired**
Document Name	Label	Document name.
Signature Date	Label	Date when a document is signed.
Update Date	Label	Date when a document is re-signed.

Element	Typ e	Description
Operation	Lab el	• **Invalidation** Select the document to be invalidated and click **Invalidation**. • **Download** Select the document to be downloaded and click **Download**. NOTE The downloaded documents contain personal data. Exercise caution when processing the downloaded documents to prevent personal data leakage and abuse. • **Preview** Select the document to be previewed and click **Preview**.

----End

2.3.3.13 Managing Harassment Records

A tenant administrator can review harassment records submitted by agents. After the records are approved, they are added to the special list. The tenant administrator and agents can view the review results.

Prerequisites

To view the review result, agents must have the **Channel Configuration**, **Call Center Configuration**, **Settings**, **Harassment record review** menu permissions and the **Query Contact Record** operation permission.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Harassment Record**.

Step 2 Set search criteria as required to search for harassment record information.

Figure 2-65 Harassment Record page

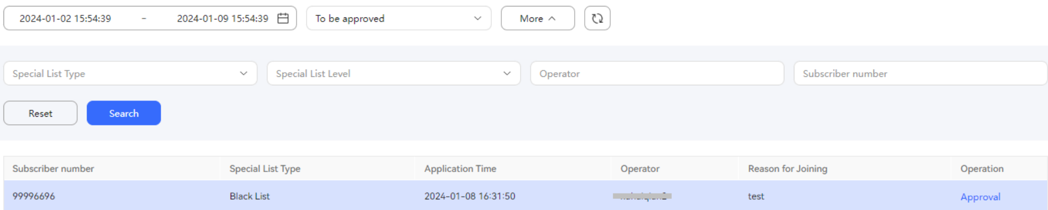
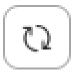


Table 2-22 Key elements on the Harassment Record page

Element	Type	Description
Application time range	Calendar component	Application time range. Search criterion. The time range cannot exceed seven days. You can click ⊗ to delete the selected time range.
Status	Drop-down list	Harassment record status. Search criterion. • **To be approved** • **Approved** • **Rejected** You can click ⊗ to delete the selected state.
Special List Type	Drop-down list	Special list type. Search criterion. • **Black List** • **Red List**
Special List Level	Drop-down list	Special list level. Search criterion.
Operator	Text box	Operator business account. Search criterion. You can click ⊗ to delete the entered operator.
Subscriber number	Text box	Customer number. Search criterion. • Phone number • Email address Example: **123@huawei.com**
Reset	Button	Reset search criteria.
Search	Button	Search for harassment records.
	Button	Search for data based on search criteria again and refresh data on the page.
Subscriber number	Label	Customer number.

Element	Type	Description
Special List Type	Label	Special list type. ● **Black List** ● **Red List**
Application Time	Label	Time when a harassment record is created.
Operator	Label	Business account of the agent who creates a harassment record.
Reason for Joining	Label	Reason for adding a customer number to the special list.
Operation	Button group	Operations that can be performed. ● **Approval**: Approve a record that has not been approved. ● **View**: View an approved or rejected record.

Step 3 Click **Approval** in the **Operation** column.

- Select **Agree**.
  - **Special List Level**: Select a special list level.
  - **Effective Period**: Set the time range when the special list record takes effect. The time range specified by **Effective Period** must be within the time range from the current time to January 19, 2038.
  - **Opinions**: Enter the opinion on the harassment record. The value contains a maximum of 500 characters.
- Select **Reject**.

  Opinions: Enter the opinion on the harassment record. The value contains a maximum of 500 characters.

Step 4 Click **Save**.

After the application is approved, you can choose **Configuration Center** > **Resource Management** > **Special List** and click the **Special List** tab to view the new special list record.

After the approval is complete, you can choose **Configuration Center** > **Resource Management** > **Harassment Record** to view the approval result. Approved harassment records are migrated to the history table every hour and cannot be queried on the GUI.

----End

2.3.3.14 Configuring Service Guidance

A tenant administrator can configure visualized wizard-based service flow guidance for complex business handling in the customer service center to instruct agents to efficiently and quickly provide satisfactory services for customers based on the configured visualized flows.

Prerequisites

- The **Agent Business Process Visualization** feature has been enabled for the tenant space.
- The common agent has the **Service Guidance Configuration** menu permission.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Service Guidance**.

Step 2 Click ⊕ to create a level-1 service guidance category.

If data exists on the page, click ⊕ next to **Service Category** to create a level-1 service guidance category.

Table 2-23 Key elements on the page for creating a level-1 service guidance category

Element	Type	Description
Name	Text box	Name of a level-1 service guidance category. The value can contain 1 to 200 characters.
Serial Number	Drop-down list + text box	Sequence number of a level-1 service guidance category. The value is an integer ranging from 0 to 99.
Parent Category Name	Drop-down list	Name of the parent category of a level-1 service guidance category. The options are as follows: ● **No Parent Category** ● Names of service guidance categories that have been created under the tenant Select **No Parent Category**.
Description	Text box	Description of a level-1 service guidance category. The value can contain 0 to 1000 characters.

Step 3 Click **Save**.

Step 4 Click ⊕ next to the name of the level-1 service guidance category created in **Step 2** to create a level-2 service guidance category.

Table 2-24 Key elements on the page for creating a level-2 service guidance category

Element	Type	Description
Name	Text box	Name of a level-2 service guidance category. The value can contain 1 to 200 characters.
Serial Number	Drop-down list + text box	Sequence number of a level-2 service guidance category. The value is an integer ranging from 0 to 99.
Selected Category Name	Label	Category name selected when creating a level-2 service guidance category.
New Type	Drop-down list	Relationship with the selected category name. The options are as follows: • **Add Sub Level** • **Add Peer Level** Select **Add Sub Level**.
Description	Text box	Description of a level-2 service guidance category. The value can contain 0 to 1000 characters.

Step 5 Click **Save**.

Step 6 Click the name of the level-2 service guidance category created in **Step 4**.

Step 7 Click **New** to create a service guidance flow.

Table 2-25 Key elements on the page for creating a service guidance flow

Element	Type	Description
Name	Text box	Name of a service guidance flow. The value can contain 1 to 200 characters.

Element	Type	Description
Serial Number	Drop-down list + text box	Sequence number of a service guidance flow. The value is an integer ranging from 0 to 99.
Parent Category Name	Label	Name of the level-2 service category to which a service guidance flow belongs.
Call Reason	Drop-down list	Call reason of a service guidance flow. The options are call reasons that have been created under the tenant.
Customized Page URL	Text box	Customized information displayed when an agent uses the service guidance function. The value can contain 1 to 200 characters.
Description	Text box	Description of a service guidance flow. The value can contain 0 to 1000 characters.

Step 8 Click **Save**.

After the service guidance flow is created, you can perform the following operations:

- Click the flow name to view information about the service guidance flow.
- Click **Edit** in the **Operation** column to modify information about the service guidance flow.
- Click **Delete** in the **Operation** column to delete the service guidance flow.

Step 9 Click › next to the name of the service guidance flow created in **Step 7**.

Step 10 Click **Edit** in the **Operation** column to access the guidance flow editing canvas and edit the guidance flow.

Table 2-26 Key elements on the page for editing a flow

Element	Type	Description
Save	Button	Set the flow status to **Draft**.

Element	Type	Description
Release	Button	Set the flow status to **Release**.
	Button	View the thumbnail of the service guidance flowchart. ● Drag the thumbnail to move the flowchart canvas. ● Click to zoom in or out the flowchart.
Toolbar - Function Diagram Element	Button	: Add functional diagram elements to the canvas.
Toolbar - Branch Diagram Element	Button	: Add a **Branch Judgment** diagram element to the canvas.
Toolbar - Zoom In/Zoom Out	Button	100% : Adjust the display percentage of the current canvas by clicking a value in the drop-down list or clicking the zoom-in or zoom-out icon.
Toolbar - Reset View	Button	: Reset the canvas position and display the flow in the current view.
Toolbar - Full Screen	Button	: Switch to the fullscreen mode.
Toolbar - Undo/Redo	Button	: Undo or redo operations such as adding or deleting diagram elements in the canvas.
Toolbar - Delete	Button	: Delete diagram elements or lines from the canvas.

Table 2-27 Key elements on the Node Attribute page of a diagram element

Element	Type	Description
Name	Text box	Name of a function diagram element. The value can contain 1 to 50 characters.

Element	Type	Description
Node Type	Option button	Node type of a diagram element. • **Task** • **Branch**
Execute Type	Drop-down list	Execution type of a diagram element. The options are as follows: • **Common** • **SMS** • **Email** • **Trans IVR** • **Sub Flow** • **Create Case**
Execution Content	Drop-down list	Execution content of a diagram element. This parameter is displayed when **Execution Type** is set to any value except **Common**. The options are as follows: • When **Execution Type** is set to **SMS**, the options are all SMS templates whose **Notification Type** is **External Notification** under the tenant space. • When **Execution Type** is set to **Email**, the options are all email templates under the tenant space. • When **Execution Type** is set to **Trans IVR**, the options are all common IVR flows and intelligent IVR flows under the tenant space. • When **Execution Type** is set to **Sub Flow**, the options are all service guidance flows under the tenant space. • When **Execution Type** is set to **Create Case**, the options are all case types under the tenant space.
Transfer Type	Drop-down list	Type of call transfer to IVR flows. This parameter is displayed only when **Execution Type** is set to **Trans IVR**. The options are as follows: • **Release Transfer** • **Hang-up Transfer**
Explanation	Text box	Content that an agent needs to introduce to a customer. The value can contain 0 to 200 characters.
Information	Text box	Node description. The value can contain 0 to 200 characters.

Element	Type	Description
Associated Service Handling Link	Text box	URL of the associated business that can be handled. The value can contain 0 to 200 characters. Contact the system administrator to add the URL to the address trustlist. **Address Type** must be set to **Business Guidance Process Trustlist**.

Step 11 After the guidance flow is edited, click **Release**.

If the agent assistant needs to use the guidance flow, set **Associated Data** of the **Call Transfer** diagram element in the flow of the intelligent agent assistant to the name of the guidance flow.

After the flow is published, click **View** to view the efficiency comparison data of the guidance flow in a specified period, including the number of contacts, average call duration, and first resolution rate in the same period when the guidance flow is used and when the guidance flow is not used. The timeliness requirement for the data is that data generated 24 hours ago can be queried.

----End

2.3.3.15 Configuring SmartCare Integration Information

A tenant administrator can configure information about the interworked SmartCare.

Prerequisites

- The **SmartCare** feature has been enabled for the tenant space.
- You need to apply to the system administrator to add the SmartCare interconnection address to the address trustlist whose **Address Type** is set to **SmartCare interconnection address**.
- You have the **SmartCare Integration** menu permission.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **SmartCare Integration**. The **SmartCare Integration Information Configuration** page is displayed.

Step 2 Click **Edit** to configure SmartCare information.

Table 2-28 Key elements on the SmartCare Integration Information Configuration page

Element	Type	Description
SmartCare Interconnection Address	Text box	SmartCare URL. The URL must start with **http** or **https**. **NOTE** HTTP is not recommended, because it may bring risks. The secure HTTPS protocol is recommended. The value of **SmartCare Interconnection Address** must be added by the system administrator to the address trustlist. **Address Type** is set to **SmartCare interconnection address**.
AppId	Text box	Provided by SmartCare. The value ranges from 5 to 100.
AppSecret	Text box	Provided by SmartCare. The value ranges from 5 to 100.
Certificate	Selection box	Select a certificate uploaded on the **Configuration Center** > **System Management** > **Certificate** page.
Fast boundary scene name	Text box	Name of the fast demarcation scenario. Provided by SmartCare. The value can contain a maximum of 64 characters.
Deep boundary scene name	Text box	Name of the in-depth demarcation scenario. Provided by SmartCare. The value can contain a maximum of 64 characters.

Step 3 Click **Save**.

----End

2.4 Configuring a Mobile Agent

A tenant administrator can configure the mobile customer service to forward inbound calls to specified skill queues or numbers.

2.4.1 (Optional) Configuring an Inbound Call Flow

You can configure a flow to directly transfer an inbound call to the number of a customer manager who has provided services for the customer.

Prerequisites

- You have completed the connection between the AICC and OIAP.
- You have obtained the information about the mobile agent and bidirectional call interfaces in the API Fabric from the O&M personnel.

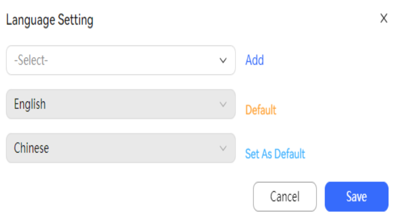
Context

The flow invokes the getCalledInfo interface to obtain the inbound call data, and transfers the inbound calls to a specified number or a skill queue based on the data.

Procedure

Step 1 Add a voice file, which is used as a voice prompt for an error flow.

1. Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Audio and Video**.
2. Click **Language Setting**, click **Set As Default** next to the language to be set as the default language, and click **Save**.



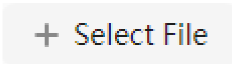
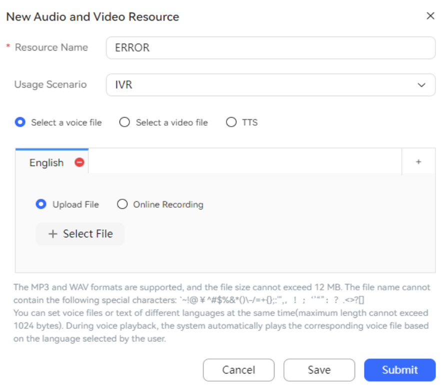
3. Click **New** in the upper right corner. The page for adding a voice file is displayed.
4. Set voice prompt parameters.
   - **Resource Name**: Enter the name of the file to be uploaded.
   - **Usage Scenario**: Select **IVR**.
   - Select **Select a voice file**, click  , select a local WAV voice file, and click **Submit**. If you do not have a voice file, select **Online Recording**.

Figure 2-66 Adding a voice file

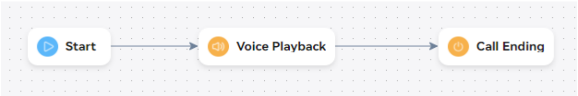


5. Click **Submit** to submit the voice file to the system administrator for approval.

Step 2 Add an error flow.

A tenant space has only one error flow. The flow provides a solution for common errors in a normal flow (for example, the next node cannot be found).

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Management**.
2. Click **New**.
3. Set flow parameters. Enter a flow name, set **Type** to **Exception Handling Flow**, set **Is Referenced** to **Yes**, and click **Save**.
4. Click the flow to expand it and click **Edit**. The flow editing page is displayed.
5. Draw a flow, set the voice file added in **Step 1** as the prompt tone for the **Play Voice** node, as shown in the following figure, and click **Save** to save the flow.



6. Expand the new error flow, click **Release**, select **Official Release**, and click **Confirm**. The new flow is successfully published.

Step 3 Add the two interfaces to the trustlist.

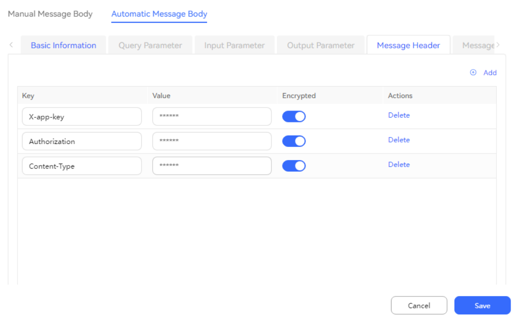
The two interfaces are used for authentication and obtaining interface data.

1. Contact the system administrator to add the IP addresses and port numbers, or domain names of the interfaces to the trustlist of the interface control menu.
2. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Business Interface**.
3. Click the **Self-defined Interface** tab and click **New**. The **Add Business Interface Configuration** dialog box is displayed. Set interface parameters by referring to **Figure 2-67** to **Figure 2-70**.

   Figure 2-67 and **Figure 2-68** indicate the input and output parameters of the getCalledInfo interface. **Figure 2-69** and **Figure 2-70** indicate the input and output parameters of the token interface.

   The token interface is used to obtain the token for AICC authentication. The getCalledInfo interface is used to check whether the current calling number has historical call records. If historical call records are available, the called numbers are found.

Figure 2-67 Message header and output parameters of the getCalledInfo interface



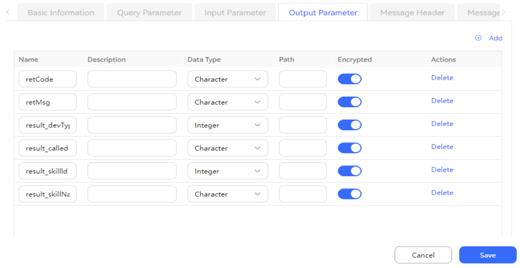


Figure 2-68 Input parameters of the getCalledInfo interface

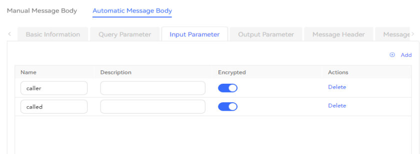


Figure 2-69 Message header and output parameters of the token interface

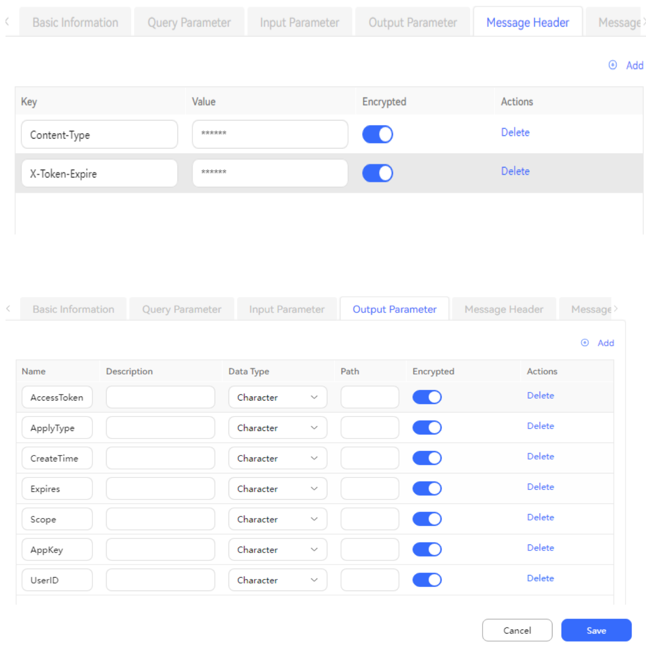
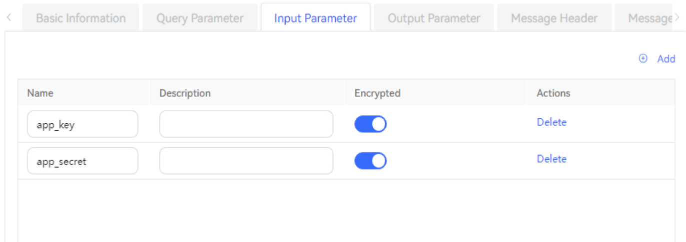


Figure 2-70 Input parameters of the token interface



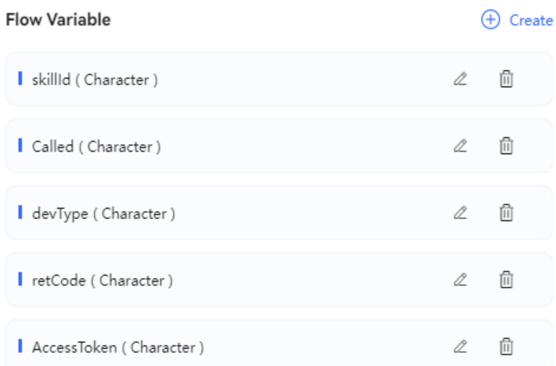
Step 4 Add an inbound call flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration**.

2. Click New.
3. Set flow parameters. Enter a flow name, set **Type** to **Subflow**, and click **Save**.
4. Click the flow to expand it and click **Edit**. The flow editing page is displayed.
5. Click a diagram element on the canvas and create the following flow variables on the right.

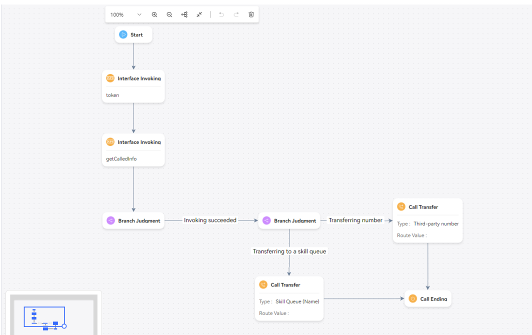
   These variables are used to store the data returned by the interface in the flow.

   Figure 2-71 Configuring parameters

6. Drag diagram elements to the canvas and draw the flow as shown in the following figure.

   Figure 2-72 Drawing a flow

7. Configure nodes.

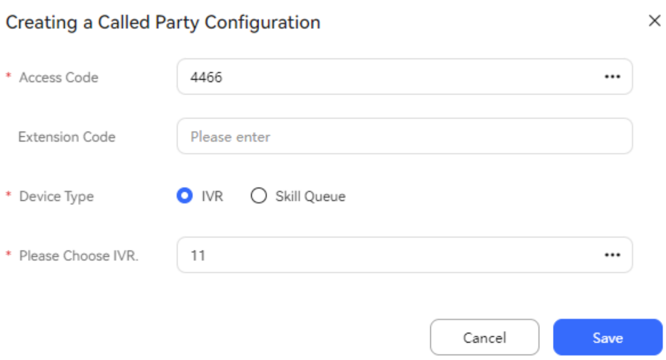
Node	Configuration
token	**Interface Invoking** diagram element, which references the token interface added in **Step 3**. Message header: – Set **Content-Type** to **application/json**. – Set **X-Token-Expire** to **6000**. Input parameters: – Set **app_key** to the AK. – Set **app_secret** to the SK. Output parameters: – Set **AccessToken** to **FLOW.AccessToken**.
getCalledInfo	**Interface Invoking** diagram element, which references the getCalledInfo interface added in **Step 3**. Message header: – Set **x-app-key** to the value of **AK**. – Set **Authorization** to **Bearer ${FLOW.AccessToken}**. – Set **Content-Type** to **application/json**. Input parameters: – Set **caller** to **${SYS.callingNumber}**. – Set **called** to the system access code provided by the mobile agent. Output parameters: – Set **retCode** to **FLOW.retCode**. – Set **result.devType** to **FLOW.devType**. – Set **result.called** to **FLOW.called**. – Set **result.skillId** to **FLOW.skillId**.
Branch Judgment (left)	**Branch Judgment** diagram element, which is used to determine whether an interface is successfully invoked. If the value of **FLOW.retCode** is **0**, the interface is successfully invoked.
Branch Judgment (right)	**Branch Judgment** diagram element, which is used to determine the flow direction. – If the value of **FLOW.devType** is **1**, the call is transferred to the called number returned by the getCalledInfo interface. – If the value of **FLOW.devType** is **0**, the call is transferred to the skill queue specified by the call center. **NOTE** Note that the skill queue is a voice skill queue of common agents, but not mobile agents.

Node	Configuration
Transferring number	**Call Transfer** diagram element, which is used to transfer a call to a third-party number. Set **Transfer Type** to **Third-party number** and **Route Value** to **${FLOW.called}**.
Transferring to a skill queue	**Call Transfer** diagram element, which is used to transfer a call to a skill queue. Set **Transfer Type** to **Skill Queue(Name)** and **Route Value** to an existing voice skill queue in the system.

8. Click in the upper part of the canvas to save the flow.
9. Expand the new subflow, click **Release**, select **Official Release**, and click **Confirm**.

Step 5 Set the called route and add the association between the flow and the system access code.

1. Choose **Configuration Center** > **Access Configuration** > **Called Party**.
2. Click **New** to add a called route.
3. Click , select a system access code of the **Audio/Video** type, enter an extension code, set **Device Type** to **IVR**, and select the flow configured in **Step 4**.



4. Click **Save**.

----End

2.4.2 Configuring a Mobile Agent in the AICC

After a customer dials a tenant access code, the call is connected to a skill queue or a specified number based on the mobile agent configuration.

Prerequisites

After the system administrator enables the mobile agent feature for a tenant space, the tenant administrator can configure mobile agents.

Procedure

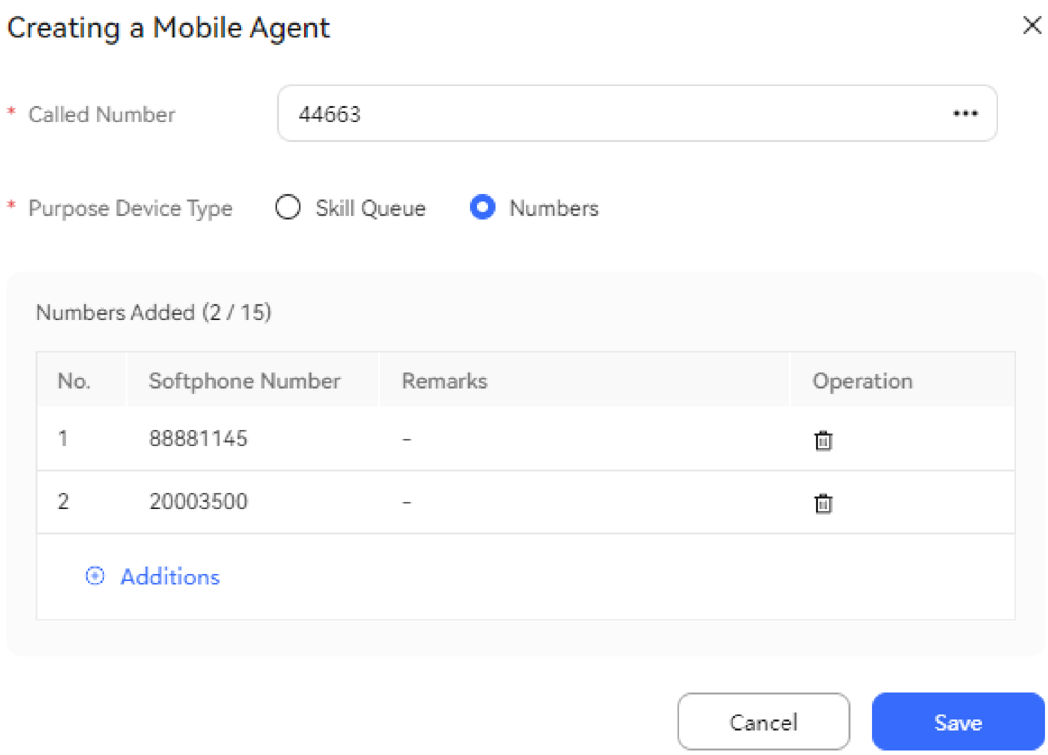
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Mobile Agent**.

Step 2 Click **New**. The **Creating a Mobile Agent** dialog box is displayed.

Step 3 Configure a mobile agent.

If you have configured a flow in "Configuring an Inbound Call Flow", set **Purpose Device Type** to **Numbers** and select the softphone number or mobile number of a mobile agent. When no call record of the customer is found, the call is directly connected to the agent number configured in this step.

Figure 2-73 Creating a Mobile Agent



The parameters are described as follows:

- **Called Number**: Click the text box to select an access code in the dialog box that is displayed. The access codes displayed in the dialog box are configured on the **Called Party** page. For details, see the called route configuration in "(Optional) Configuring an Inbound Call Flow."
- **Purpose Device Type**: Type of the device that an agent can connect to when connecting to a call from a customer. The options are **Skill Queue** and **Numbers**.
  a. **Skill Queue**: Click the text box to select a skill queue in the dialog box that is displayed. The skill queues displayed in the dialog box are of the same type as that of the access code. For example, if the access code is of the **Audio/Video** type, all available skill queues are of the same type.
  b. **Numbers**: Click Additions to select a number in the dialog box that is displayed. The numbers displayed in the dialog box are mobile agent

softphone numbers configured by the system administrator during tenant administrator creation.

Step 4 After adding a destination device for the VDN, click **Save**.

----End

2.5 Configuring Multimedia Channels

The AICC supports multiple access modes, including WeChat, web, X (Twitter), email, WhatsApp, Facebook, LINE, and 5G RCS. Customers can access AICC services anytime and anywhere.

After customer calls are connected, the calls are processed in a unified manner and intelligently routed to agents. Agents do not need to pay attention to the customer access mode.

Prerequisites

- Agents are available in a multimedia skill queue.
- You have configured a multimedia called route. For details, see **2.3.1.2 Configuring Called Routes**.

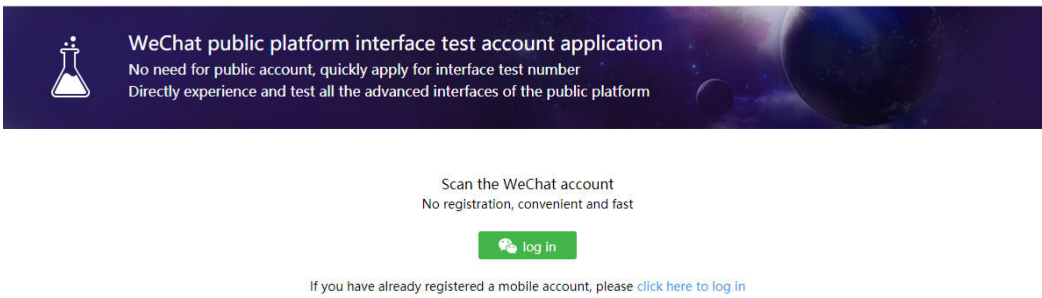
2.5.1 Configuring the WeChat Channel

A tenant administrator can configure the WeChat channel for customers to access.

Prerequisites

- Prerequisites for key-based hosting
  - The system administrator has uploaded the WeChat authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
  - In the test environment, you have logged in to the WeChat Official Accounts Platform and applied for a test account access ID and secret in advance.
    i. Visit the test account website of the WeChat Official Accounts Platform at **https://mp.weixin.qq.com/debug/cgi-bin/sandboxinfo?action=showinfo&t=sandbox/index**, and use your personal WeChat account to scan the QR code for login.

Figure 2-74 WeChat Official Accounts Platform



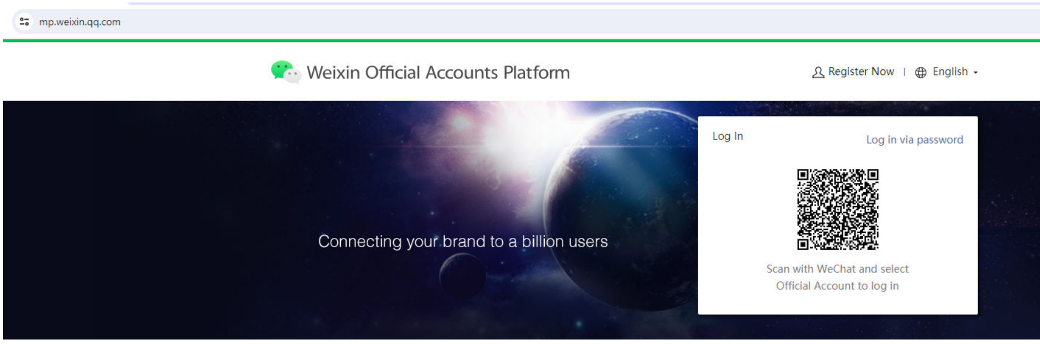
ii. Obtain information about the test account.

Figure 2-75 Test account information

– In the commercial environment, you have accessed the WeChat Official Accounts Platform and registered an official account in advance.

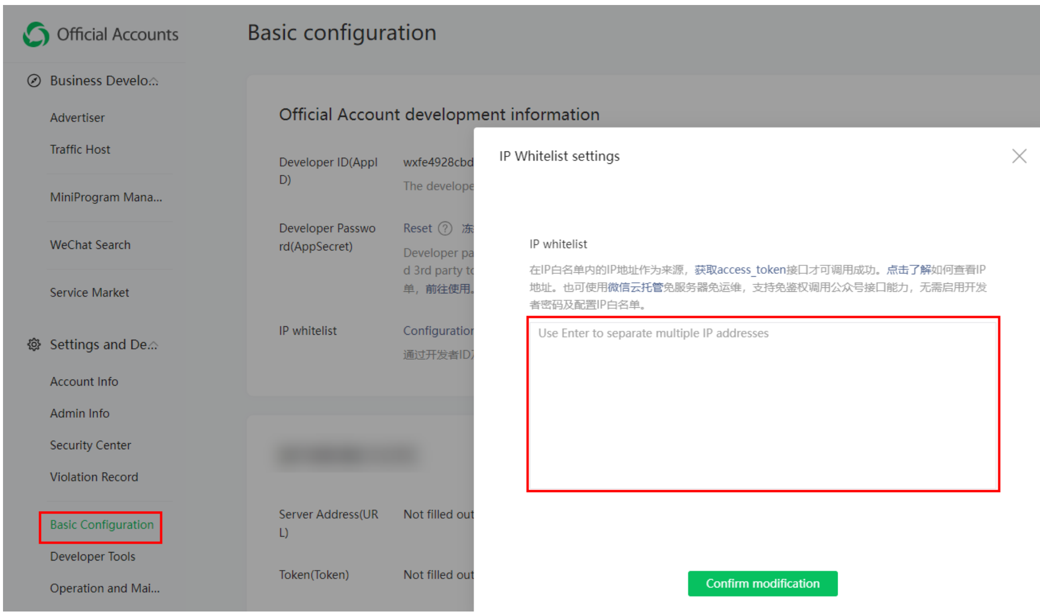
i. Visit the website of the WeChat Official Accounts Platform at **https://mp.weixin.qq.com/** and register a WeChat official account by referring to the following WeChat documents. Among the multiple WeChat official account types, you are advised to choose a service account.

   ○ To register an account outside Chinese mainland, see **https://kf.qq.com/faq/220601uYfUz2220601UVJjmU.html**.



ii. Log in to the WeChat official account and choose **WeChat Official Accounts Platform** > **Settings and Development** > **Basic Configuration** to obtain the **AppID** and **AppSecret**.

iii. Choose **WeChat Official Accounts Platform** > **Settings and Development** > **Basic Configuration** to add the public IP address of the AICC system in **IP whitelist**.



- Prerequisites for QR code–based hosting

  The enterprise official account has passed the WeChat authentication. In addition, a third-party platform account has been created and released on the entire network.

Context

- If the app ID and app secret provided by WeChat are changed, you need to modify the involved WeChat channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **App Id** and **App Secret**.
- After enabling **WeChat message encryption switch**, set **encodingAESKey** to the value on the WeChat Official Accounts Platform. If the value on the WeChat Official Accounts Platform is changed, you need to change the value on the AICC as follows:
  - On the WeChat Official Accounts Platform: Log in using a developer account, choose **WeChat Official Accounts Platform** > **Develop** > **Basic Settings**, and update the value of **EncodingAESKey**.
  - On the AICC: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the value of **encodingAESKey**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-29 Channel information parameters

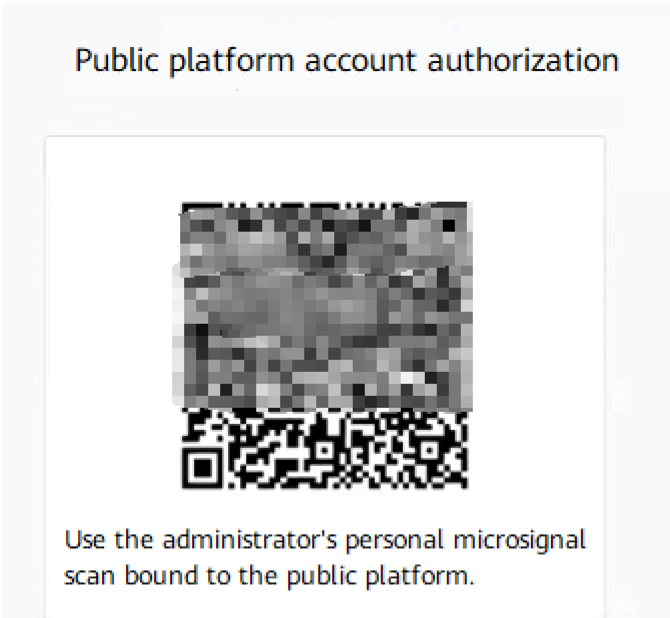
Parameter	Description
Channel Selection	Select **WeChat**.
Hosting Method	The options are as follows: ● **Key**: For details about the parameters, see **Table 2-30**. ● **QR code**: For details about the operations, see **Step 3.1**. Select a hosting mode based on site requirements.

Table 2-30 Key-based hosting parameters

Parameter	Description
App Id	Enter the AppID and AppSecret obtained from the WeChat Official Accounts Platform. To obtain the app ID and app secret, see **Applying for an Access ID and Secret**.
App Secret	
Interconnection Encryption Algorithm	Encryption algorithm used for WeChat interconnection. The options are as follows: ● **SHA-1** ● **SHA-256** **NOTE** SHA-1 is not strong enough, which poses security risks. If the platform supports SHA-256, you are advised to use this algorithm, which is stronger.

QR code–based hosting operations:

1. After setting **Hosting Mode** to **QR code**, click **Scan WeChat QR Code To Authorize**. The Official Accounts Platform account authorization page containing a QR code is displayed.



2. Use a WeChat account to log in to WeChat and scan the QR code. The system displays a message indicating that the scanning is successful. Authorize the account on your mobile phone.

NOTE

An official account or mini program account can be bound to only one open platform account.

3. After the authorization, the system displays a message indicating that the authorization is successful. The QR code–based hosting is complete. Return to the channel configuration page to complete subsequent configurations.

Step 4 Set basic configuration parameters.

Table 2-31 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.

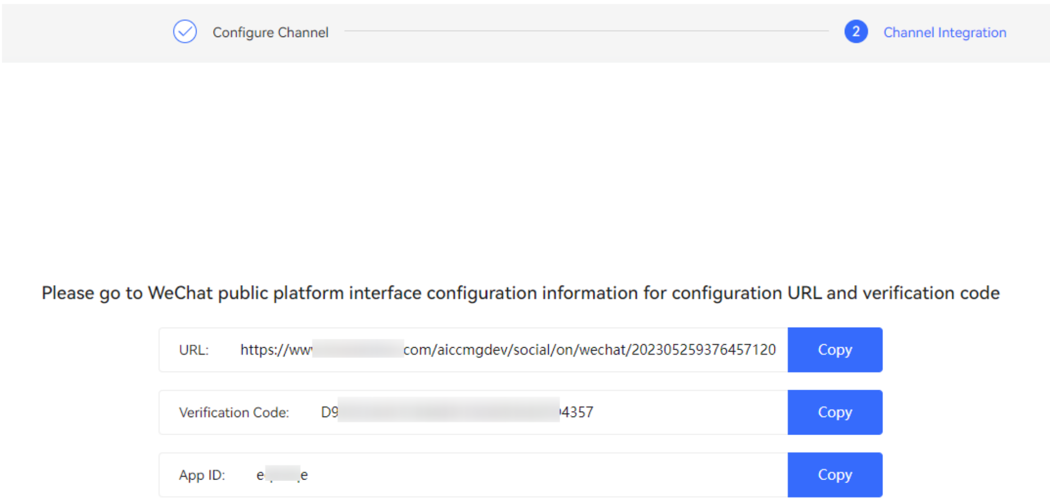
Step 5 Set robot configuration parameters.

Table 2-32 Robot configuration parameters

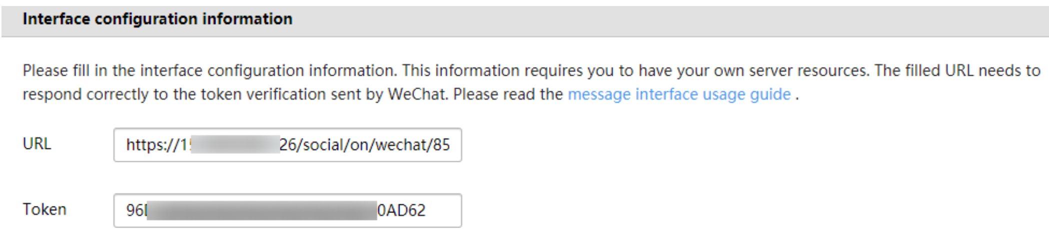
Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 On the **Channel Integration** page, set parameters. This step is required only in key-based hosting mode.

1. On the **Channel Integration** page, copy the values of **URL** and **Verification Code**.



2. Copy the values of **URL** and **Verification Code** on the **Channel Integration** page to the WeChat Official Accounts Platform.
   - Test account: Go to the test page of the WeChat Official Accounts Platform and enter the values of **URL** and **Verification Code** in the **Interface configuration information** area. Click **Submit** to perform token authentication.



   - Official account: Choose **WeChat Official Accounts Platform** > **Settings and Development** > **Basic Configuration** and enter the values of **URL** and **Verification Code** in **URL** and **Token** in the server configuration area.

Customize the value of **EncodingASEKey**, which can be manually entered or randomly generated and is used as the key for encrypting and decrypting the message body. Customize the value of **Message Encryption Method**.

Step 7 If the authentication is successful, the access is successful. Return to the channel configuration page of the AICC and click **Submit**. The access success page is displayed, and the WeChat channel access configuration is complete.

----End

Further Description

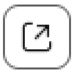
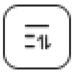
To set up a connection with an agent, scan the QR code of the test account and send a message to its backend.

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.2 Configuring the Web Channel

A tenant administrator can configure the web channel for customers to access.

Prerequisites

- This section describes only how to enable the web channel and verify the functions. In actual scenarios, an enterprise needs to develop the client chat page through JavaScript or API integration. For details about how an enterprise performs integration and development, see **Lightweight Web Chat Control Integration (Token Mode)** and **Overview**.

- The tenant administrator has a multimedia agent that has been bound to the tenant administrator's business account.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Set **Channel Access Code**, select **WEB**, and click **Next**.

NOTE

The channel access code must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).

Step 3 Set channel information parameters.

Table 2-33 Channel information parameters

Parameter	Description
Channel Selection	Select **Web**.

Step 4 Set basic configuration parameters.

Table 2-34 WeChat channel parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Click To Call	For details, see **2.5.12.1 How Do I Set the Click-to-Dial Called Route?**.

Parameter	Description
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue reminder interval	Customized notification interval for a customer waiting in a queue.
Queue reminder content	Customized notification content for a customer waiting in a queue.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.
Third-party authentication key	For details, see **2.5.12.6 How Do I Set the Third-Party Authentication Key?**.
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**.
Message Push	For details, see **2.5.12.8 How Do I Enable Message Push?**.

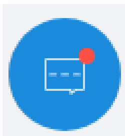
Step 5 Set robot configuration parameters.

Table 2-35 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 Click **The next step**. The **Channel Integration** page is displayed.

Step 7 (Optional) Click **Try**. On the page that is displayed, configure customer information to simulate the dialog window on the client. Verify that customers can chat with agents or the robot through the current channel.

1. Click **Try**, and click  in the lower right corner of the page that is displayed.

   If **Connecting to the Intelligent Robot** is enabled, the customer is connected to the robot by default. Otherwise, the customer is automatically connected to an agent.

2. In the **Online Customer Service** dialog box, enter the chat content, click **Send**, and check the reply of the robot or agent.

   If the chat content entered by the customer contains keywords configured for the robot or agent, the robot or agent identifies the keywords and replies to the customer. If the keywords cannot be identified, the robot or agent replies, for example, "Sorry, I cannot understand."

   NOTE

   When communicating with the robot, the customer can click **Transfer to Agent** or enter any keyword set in the **Keyword for Transfer to Agent** text box to switch from the robot to an agent. However, the customer cannot switch to the robot or an agent when communicating with an agent.

3. Sign in as a multimedia agent and choose **Online Chat Workbench**.

4. (Optional) Click , then click **Evaluation** to comment on the current agent, including the satisfaction rating and content evaluation, and click **Confirm** to submit the evaluation.

   NOTE

   The customer can only evaluate the services of agents who have at least one dialog with the customer in the web channel. During and after a dialog, the customer can evaluate the service of the agent at any time. The last evaluation is used.

Step 8 Return to the web channel access configuration page and click **Close**.

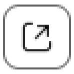
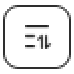
----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.3 Configuring the X (Twitter) Channel

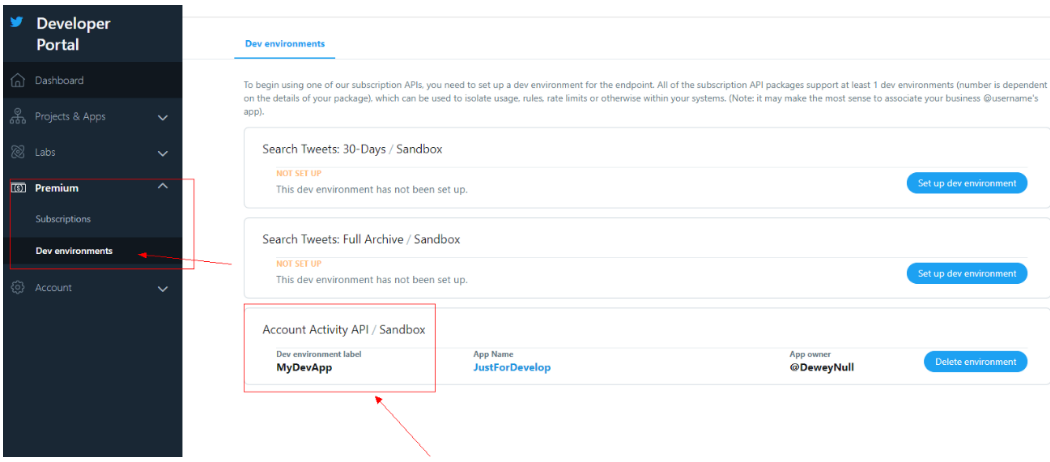
A tenant administrator can configure the X (Twitter) channel for customers to access.

Prerequisites

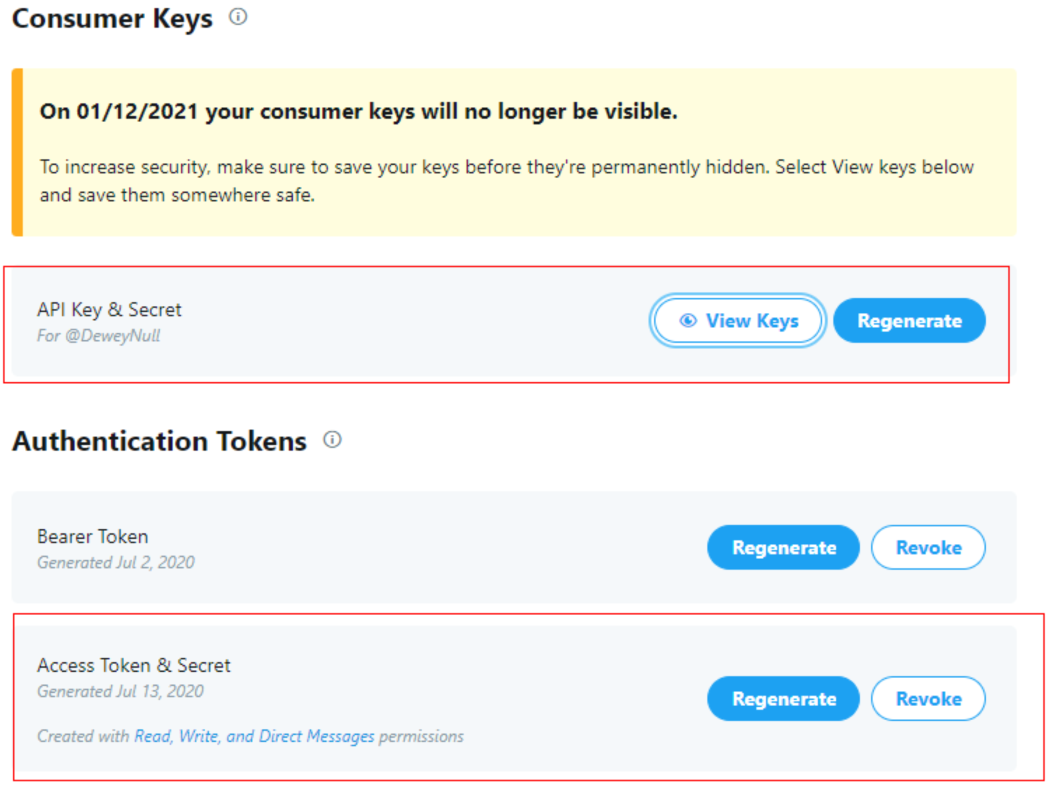
NOTE

This feature is available only to regions outside the Chinese mainland.

- The system administrator has uploaded the X (Twitter) authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have obtained developer information from the X (Twitter) Developer Platform.
  a. Visit the X (Twitter) Developer Platform at **https://developer.twitter.com/en** to apply for a developer account for personalized configuration. View the account information on the page shown in the following figure.



b. View the **API Key & Secret** and **Access Token & Secret** parameters.



Context

- X (Twitter) allows a project to connect to multiple systems, but the AICC requires that one X (Twitter) project connect to one channel to prevent duplicate messages.
- If the API key, API key secret, access token, and access token secret provided by X (Twitter) are changed on X (Twitter), you need to modify the involved X (Twitter) channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **API key**, **API key secret**, **Access Token**, and **Access Token Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-36 Channel information parameters

Parameter	Description
Channel Selection	Select **X (Twitter)**.

Parameter	Description
API key	Enter the information obtained from the X (Twitter) Developer Platform.
API Key Secret	
Access Token	
Access Token Secret	
Dev environment label	Value of **Dev environment label** of the X (Twitter) developer account. This parameter is mandatory.
Interconnection Encryption Algorithm	Encryption algorithm used for X (Twitter) interconnection. The options are as follows: ● **SHA-1** ● **SHA-256** **NOTE** SHA-1 is not strong enough, which poses security risks. If the platform supports SHA-256, you are advised to use this algorithm, which is stronger.

Step 4 Set basic configuration parameters.

Table 2-37 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.

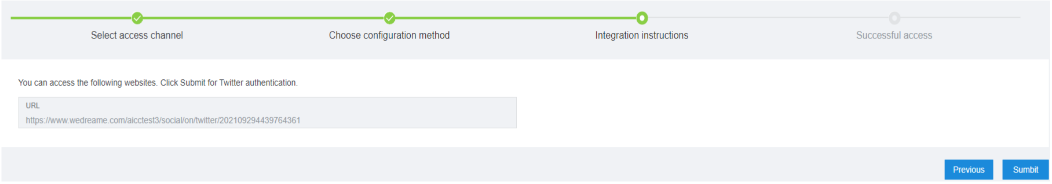
Parameter	Description
Agent Work Time	● **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. ● **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.

Step 5 Set robot configuration parameters.

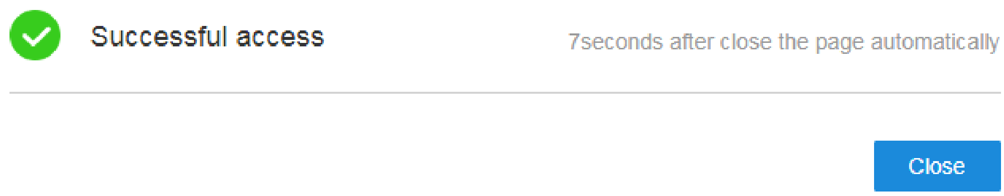
Table 2-38 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 Click **The next step**. The **Channel Integration** page is displayed.



Step 7 Visit the URL and click **Submit** to perform token authentication. If the token passes the authentication, the access is successful. Return to the AICC and click **Submit**. The **Successful access** page is displayed.



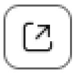
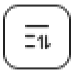
----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

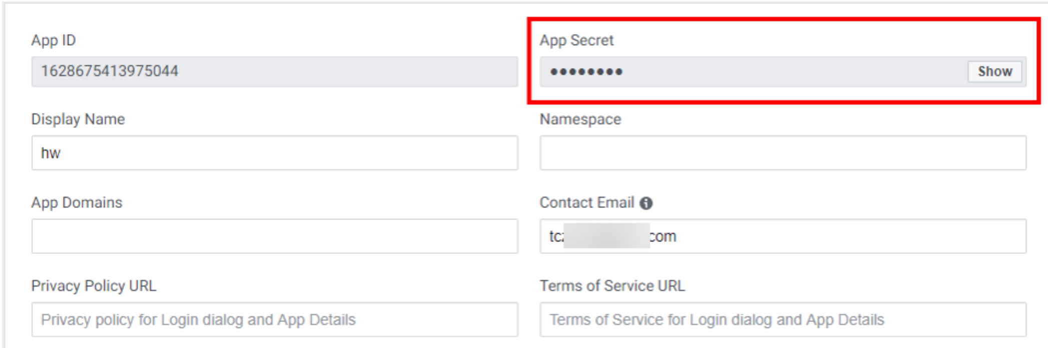
2.5.4 Configuring AICC Information

A tenant administrator can configure the Facebook channel for customers to access.

Prerequisites

- The system administrator has uploaded the Facebook authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have obtained developer information from Meta for Developers.

  Visit Meta for Developers at **https://developers.facebook.com/** to apply for a developer account. View the account information on the page shown in the following figure.



Context

- Facebook allows an application to connect to multiple systems, but the AICC requires that one Facebook application connect to one channel to prevent duplicate messages.
- If the app secret and token secret provided by Facebook are changed on Facebook, you need to modify the involved Facebook channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the value of **App Secret**. After saving the channel configuration, click **Configuration** in the **Operation** column corresponding to the involved channel, and update the value of **Token Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-39 Channel information parameters

Parameter	Description
Channel Selection	Select **Facebook**.
App Secret	App secret on Meta for Developers.
Interconnection Encryption Algorithm	Encryption algorithm used for Facebook interconnection. The options are as follows: ● **SHA-1** ● **SHA-256** **NOTE** SHA-1 is not strong enough, which poses security risks. If the platform supports SHA-256, you are advised to use this algorithm, which is stronger.

Step 4 Set basic configuration parameters.

Table 2-40 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.

Step 5 Set robot configuration parameters.

Table 2-41 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 Click **The next step** and go to Meta for Developers to configure the URL and verification code.

Step 7 Visit the URL and click **Submit** to perform token authentication. If the token passes the authentication, the access is successful. Return to the AICC and click **Submit**. The **Successful access** page is displayed.

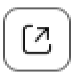
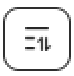
----End

Follow-up Procedure

- The Facebook channel supports multiple Facebook home pages, and each Facebook home page can be configured only for one Facebook channel.
  a. Click **Create** to configure multiple home pages for the Facebook channel so that multiple Facebook home pages can be connected to agents.
    i. **Page ID**: home page ID on Meta for Developers
    ii. **TokenSecret**: token secret on Meta for Developers
  b. Click **Save**.
- Export channel information.

  NOTE

  - All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
  - A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
  - If no channel is selected, all channel information is exported by default.

  a. Return to the channel list.
  b. Select the new channel and click  to export the channel information.
  c. Click  and confirm that **Status** of the export task is **Success**.
  d. Click **Download** to obtain the exported channel information.

2.5.5 Configuring the 5G RCS Channel

A tenant administrator can configure the 5G RCS channel for customers to access.

Prerequisites

- You have obtained the authentication certificate provided by 5G RCS and uploaded it in **2.17.6 Managing a Certificate**.
- After you enter information on the chatbot service platform (CSP) portal or provide enterprise information offline for chatbot registration, the CSP submits an application to China Mobile. After the application is approved, the CSP allocates the chatbot address, app ID, and app secret for enterprise access.

Context

If the chatbot address, app ID, and app secret provided by 5G RSC are changed, you need to modify the involved 5G RCS channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **Chatbot Address**, **App Id**, and **App Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-42 Channel information parameters

Parameter	Description
Channel Selection	Select **5G RCS**.
Chatbot Address	Unified service address of industry messages. The client can display all notifications based on this address.
App ID	App ID allocated by the developer market.
App Secret	Password allocated by the developer market to the app access key.
Certificate File	Select the uploaded 5G certificate.

Step 4 Set basic configuration parameters.

Table 2-43 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.

Parameter	Description
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**.

Step 5 Set robot configuration parameters.

Table 2-44 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 Click **The next step** and go to the 5G RCS configuration page to configure the URL.

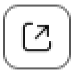
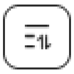
----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

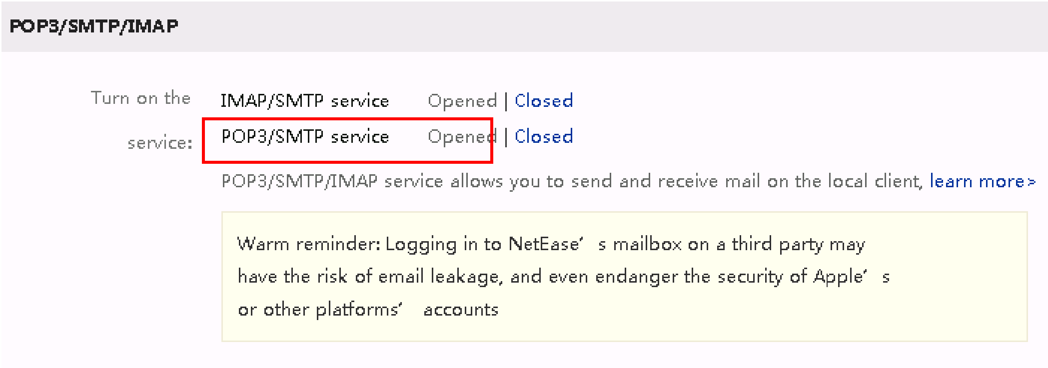
2.5.6 Configuring the Email Channel

A tenant administrator can configure the email channel for customers to access.

Prerequisites

The AICC can use the SMTP and POP3 services to send and receive emails. Before configuring the email channel, ensure that the SMTP and POP3 services are enabled and the authorization password is correct.

For example, perform the following setting on the official website of the mailbox service and obtain the authentication password for configuring the connection to the mailbox client.



Procedure

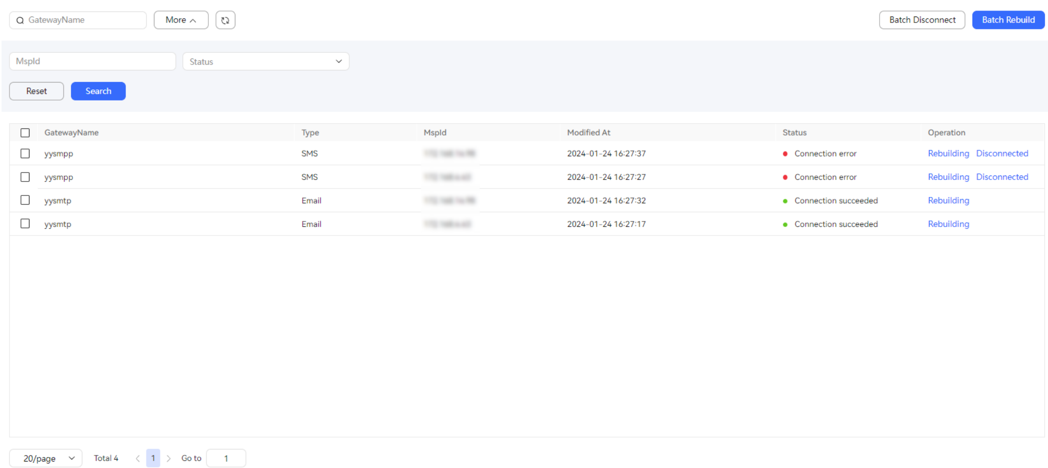
Step 1 (Optional) Obtain the certificate file of the email server and upload the certificate.

Dedicated email service providers support the secure SMTP for email sending and POP3 for email receiving. Certificate authentication must be enabled for secure email sending and receiving protocols. Therefore, use the secure port provided by the email server provider for security purposes.

Obtain the certificate and upload it by referring to **2.17.6 Managing a Certificate**. Set **Cert Type** to **CER** based on the file name extension.

Step 2 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, and set parameters. The status of the configured gateways must be displayed as **Connection succeeded** on the **Gateway Monitoring** page.

Set **Protocol Type** to **POP3** for the email receiving gateway and **SMTP** for the email sending gateway.



Step 3 Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 4 Click **Newly created**. The **Configure Channel** page is displayed.

Step 5 Set channel information parameters.

Table 2-45 Channel information parameters

Parameter	Description
Channel Selection	Select **Email**.
Email receiving gateway	Select a configured email receiving gateway. For details about how to configure a gateway, see **2.11.3.2 Configuring Email Gateways**.
Email sending gateway	Select a configured email sending gateway. For details about how to configure a gateway, see **2.11.3.2 Configuring Email Gateways**.
Max. Recipients	Maximum number of recipient email addresses. If this parameter is not set, the maximum number is determined by the tenant parameter **Maximum number of recipients forwarded by email agents**. **NOTE** The sum of the values of the three parameters in the **Email Address Quantity Configuration** area cannot exceed 100.
Max. Cc Recipients	Maximum number of Cc recipient email addresses. If this parameter is not set, the maximum number is determined by the tenant parameter **Maximum number of Cc by email agents**.
Max. Bcc Recipients	Maximum number of Bcc recipient email addresses. If this parameter is not set, the maximum number is determined by the tenant parameter **Maximum number of Bcc by email agents**.
Reply with Personal Email	This function is disabled by default. If the employee account is set to an email address, the employee account can be used to reply to emails after this function is enabled.
Email Signature	This function is disabled by default. For details about how to configure an email signature, see **2.17.11 Managing Email Signatures**.

Step 6 Set basic configuration parameters.

Table 2-46 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).

Parameter	Description
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	● **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. ● **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**.
Automatic reply during working hours	For details, see **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**.
Automatic reply during non working hours	

Step 7 Set robot configuration parameters.

Table 2-47 Robot configuration parameters

Parameter	Description
Robot Configuration	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.

Step 8 Click **Save**, and the configuration is complete.

NOTE

In addition, the system automatically creates a message route based on the selected email receiving gateway on the **Configuration Center** > **Access Configuration** > **Notification Route** page.

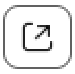
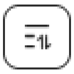
----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.7 Configuring the LINE Channel

A tenant administrator can configure the LINE channel for customers to access.

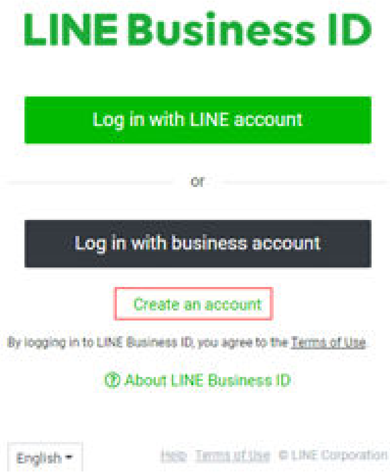
Prerequisites

NOTE

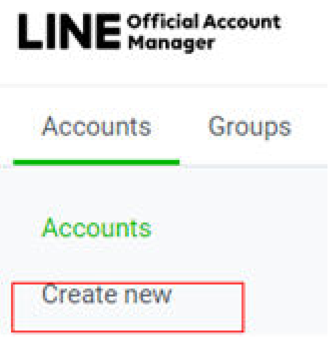
This feature applies only to regions outside the Chinese mainland.

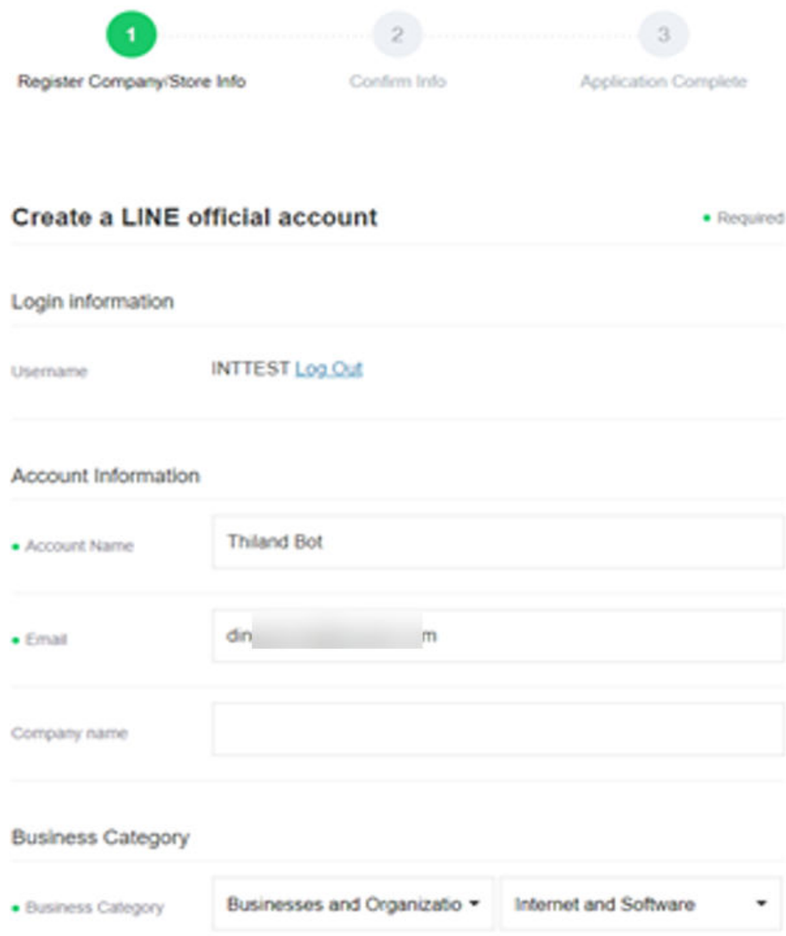
- The system administrator has uploaded the LINE authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have applied for a LINE account (used to bind a payment method for package purchase).

a. Access the LINE Official Account Manager (**https://manager.line.biz/**) and register a LINE business account.

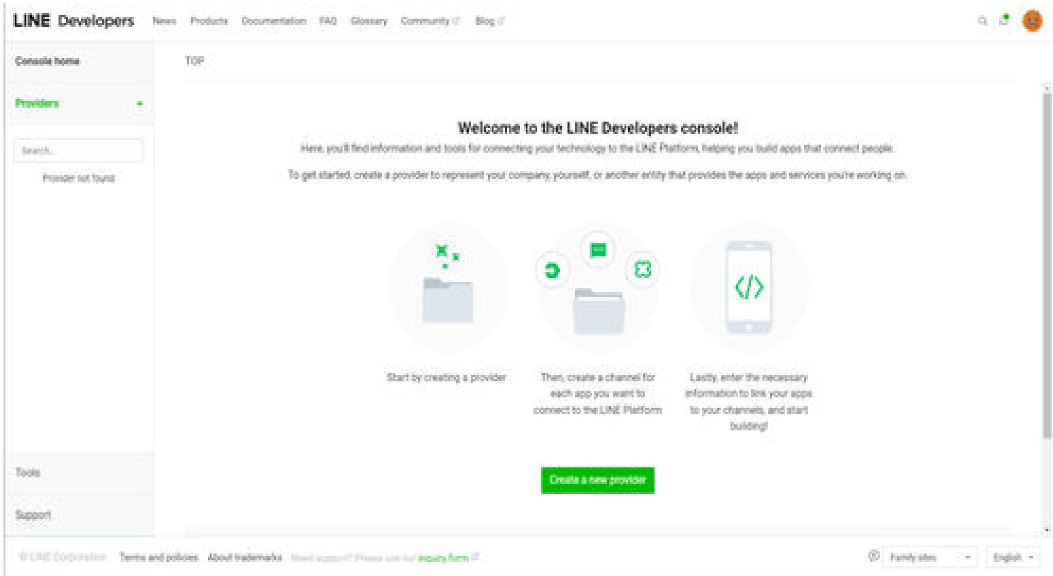


b. Create an official account in the LINE Official Account Manager (**https://manager.line.biz/**).

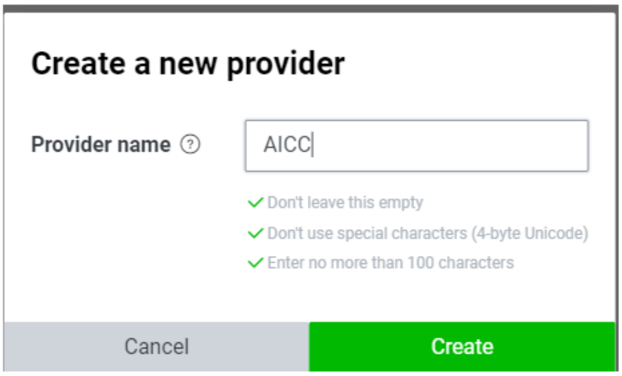




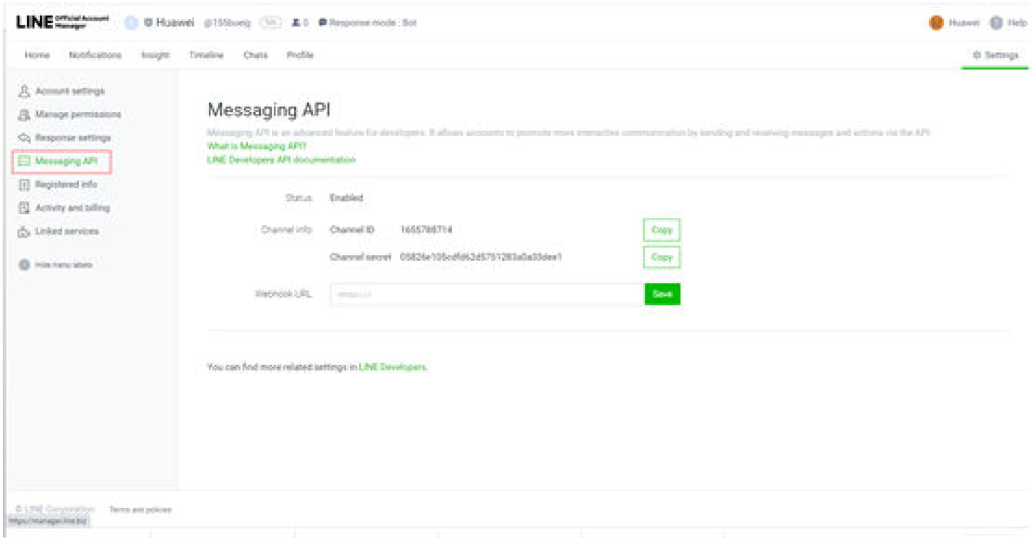
c. Use the LINE business account to log in to the LINE Developers console (**https://developers.line.biz/console/**) to create a provider.



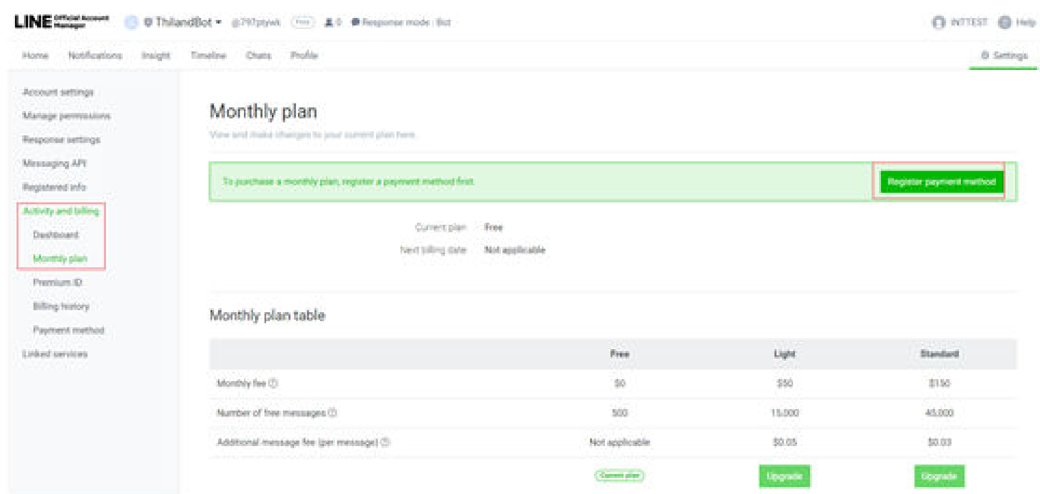
d. Click **Create a new provider** to create a provider.



e. In the LINE Official Account Manager (**https://manager.line.biz/**), click **Settings** in the upper right corner, choose **Messaging API** from the navigation pane, and select the provider created in the previous step when enabling the messaging API.



f. In the LINE Official Account Manager (**https://manager.line.biz/**), bind a payment method and purchase a package.



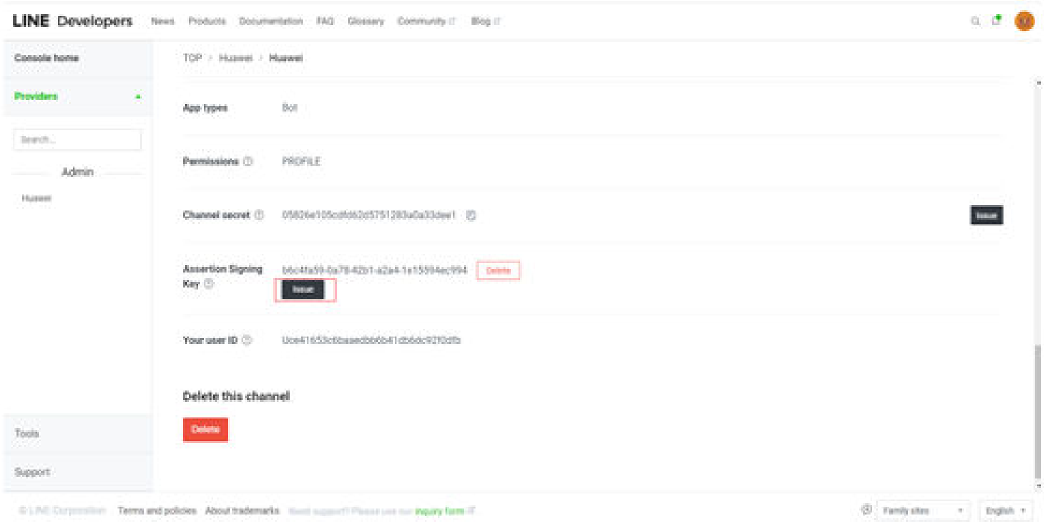
g. On the LINE Developers console (**https://developers.line.biz/en/docs/messaging-api/generate-json-web-token/#create-an-assertion-**

signing-key), generate **private.key** and **public.key** by referring to "Generate using browser" and save them to the local PC.

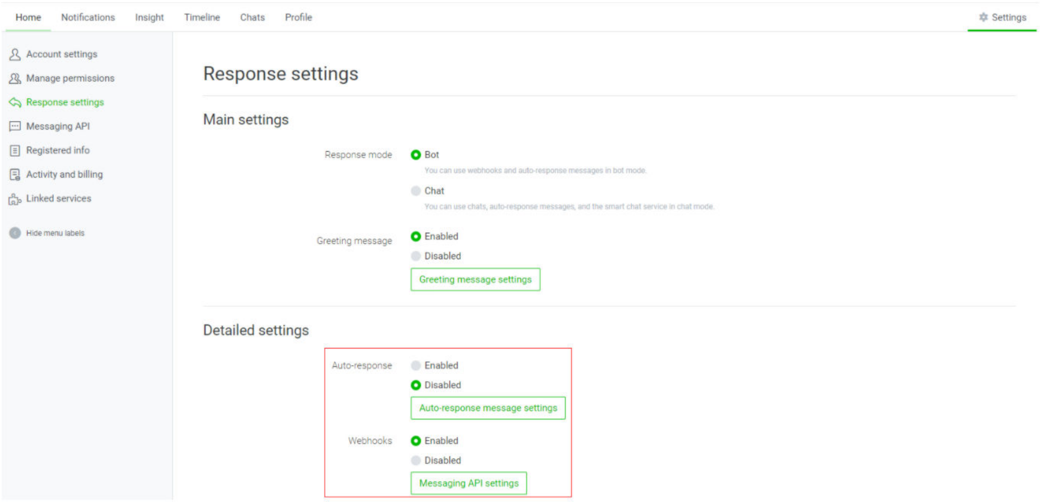
h. On the LINE Developers console (https://developers.line.biz/console/), click **Register a public key** and enter the **public.key** value generated in the previous step to generate a key ID.

Place the generated **public.key** value in the JSON structure of the private key. The value will be used to set **Assertion Signing Key** when the LINE channel is created in the AICC.

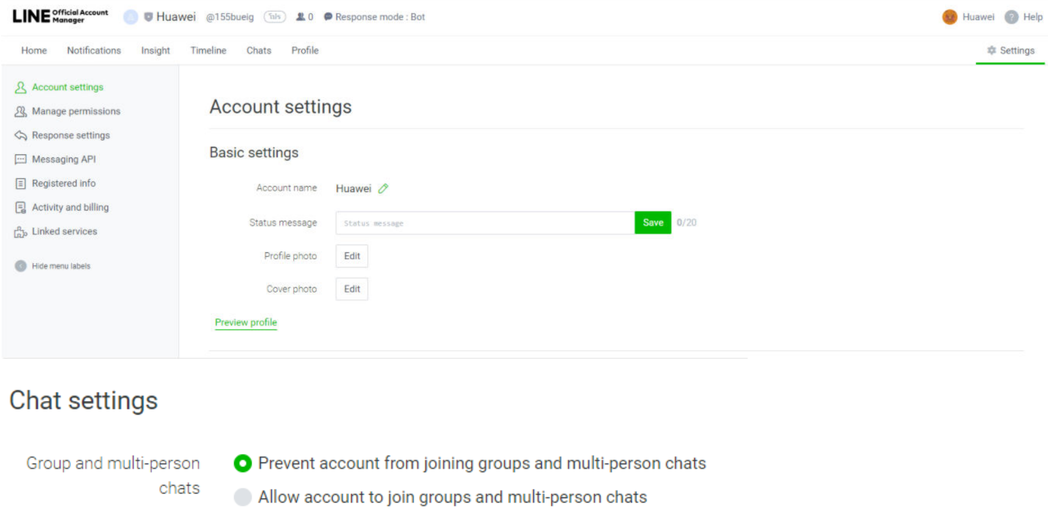
Record the values of **Channel ID**, **Channel Secret**, and **Assertion Signing Key** for channel configuration in the AICC.



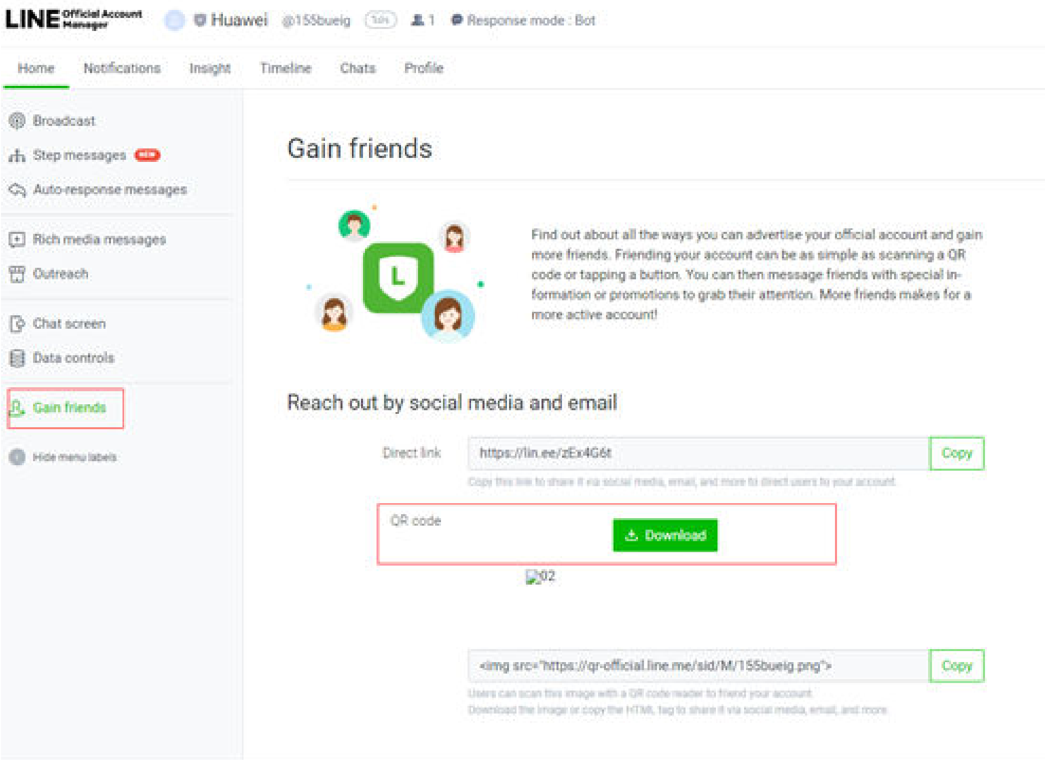
i. In the LINE Official Account Manager, disable **Auto-response** and enable **Webhooks**.



j. In the LINE Official Account Manager, disable **Group and multi-person chats**.



k. Unauthenticated official accounts cannot be found. You can download the QR code from the LINE Official Account Manager and scan the QR code on a mobile phone to add an official account.



Context

If the channel ID, channel secret, and assertion signing key provided by LINE are changed, you need to modify the involved LINE channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **Channel ID**, **Channel secret**, and **Assertion Signing Key**

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-48 Channel information parameters

Parameter	Description
Channel Selection	Select **LINE**.
Channel ID	Enter the ID obtained from LINE.
Channel secret	Enter the secret obtained from LINE.
Assertion Signing Key	
Interconnection Encryption Algorithm	Encryption algorithm used for LINE interconnection. The options are as follows: ● **SHA256WithRSA** ● **SHA256WithPSS** **NOTE** SHA-256 with RSA is not strong enough, which poses security risks. If the platform supports SHA-256 with PSS, you are advised to use this algorithm, which is stronger.

Step 4 Set basic configuration parameters.

Table 2-49 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.

Parameter	Description
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	- **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. - **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.

Step 5 Set robot configuration parameters.

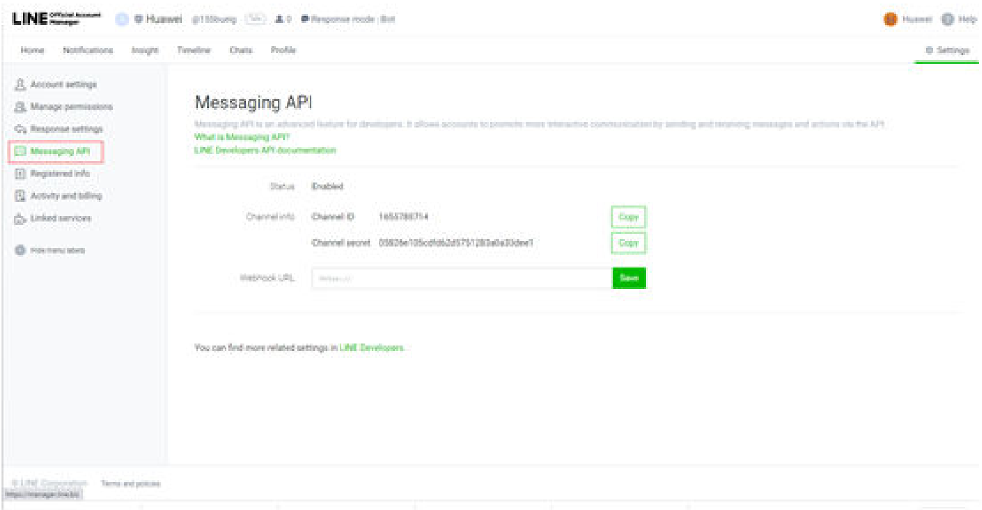
Table 2-50 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 Click **The next step**. The **Channel Integration** page is displayed.

Step 7 Configure the Webhook URL in LINE.

After the LINE channel is created on the channel configuration page in the AICC, the Webhook URL can be obtained. In the LINE Official Account Manager (**https://manager.line.biz/**), select the official account to be configured, click **Settings** in the upper right corner, choose **Messaging API** from the navigation pane, and set **Webhook URL**.



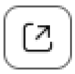
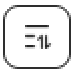
----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.8 Configuring the WhatsApp Channel

A tenant administrator can configure the WhatsApp channel for customers to access.

Prerequisites

NOTE

This feature applies only to regions outside the Chinese mainland.

You have obtained the following information from the WhatsApp service path supplier:

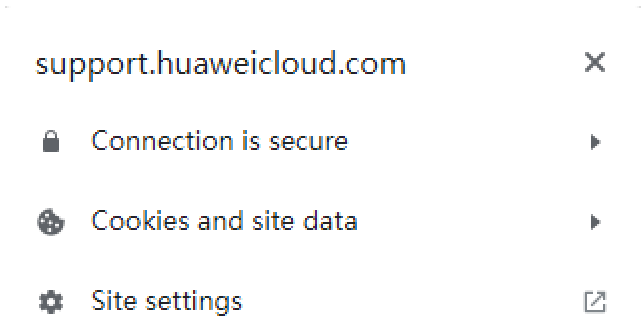
- **infobip**
  - Phone number for registering a WhatsApp service path provider user
  - Username for registering with the WhatsApp service path provider
  - Password for registering with the WhatsApp service path provider
  - API URL prefix provided by the WhatsApp service path provider. An application has been submitted to the system administrator and approved to add the API URL prefix to the address trustlist.

    This information corresponds to the value of **BaseUrl** in the AICC.
  - Account key provided by the WhatsApp service path provider for authentication
  - Webhook password, which is the authentication password for the channel to receive messages. The webhook password is customized by channel configuration personnel. After the channel is configured, you need to notify Infobip of the webhook password, which corresponds to the account key of the webhook API in Infobip.
  - Authentication certificate. To obtain the authentication certificate, perform the following steps:

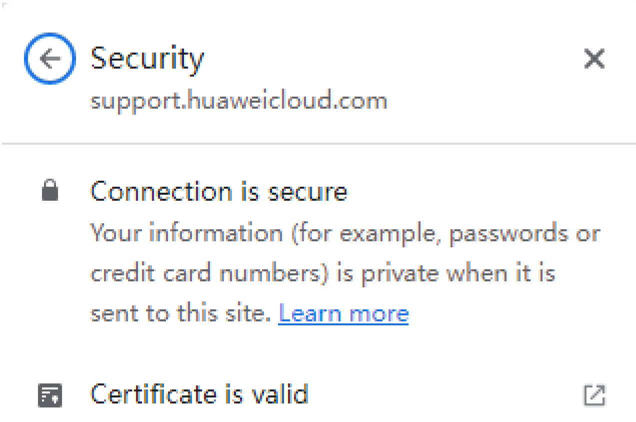
    i. Visit the following website:
       - **https://api.infobip.com/**
       - API URL prefix provided by Infobip, for example, https://***.api-us.infobip.com/

    ii. Export a certificate from the browser. The following describes how to export a certificate from **https://api.infobip.com/**.

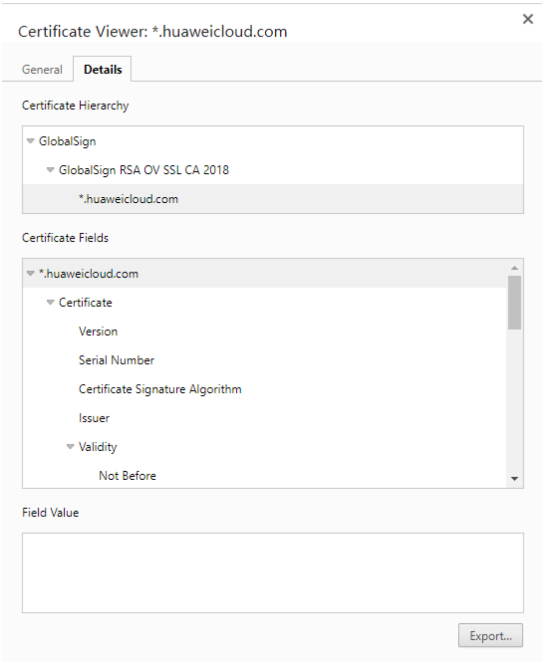
       1) Click  in the address box. The following information is displayed.

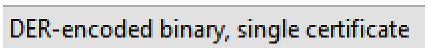
       2) Choose **Connection is secure** > **Certificate is valid** to view certificate information.



3) Click **Export** and select a local path to save the certificate.



Customize the value of **File name** and set **Save as type** to **DER-encoded binary, single certificate**.



4) Click **Save** to export the certificate to the local PC.

iii. Repeat the preceding operations to export a certificate from https://***.api-us.infobip.com/.

iv. Combine the two certificates into a JKS certificate. You can use the certificate combination tool Portecle to combine the certificates.

Download URL: **https://sourceforge.net/projects/portecle/**

Procedure: The Java running environment must be available.

1) Open the CLI and go to the directory where **portecle.jar** is stored.
2) Run the **java -jar portecle.jar** command to run Portecle.
3) Choose **File** > **New Keystory Type**, select **JKS**, and click **OK**.

4) Click  and upload an obtained browser certificate to Portecle.

   You need to run the command twice.

5) Click , enter a new certificate password, and click **OK**.

6) Enter a new certificate name, which is customized, and click **Save**.

v. Upload the authentication certificate by referring to **2.17.6 Managing a Certificate**.

- **other**: The customer implements the BSP to connect to WhatsApp. The current version supports only ITAU.

  NOTE

  When **WhatsApp Business Solution Provider** is set to **other**, the options of **Verification Method** are as follows:

  - **basic**: direct authentication of the WhatsApp service path provider
  - **oAuth**: authentication of the WhatsApp service path provider using an API

  The information to be obtained varies according to the value of **Verification Method**.

  – Phone number for registering a WhatsApp service path provider user

    This item is not required when **Verification Method** is set to **oAuth**.

  – Username for registering with the WhatsApp service path provider

    When **Verification Method** is set to **oAuth**, you need to contact the system administrator to obtain the app key of the app that has subscribed to the sendWhatsappMessage API and bound to the tenant space for which the WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app key in the **UserName** text box.

  – Password for registering with the WhatsApp service path provider

    When **Verification Method** is set to **oAuth**, you need to contact the system administrator to obtain the app secret of the app that has subscribed to the sendWhatsappMessage API and bound to the tenant space for which the WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret in the **Password** text box.

  – API URL prefix provided by the WhatsApp service path provider

    When **Verification Method** is set to **oAuth**, the API URL prefix must be **https://***IP address:Port number***/apiaccess/rest/ccmessaging**, where *IP address:Port number* indicates the IP address and port number for signing in to the AICC and can be replaced with a domain name.

  – Authentication key provided by the WhatsApp service path provider

    This item is not required when **Verification Method** is set to **oAuth**.

  – Authentication password for the channel to receive messages

  – Trust certificate provided by the WhatsApp service path provider. You have uploaded it by referring to **2.17.6 Managing a Certificate**.

- Identity certificate of the current system. You have uploaded it by referring to **2.17.6 Managing a Certificate**.

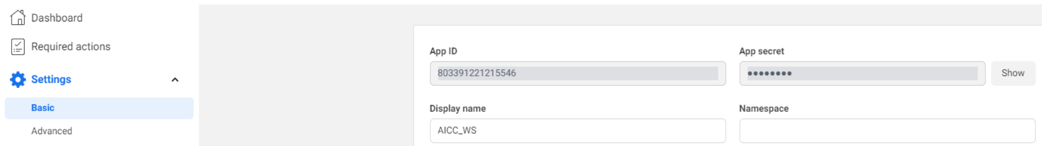
  This item is not required when **Verification Method** is set to **oAuth**.

- **cloud-api**: Currently, this function can only be demonstrated and cannot be put into commercial use.
  - Information about the app created on Meta for Developers
    i. Log in to Facebook using a Meta for Developers account and access **https://developers.facebook.com/apps** to create an app.

    Click **Other**, select the **Business** type, customize the app name, and retain other default settings.

    ii. Return to **https://developers.facebook.com/apps**, find the new app, copy the app ID, access https://developers.facebook.com/apps/*App ID*/settings/basic, and view the app information.

Figure 2-76 Obtaining app information

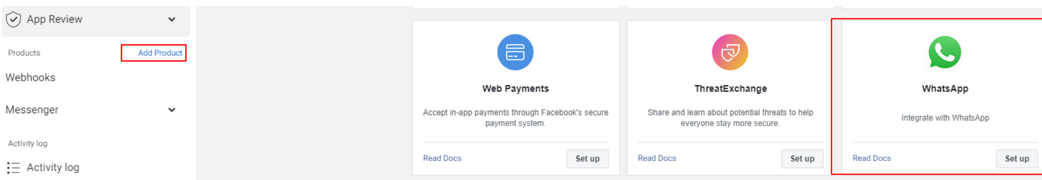


The app ID corresponds to the value of **APP Key** in the channel configuration in the AICC.

The app secret corresponds to the value of **APP Secret** in the channel configuration in the AICC.

iii. Add the WhatsApp product to the app.

Figure 2-77 Adding the product



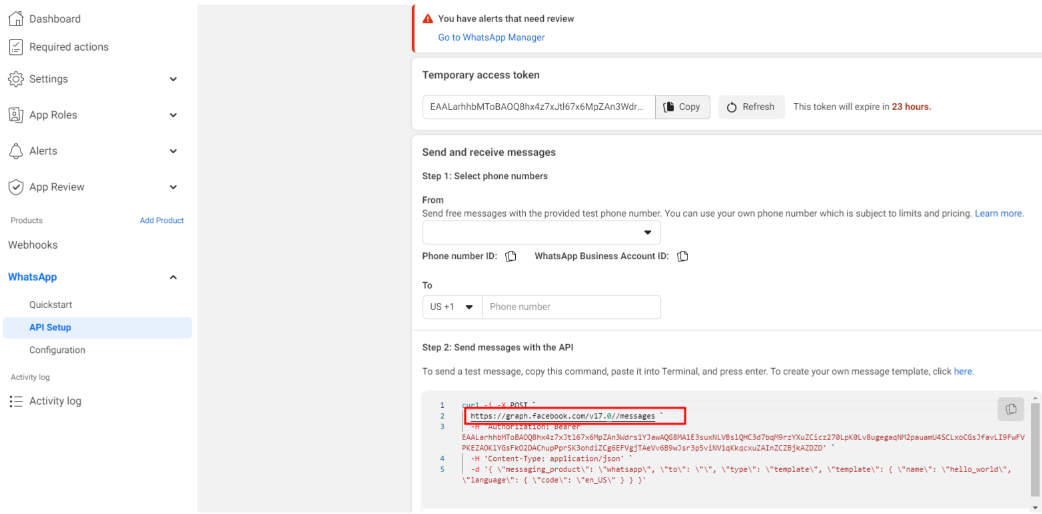
iv. Choose **WhatsApp** > **Quickstart** to configure the quick start.

If the advertisement placement function is disabled for the Facebook account, you need to apply for enabling the function.

v. Choose **WhatsApp** > **API Setup** and obtain the phone number and base URL.

- The test number corresponds to the value of **Phone Number** in the AICC.
- The URL in the red box corresponds to the value of **BaseUrl** in the AICC.
- The recipient number is the mobile number of an object served through the WhatsApp channel and is a mobile number. The recipient number needs to be manually added so that the customer can access the WhatsApp channel.

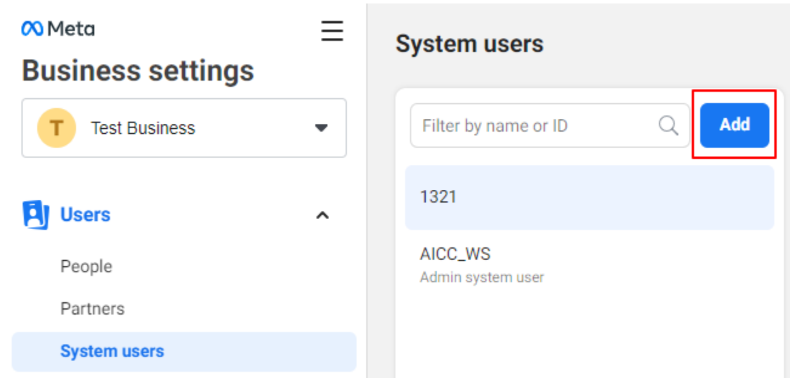
Figure 2-78 Obtaining the phone number and base URL



vi. Access **https://business.facebook.com/settings/system-users**, select the business of the app, choose **Users** > **System users**, and add an administrator.

Customize **System user name** and set **System user role** to **Employee**.

Figure 2-79 Adding an administrator



vii. Add assets and generate a new token.

Figure 2-80 Adding assets

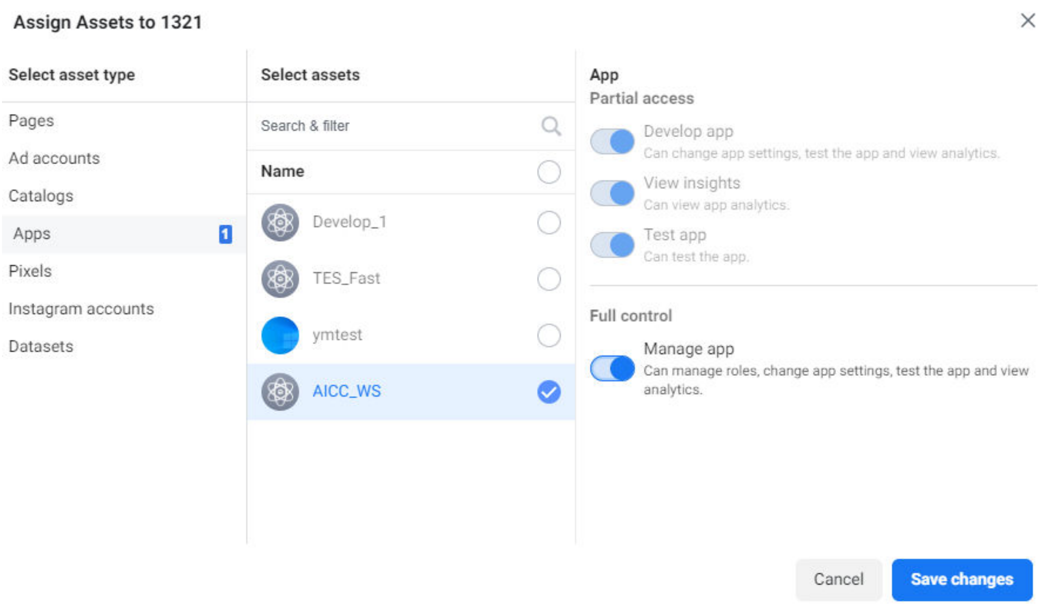
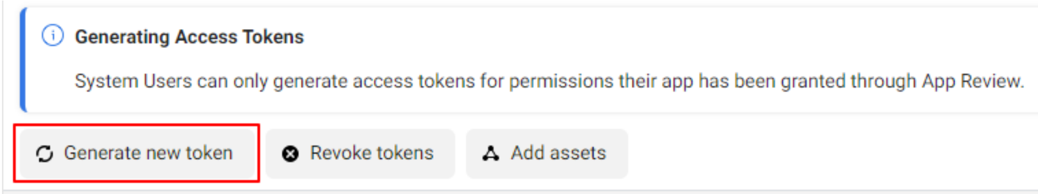


Figure 2-81 Generating a new token



The generated token must have the **whatsapp_business_messaging** and **whatsapp_business_management** permissions.

The generated token corresponds to the value of **access token** in the channel configuration in the AICC.

When generating the token, you need to select a validity period, which corresponds to the token validity period in the AICC.

- Trust certificate. You have uploaded it by referring to **2.17.6 Managing a Certificate**.
  - In China: Direct access to **https://graph.facebook.com/v8.0** is restricted. You need to configure a proxy server and obtain the trust certificate of the proxy server. The certificate must be in .der format.
  - Outside China: Access **https://graph.facebook.com/v8.0** and export the certificate using a browser. The certificate must be in .der format.
- Identity certificate of the current system. You have uploaded it by referring to **2.17.6 Managing a Certificate**.

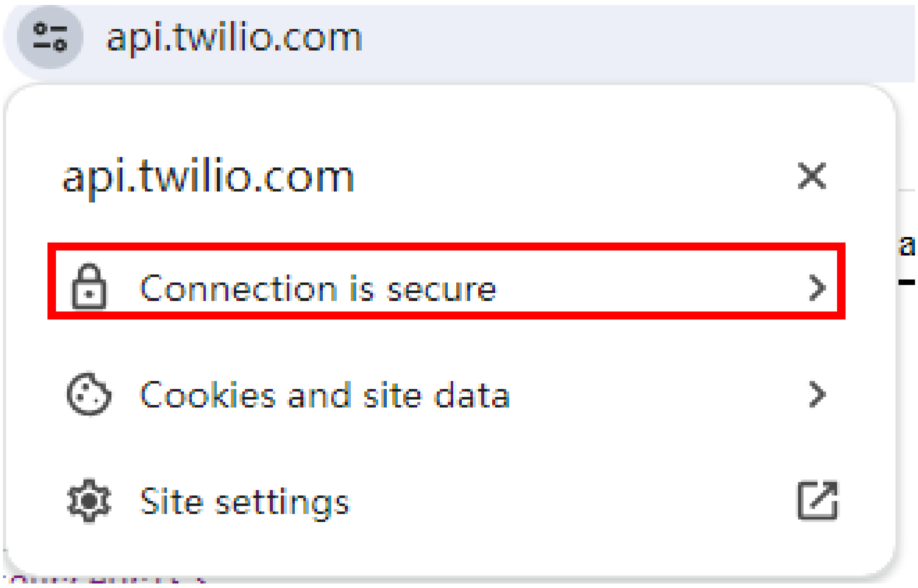
  Access the current system and export the certificate using a browser.

- **Twilio**:
  - Phone number for registering a WhatsApp service provider user
  - **API Key SID** for registering a WhatsApp service provider

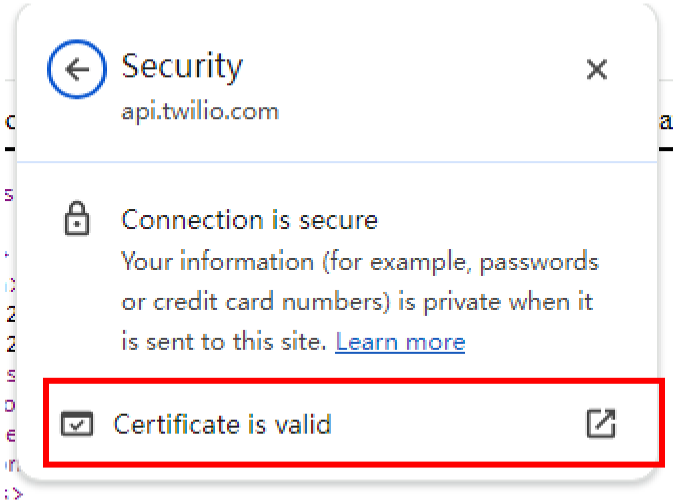
– **API Key Secret** for registering a WhatsApp service provider
– API URL prefix provided by the WhatsApp service provider. An application has been submitted to the system administrator and approved to add the API URL prefix to the address trustlist.

  This information corresponds to the value of **BaseUrl** in the AICC, for example, **https://api.twilio.com/2010-04-01**.
– **Account SID** provided by the WhatsApp service provider for authentication
– Webhook user, which is the authenticated user for the channel to receive messages. The webhook user is customized by channel configuration personnel. After the channel is configured, you need to notify Twilio of the webhook user, which corresponds to the username of the webhook API in Twilio.
– Webhook password, which is the authentication password for the channel to receive messages. The webhook password is customized by channel configuration personnel. After the channel is configured, you need to notify Twilio of the webhook password, which corresponds to the password of the webhook API in Twilio.
– Authentication certificate. To obtain the authentication certificate, perform the following steps:

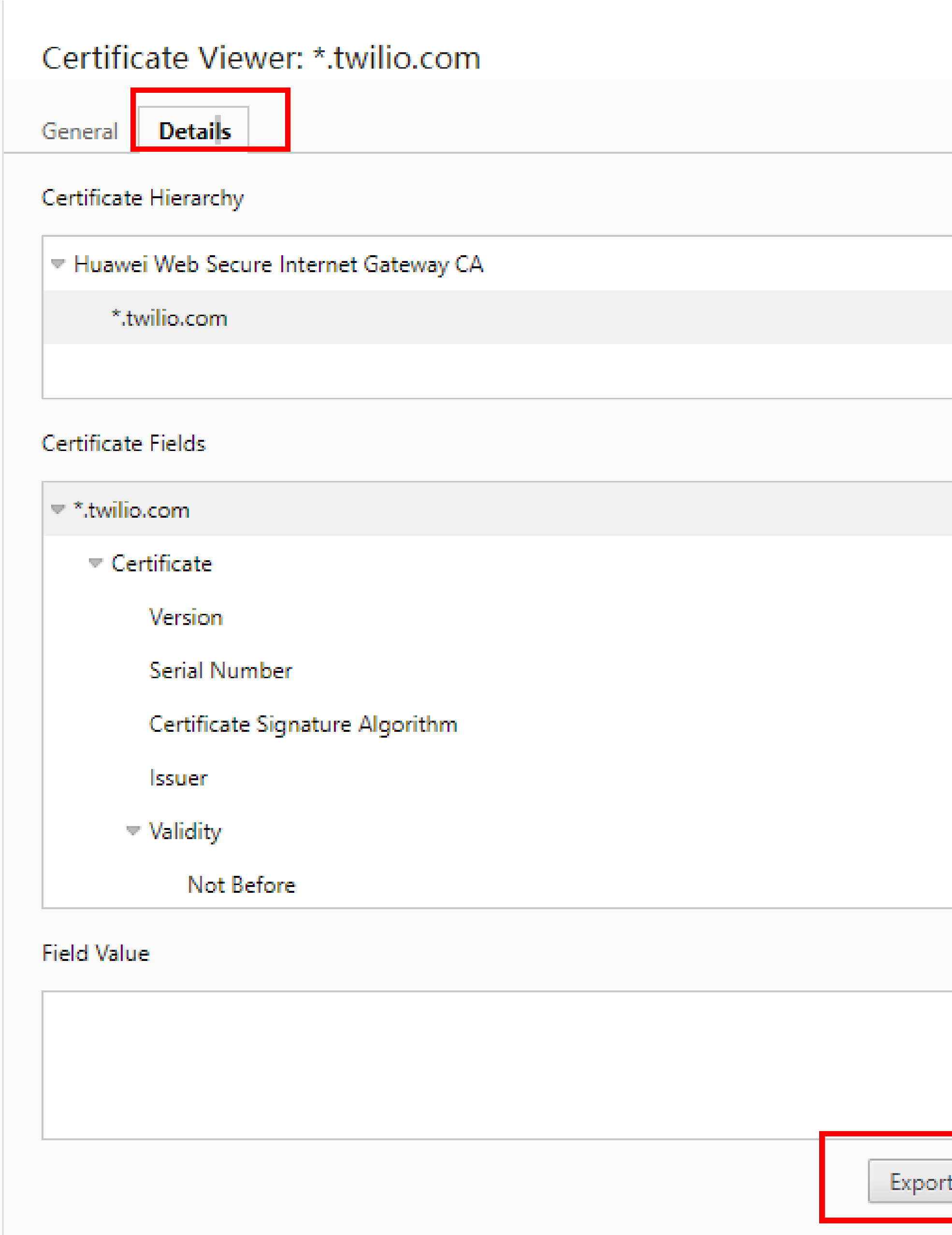
  i. Visit the following website:
     ○ https://api.twilio.com/
  ii. Export a certificate from the browser. The following describes how to export a certificate from https://api.twilio.com/.
     1) Click  in the address box. The following information is displayed.



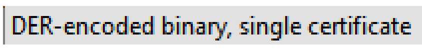
     2) Choose **Connection is secure** > **Certificate is valid** to view certificate information.



3) Click **Export** and select a local path to save the certificate.



Customize the value of **File name** and set **Save as type** to **DER-encoded binary, single certificate**.



4) Click **Save** to export the certificate to the local PC.

iii. Upload the authentication certificate by referring to **2.17.6 Managing a Certificate**.

Access the current system and export the certificate using a browser.

Context

If the information provided by the WhatsApp service path provider is changed, you need to modify the involved WhatsApp channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel**

Configuration, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **UserName**, **Password**, **BaseUrl**, and **AccountKey**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-51 Channel information parameters

Parameter	Description
Channel Selection	Select **WhatsApp**.
Business Solution Provider	The options are as follows: ● **infobip** ● **other** ● **cloud-api** ● twilio

Set other parameters based on the information obtained in **Prerequisites**.

Step 4 Set basic configuration parameters.

Table 2-52 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.

Parameter	Description
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**.

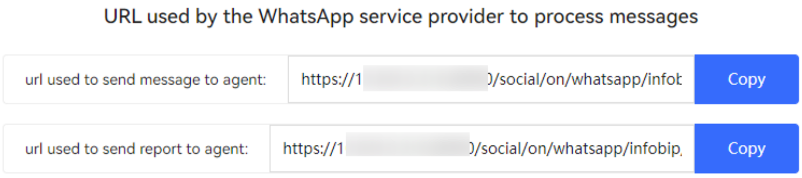
Step 5 Set robot configuration parameters.

Table 2-53 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

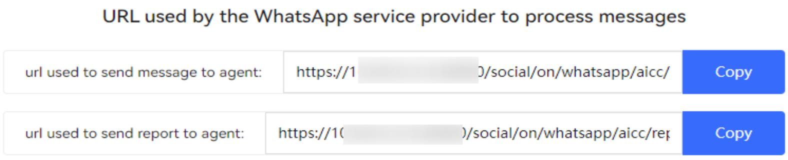
Step 6 Click **The next step**. The **Channel Integration** page is displayed.

- If the WhatsApp service provider is **infobip**, the following page is displayed.



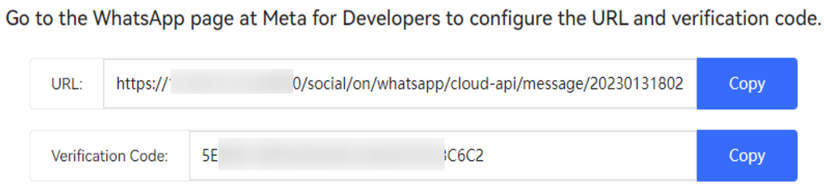
Obtain the values of **url used to send message to agent** and **url used to send report to agent** generated on the **Channel Integration** page and notify Infobip of them offline.

- If the WhatsApp service provider is **other**, the following page is displayed.



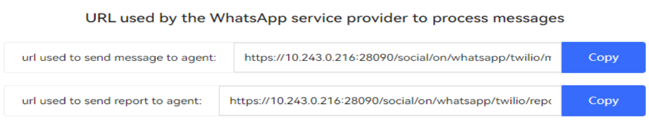
Obtain the values of **url used to send message to agent** and **url used to send report to agent** generated on the **Channel Integration** page and notify the WhatsApp service provider of them offline.

- If the WhatsApp service provider is **cloud-api**, the following page is displayed.



Obtain the values of **URL** and **Verification Code** and configure them at https://developers.facebook.com/apps/*App ID*/webhooks.

- If the WhatsApp service provider is **Twilio**, the following page is displayed.



Obtain the values of **url used to send message to agent** and **url used to send report to agent** generated on the **Channel Integration** page and notify the WhatsApp service provider of them offline.

Step 7 If **scenario key:NO** is displayed, click **Generate**.

Skip this step if the WhatsApp service provider is **cloud-api**.

----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.9 Configuring the SMS Channel

A tenant administrator can configure the SMS channel for customers to access.

Prerequisites

The AICC can use the SMPP service to send and receive SMS messages. Before configuring the SMS channel, ensure that the SMPP service is enabled. For details, see **2.11.3.1 Configuring SMS Gateways**.

Procedure

Step 1 (Optional) Obtain the certificate file of the SMS server and upload the certificate.

Dedicated SMS service providers support the secure SMPP protocol and require certificate authentication. Therefore, to ensure system security, use the secure port provided by the SMS server provider.

Obtain the certificate and upload it by referring to **2.17.6 Managing a Certificate**. Set **Cert Type** to **CER** based on the file name extension.

Step 2 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, and set parameters. The status of the configured gateways must be displayed as **Connection succeeded** on the **Gateway Monitoring** page.

The protocol type for SMS gateways is **smpp**.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 4 Click **Newly created**. The **Configure Channel** page is displayed.

Step 5 Set channel information parameters.

Table 2-54 Channel information parameters

Parameter	Description
Channel Selection	Select **SMS**.
SMS gateway	Select a configured SMS receiving gateway. For details about how to configure a gateway, see **2.11.3.1 Configuring SMS Gateways**.

Step 6 Set basic configuration parameters.

Table 2-55 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.

Parameter	Description
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**.
Auto Reply	For details, see **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**.
Non-Working Day Reply	

Step 7 Set robot configuration parameters.

Table 2-56 Robot configuration parameters

Parameter	Description
Robot Configuration	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.

Step 8 Click **Saved**. A message is displayed, indicating that the saving is successful.

NOTE

In addition, the system automatically creates a message route based on the selected SMS gateway on the **Configuration Center** > **Access Configuration** > **Notification Route** page. The message route record changes with the SMS gateway in the channel configuration. When the channel is deleted, the message route record is also deleted.

----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.10 Configuring the Instagram Channel

2.5.10.1 Configuring Instagram Information

This section describes Instagram-related configurations and applications to enable Instagram customers to chat with AICC agents online. If some pages or configurations on Instagram are different from those described in this section, the pages or configurations on Instagram prevail.

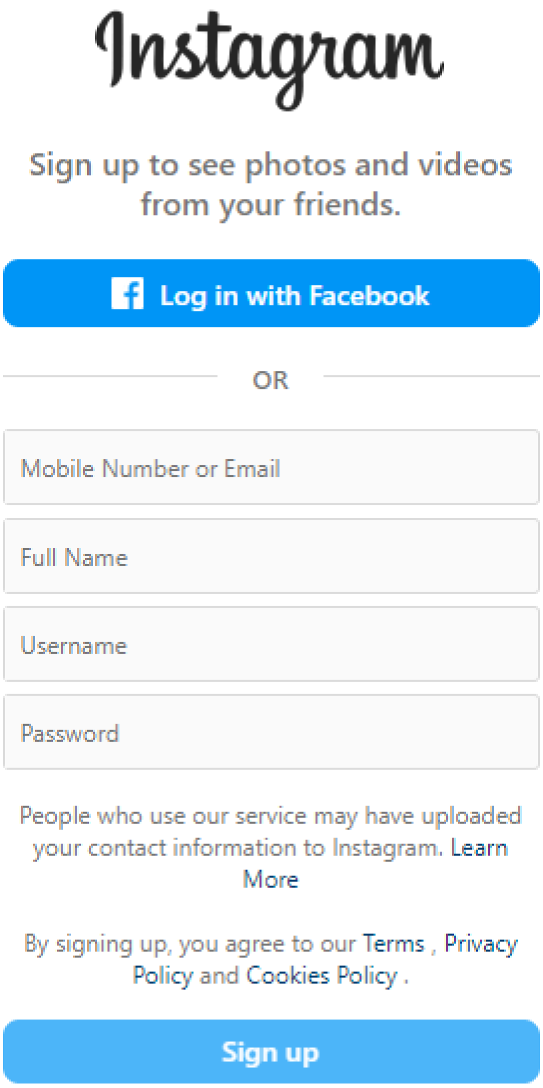
Prerequisites

None

Procedure

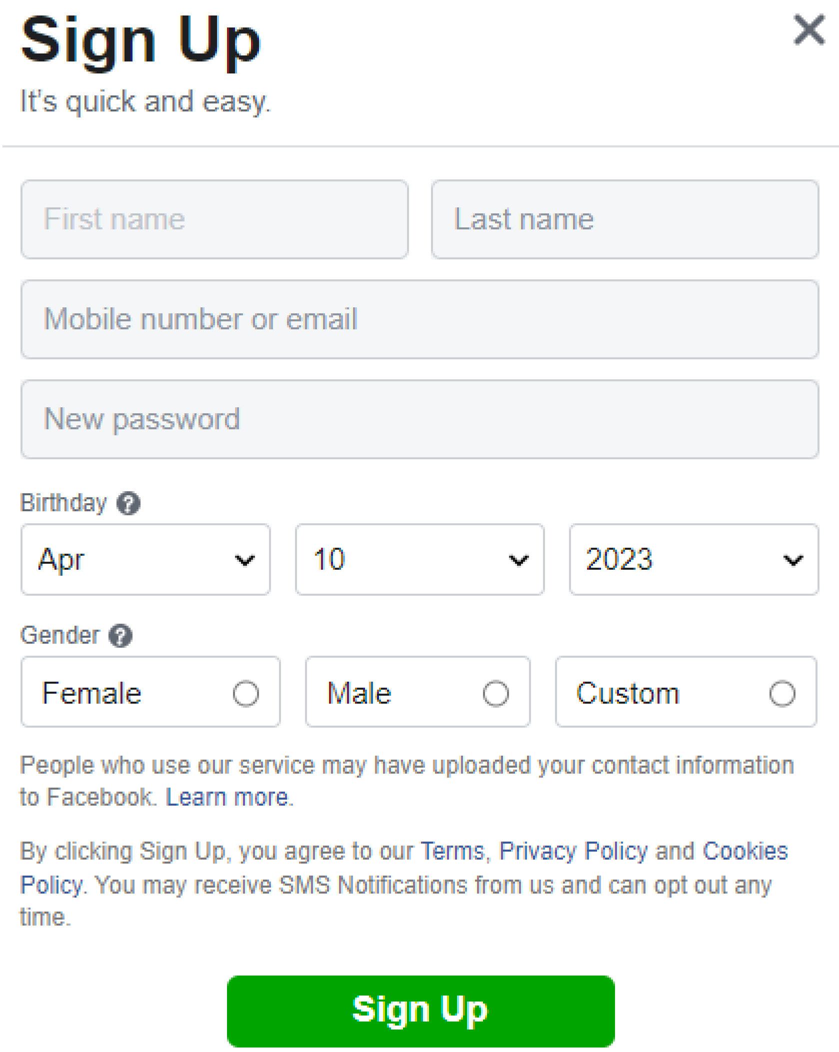
Step 1 Sign up for an Instagram personal account.

Sign-up address: https://www.instagram.com/



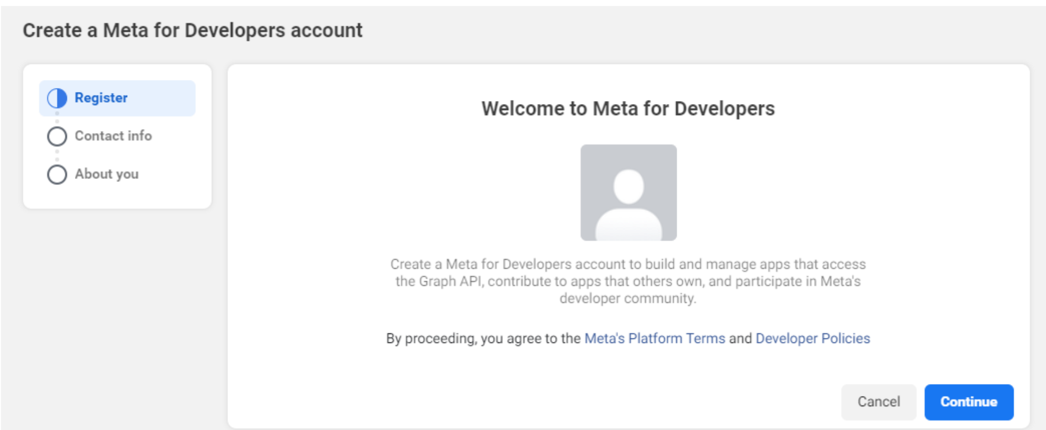
Step 2 Sign up for a Facebook personal account.

Sign-up address: **https://www.facebook.com/**

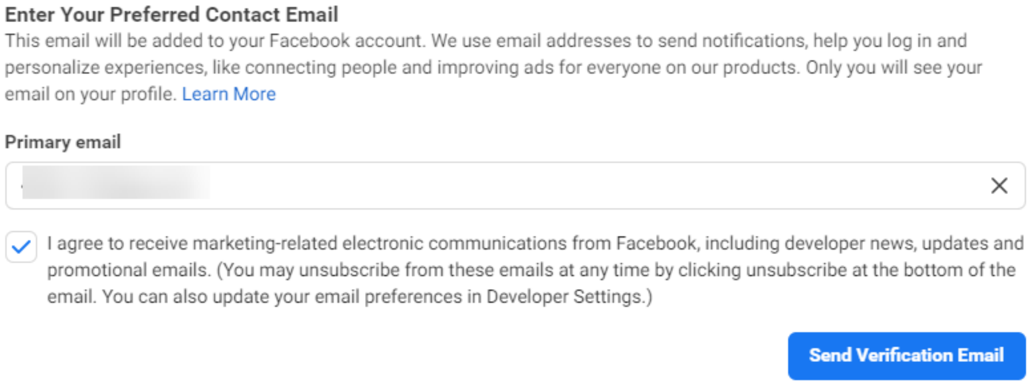


Step 3 Log in to Meta for Developers and apply for a Meta for Developers account.

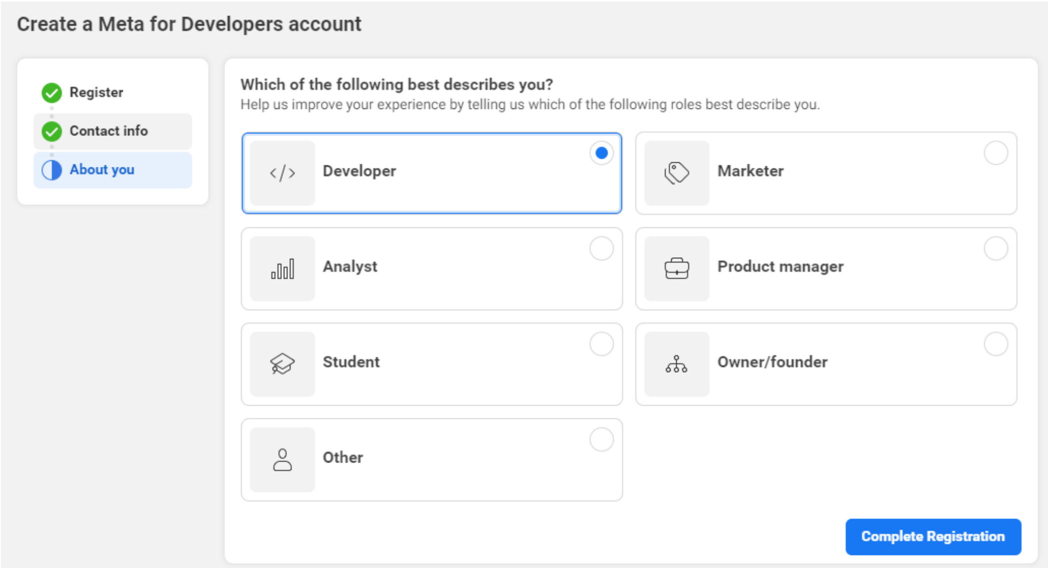
1. Use the personal account to log in to Meta for Developers at **https://developers.facebook.com/**.
2. Click **Get Started** in the upper right corner.
3. Create a Meta for Developers account as prompted.



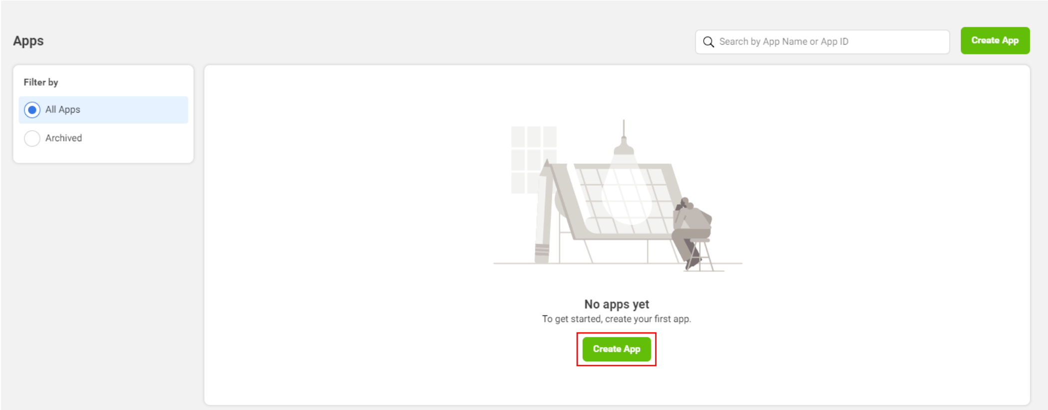
4. Verify the account. If the account has been verified during registration, skip this step.
5. Check the email information.



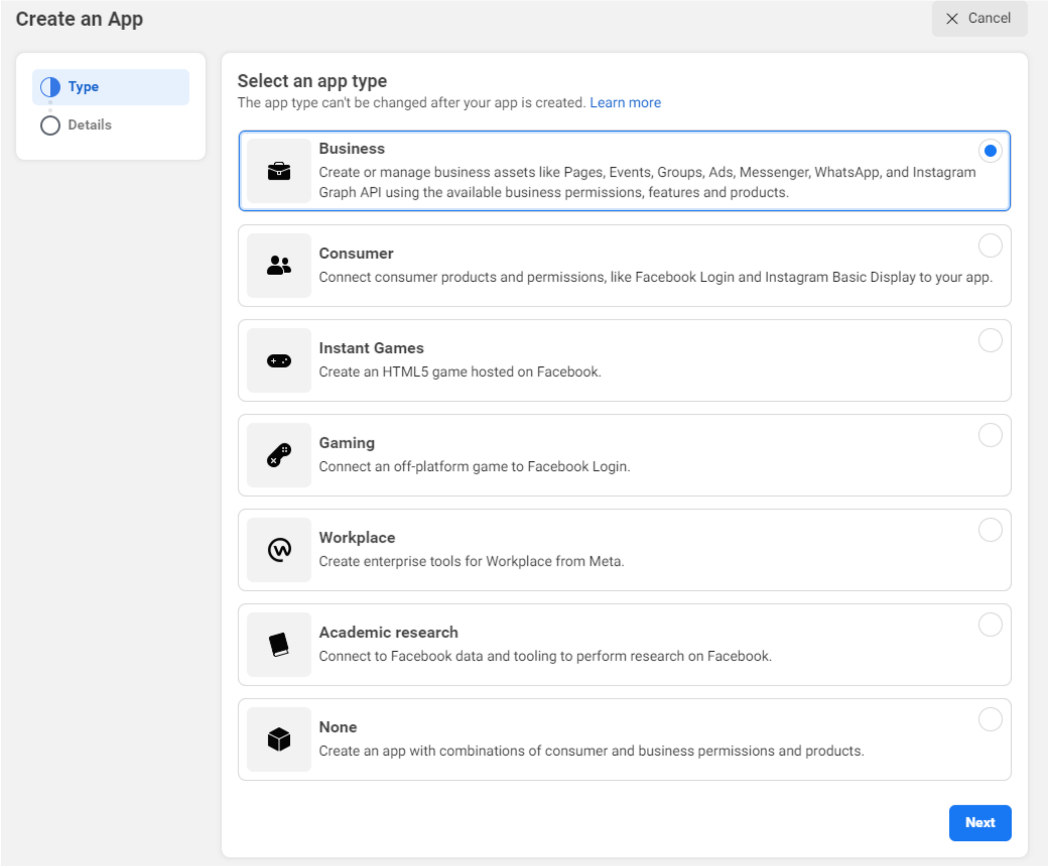
6. Select **Developer** and click **Complete Registration**.



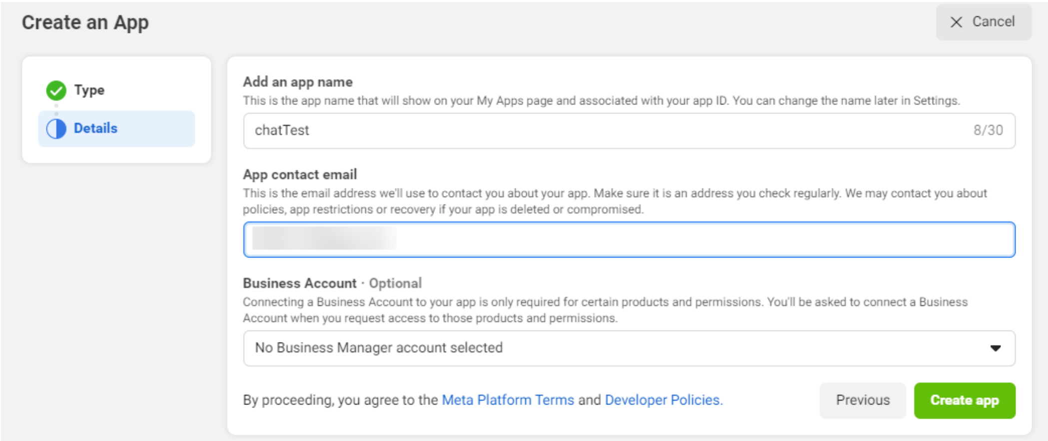
7. On the app creation page that is displayed, click **Create App**.

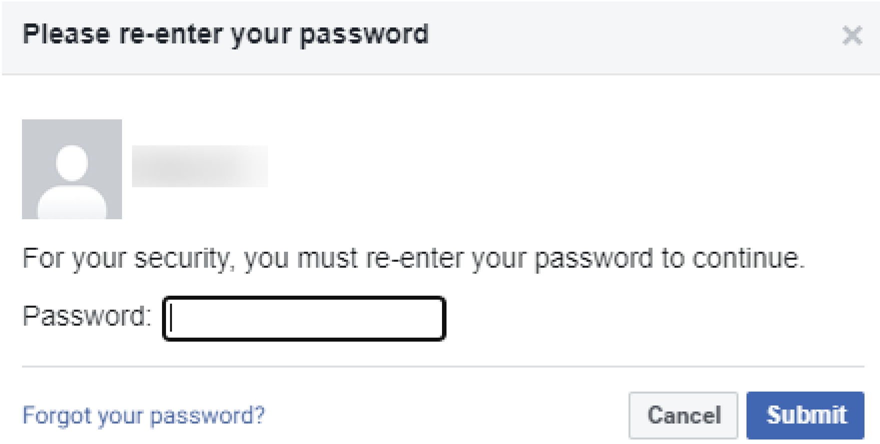


8. Select **Business** and click **Next**.

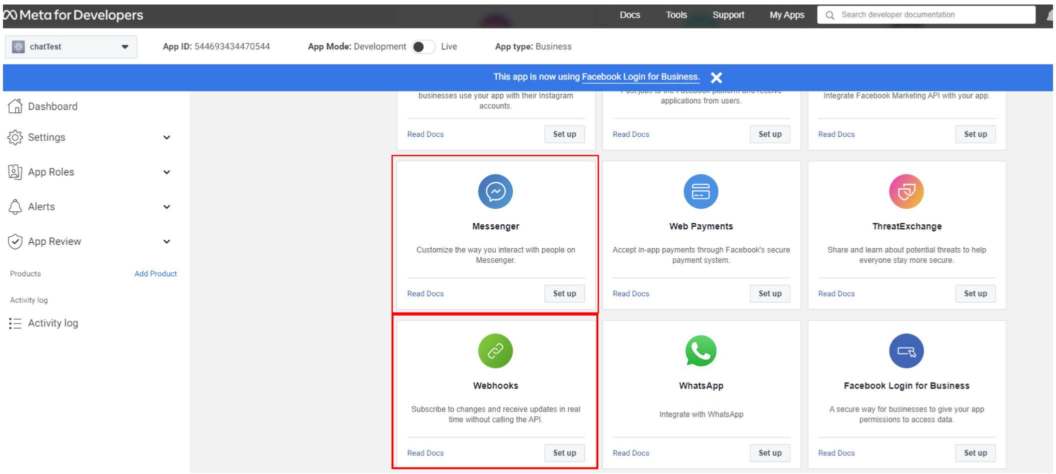


9. Create an app.

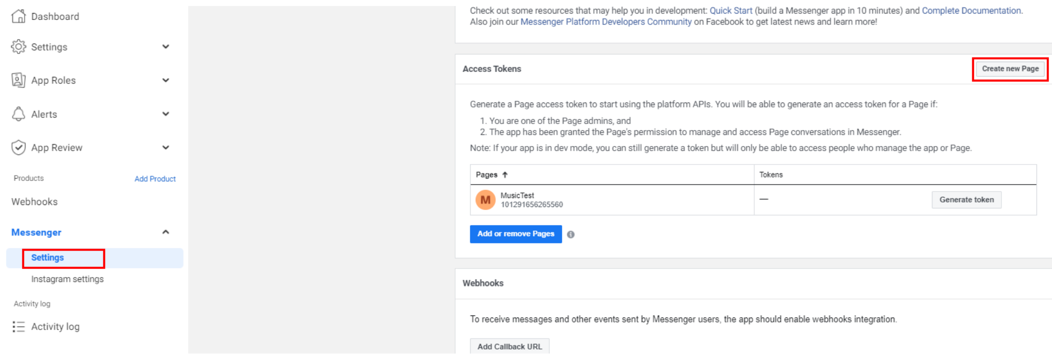




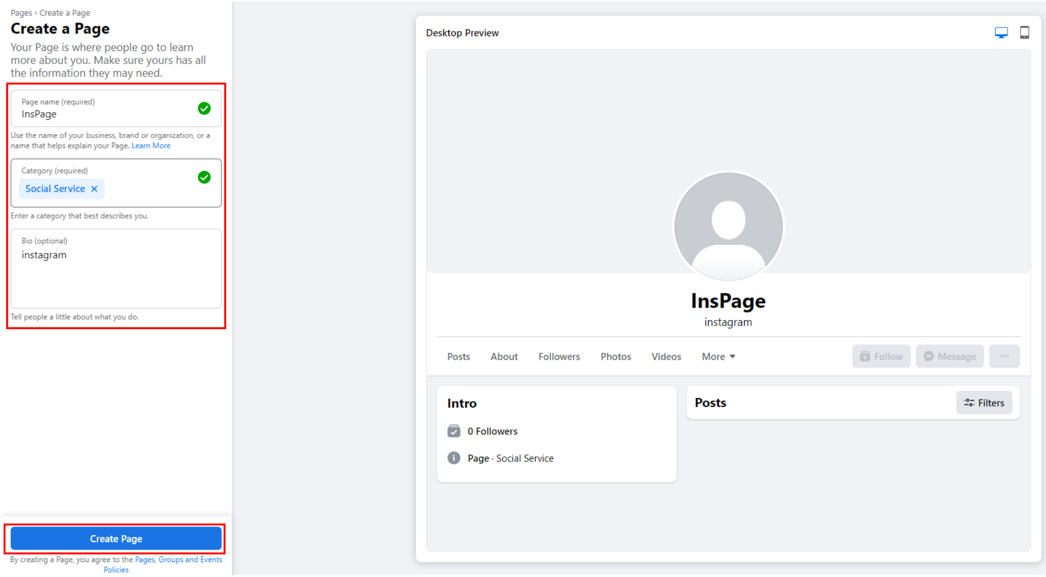
10. On the page that is displayed, select **Messenger** and **Webhooks**.



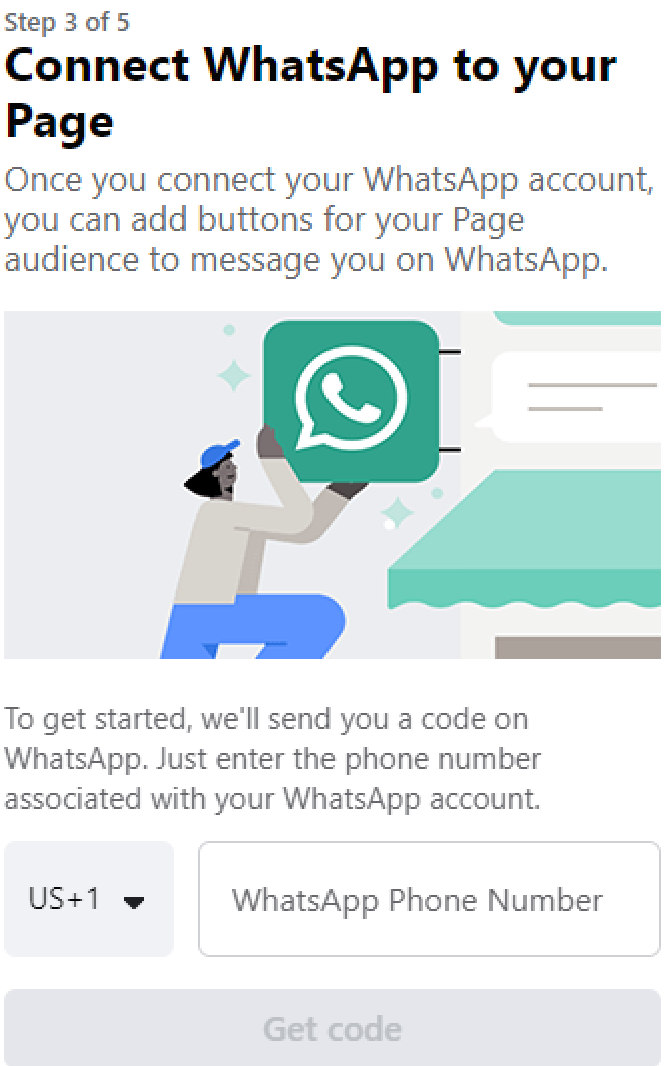
11. In the navigation pane, choose **Messenger** > **Settings**, and click **Create new Page**.



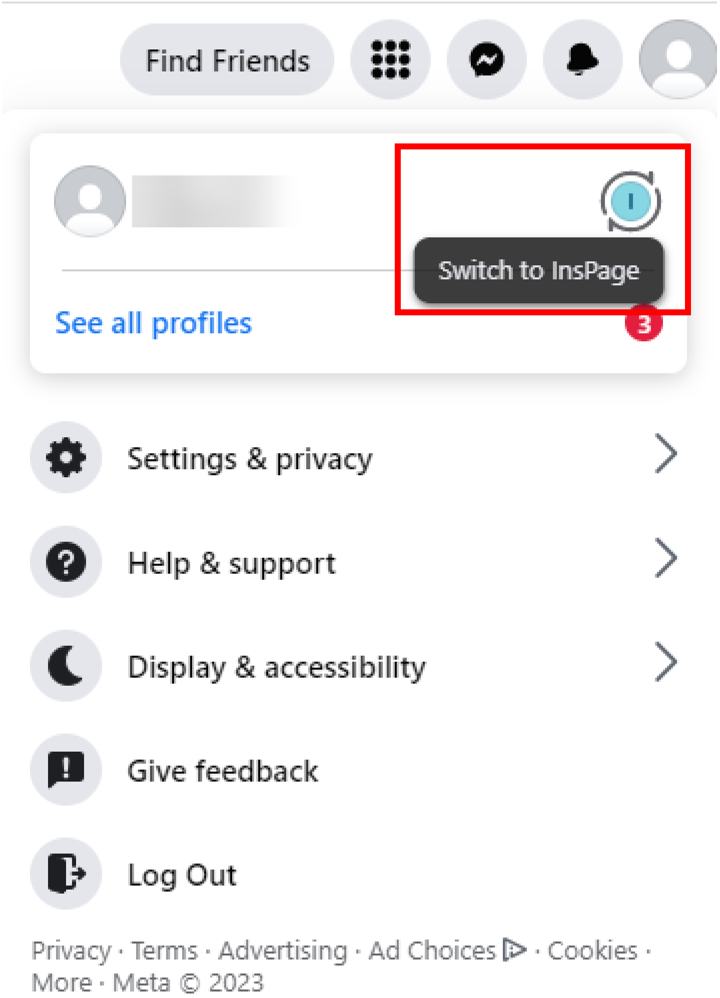
12. Create a public home page. Set the name and category of the public home page and click **Create Page**.



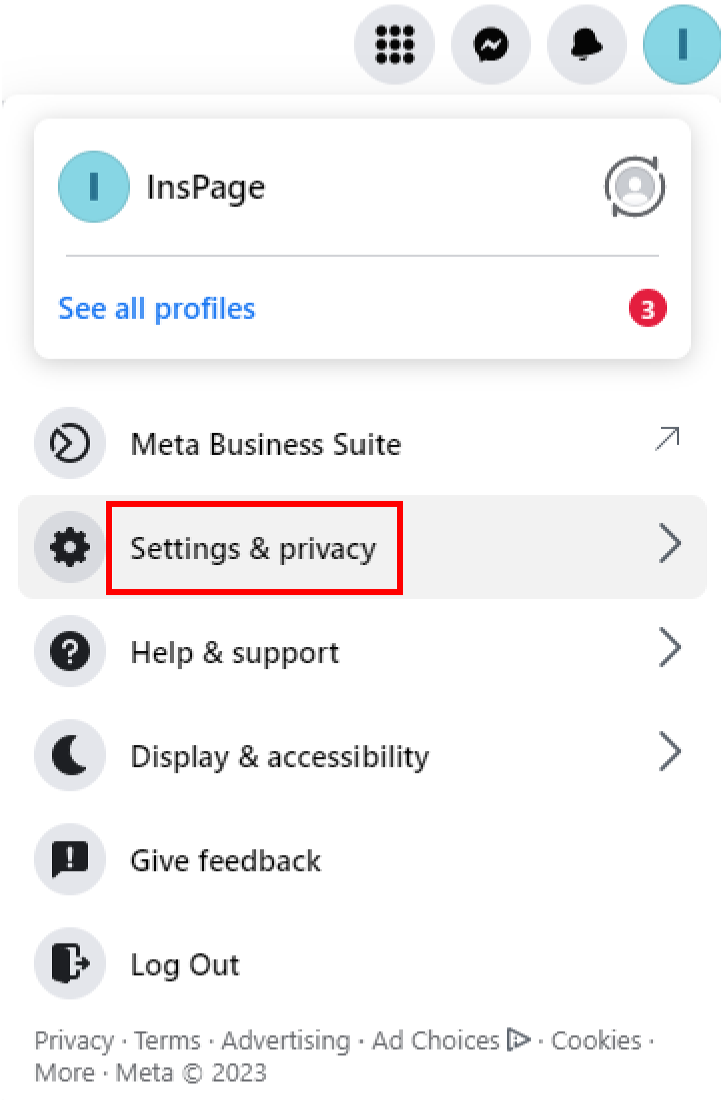
You can skip the step for binding the public home page to WhatsApp.



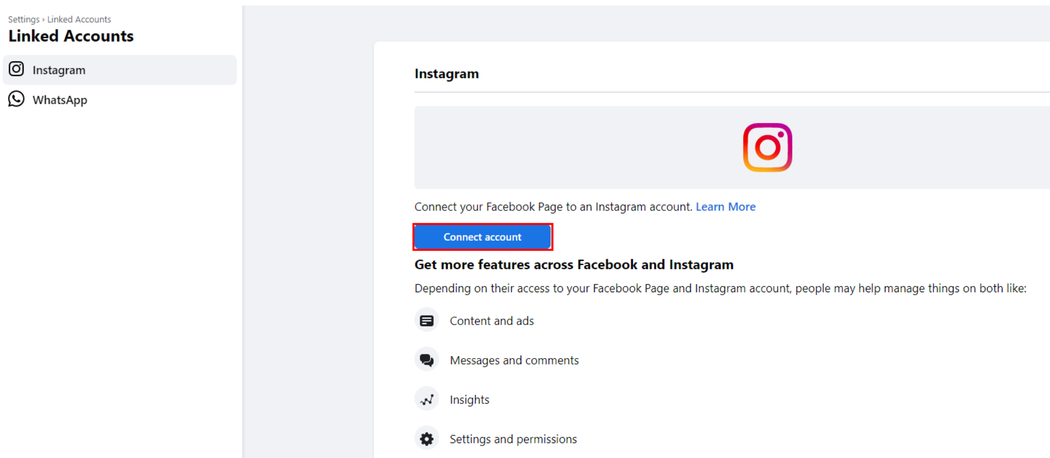
13. After the home page is created, click the avatar in the upper right corner to switch to the home page.



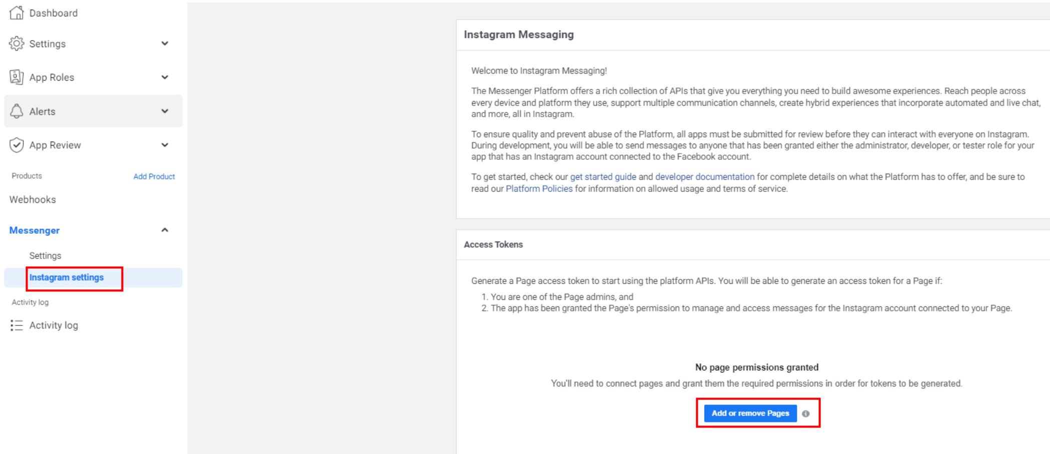
14. Select **Settings & privacy** > **Settings**.



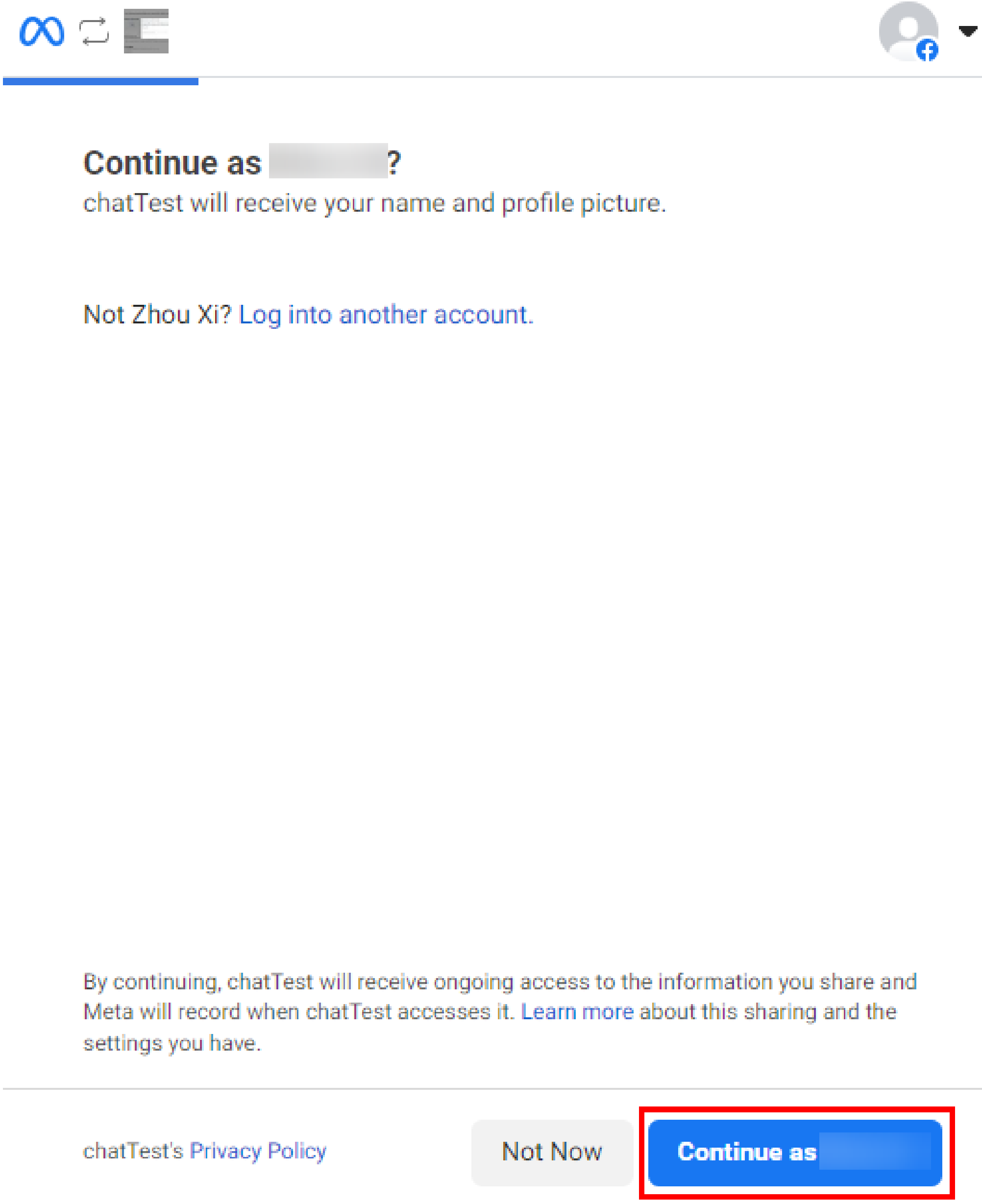
15. Click **Linked Accounts** and bind the home page to your Instagram account.



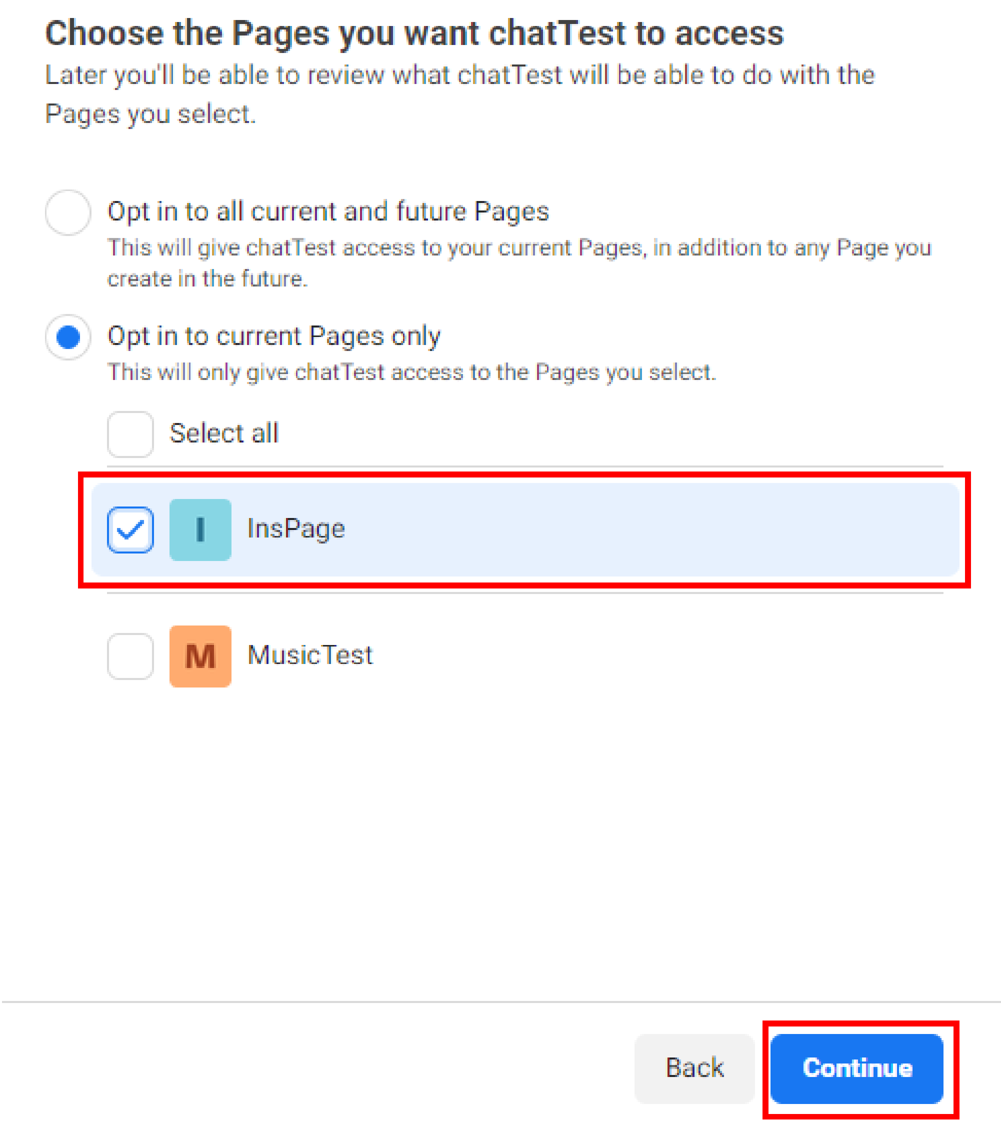
16. Return to the **Messenger** page, choose **Instagram settings**, and click **Add or remove Pages**.



Click **Continue as *****.

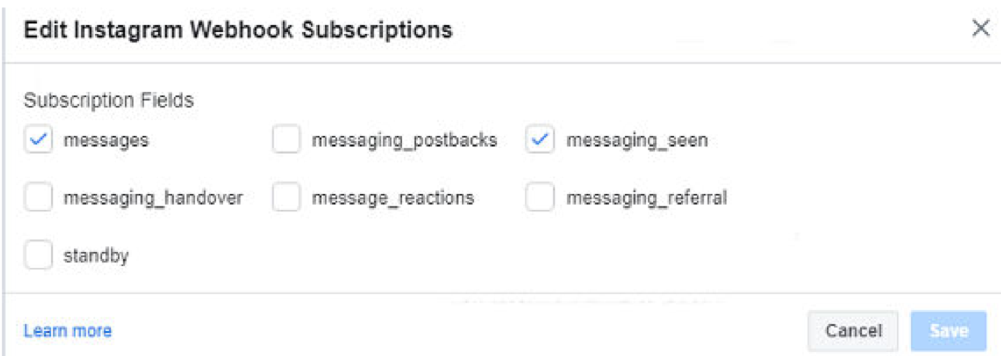


17. Select the home page to be added and click **Continue**.



Step 4 Subscribe to Webhooks.

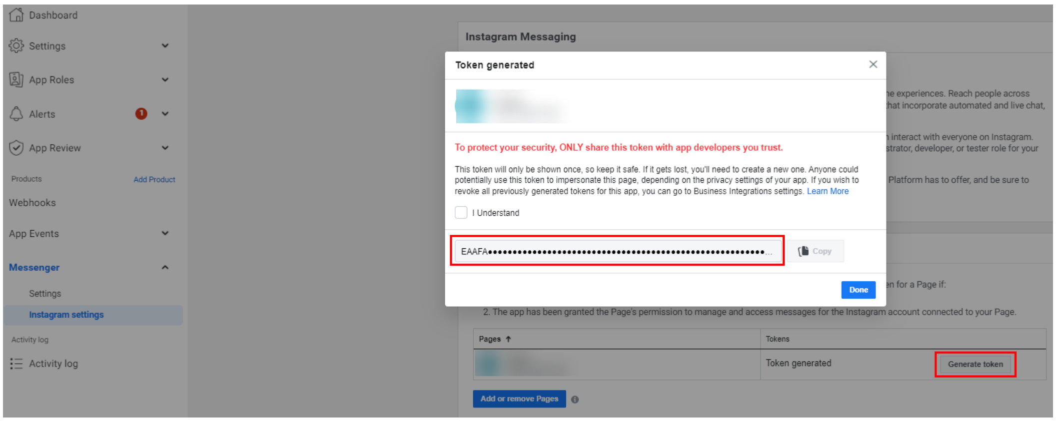
1. Return to the **Messenger** page, choose **Instagram settings** > **Webhooks** > **Edit Subscriptions**.
2. Select the following options:



3. Click **Save**.

Step 5 Generate a token.

1. Click **Generate token** on the added home page.



2. Record the generated token, which will be used in subsequent operations. Then, click **Done**.

----End

2.5.10.2 Configuring AICC Information

A tenant administrator can configure the Instagram channel for customers to access.

Prerequisites

- You have contacted the system administrator to obtain the app key and app secret of the app that has subscribed to the instagram_north - v1.0.0, ccmessage_north - v1.0.0, and file_donload_get-v1.0.0-manual - v1.0.0 APIs and bound to the tenant space for which the Instagram channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page.
- You have contacted the system administrator to set **ApiFabric interface Address** to the IP address and port number of the API Fabric under **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Service Channels** > **Common**. The format must be *IP address*:*Port number*.
- You have submitted an application to the system administrator to add the IP address and port number for logging in to the system frontend to the address trustlist. The value must start with **https://**, for example, **https://*.*.*.*:28090**. A domain name is not supported for this channel.
- You have obtained the authentication certificate provided by the API Fabric and the identity certificate of the current system, and have uploaded them by referring to **2.17.6 Managing a Certificate**. To obtain the authentication certificate, perform the following steps:
  a. Contact O&M personnel to log in to the system backend and run the following command on the active container node to generate a certificate:
```
openssl s_client -showcerts -connect IP:28090 </dev/null 2>/dev/null|openssl x509 -outform PEM >mycertfile.pem
```

Set *IP* to the IP address for logging in to the system frontend or the IP address of the server where the NSLB is located.

b. Convert the certificate format to obtain the authentication certificate.

```
openssl x509 -in mycertfile.pem -outform der -out mycert.cer
```

Context

If the app ID and app secret provided by the API Fabric are changed, you need to modify the involved Instagram channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **APP Key** and **APP Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-57 Channel information parameters

Parameter	Description
Channel Selection	Select **Instagram**.
APP Key	App ID information obtained from the API Fabric, which is the AK.
APP Secret	App secret information obtained from the API Fabric, which is the SK.
BaseUrl	IP address and port number for logging in to the system frontend. The value must start with **https://**, for example, **https://**.*.*.**:28090**. A domain name is not supported.
Trust certificate	Authentication certificate of the API Fabric, which has been uploaded in **2.17.6 Managing a Certificate**.
Identity certificate	Identity certificate of the current system, which has been uploaded in **2.17.6 Managing a Certificate**.

Step 4 Set basic configuration parameters.

Table 2-58 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.

Parameter	Description
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**.

Step 5 Set robot configuration parameters.

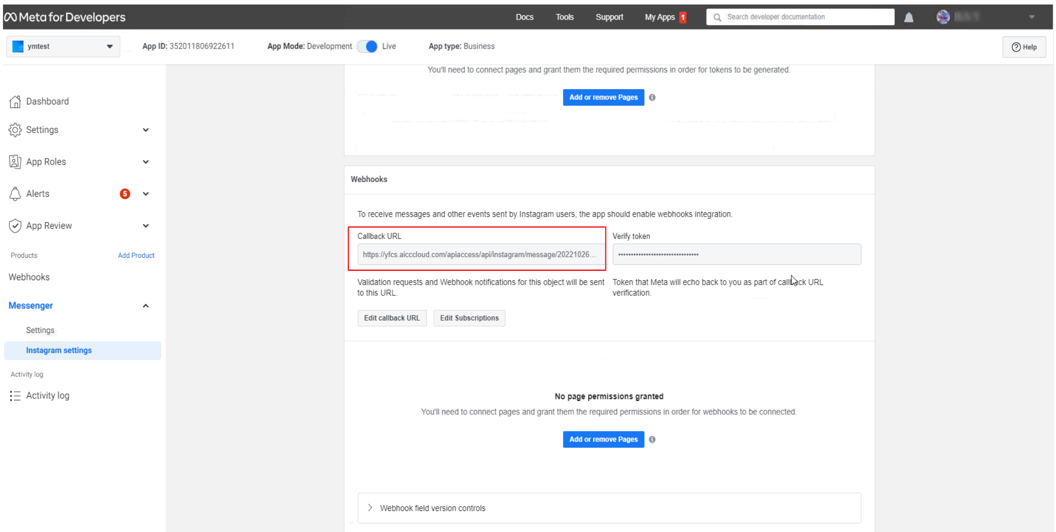
Table 2-59 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 Click **The next step**. The **Channel Integration** page is displayed.

Step 7 Configure the Webhook URL in Instagram.

After the Instagram channel is created on the channel configuration page, the Webhook URL can be obtained. In Meta for Developers, set **Callback URL** to the IP address of the API Fabric and the Webhook URL.



----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.11 Configuring the Telegram Channel

2.5.11.1 Configuring Telegram Information

This section describes Telegram-related configurations and applications to enable Telegram customers to chat with AICC agents online. If some pages or configurations on Telegram are different from those described in this section, the pages or configurations on Telegram prevail.

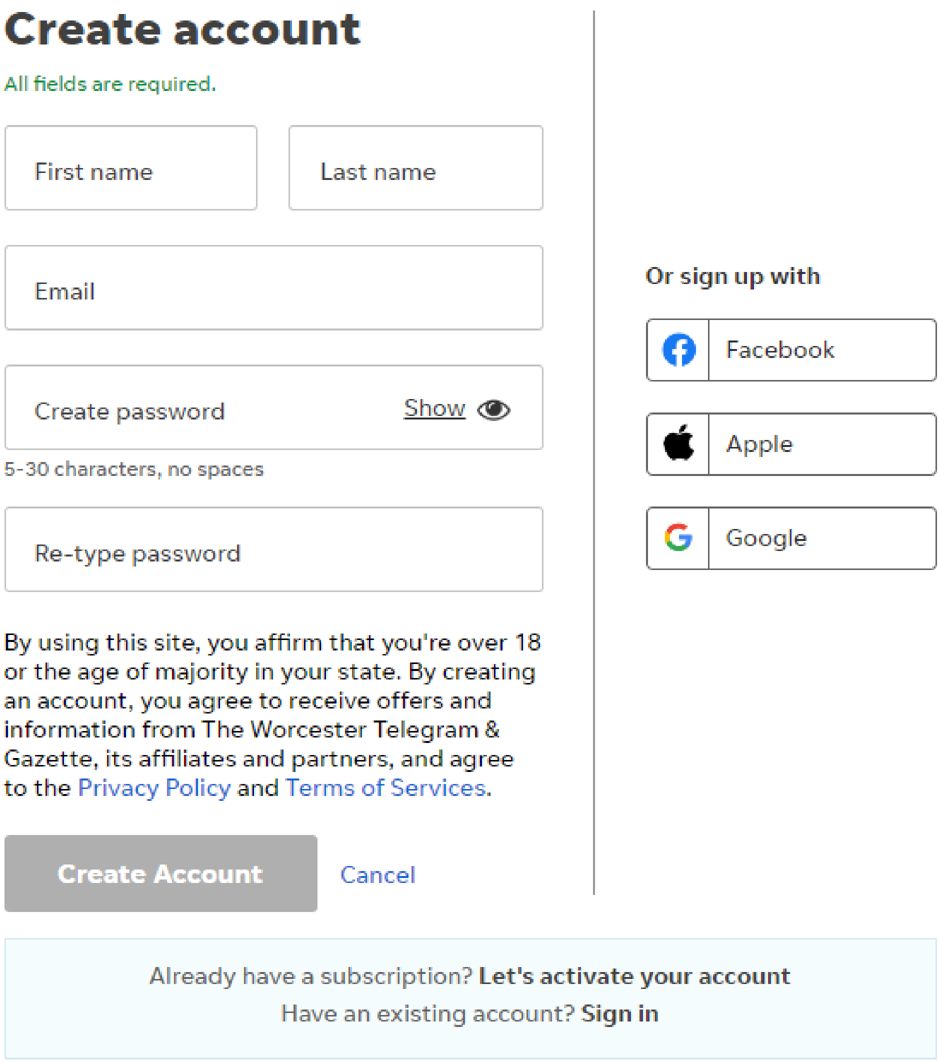
Prerequisites

None

Procedure

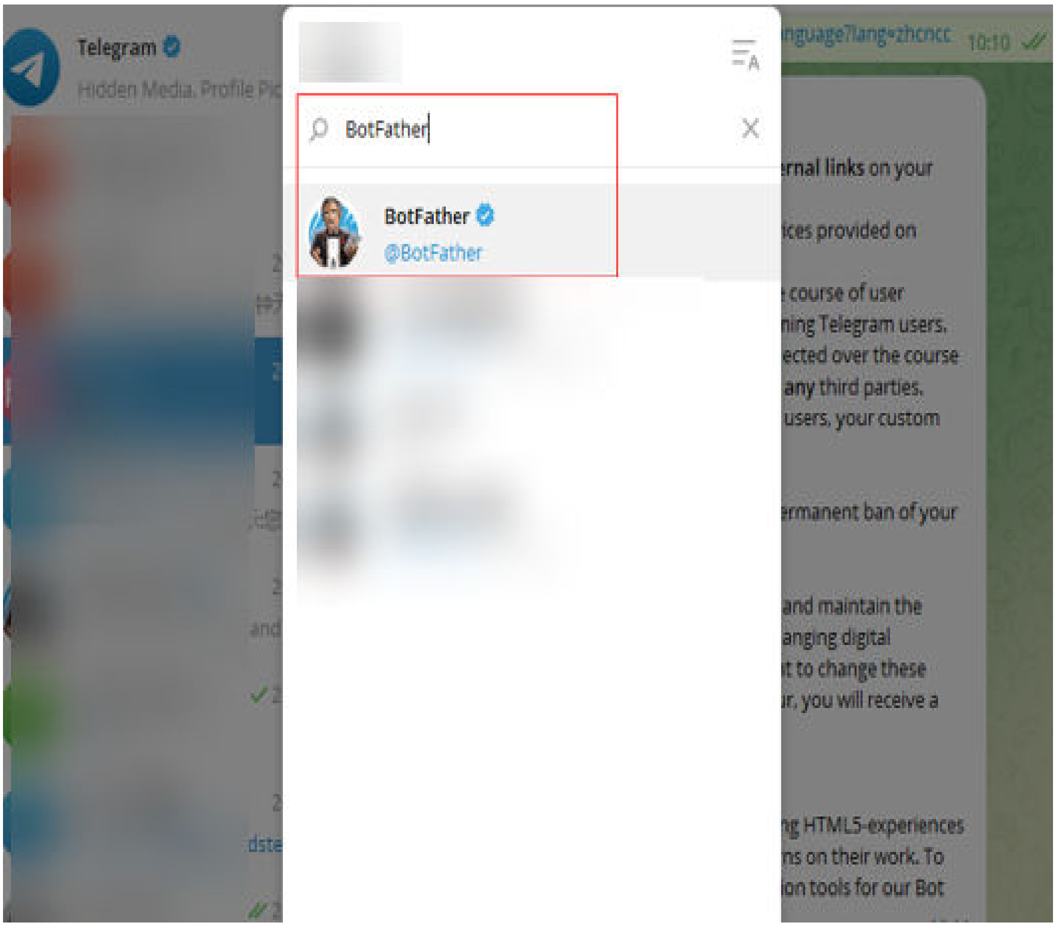
Step 1 Sign up for a Telegram account. You can also install Telegram on your mobile phone to sign up.

Sign-up address: https://www.telegram.com/

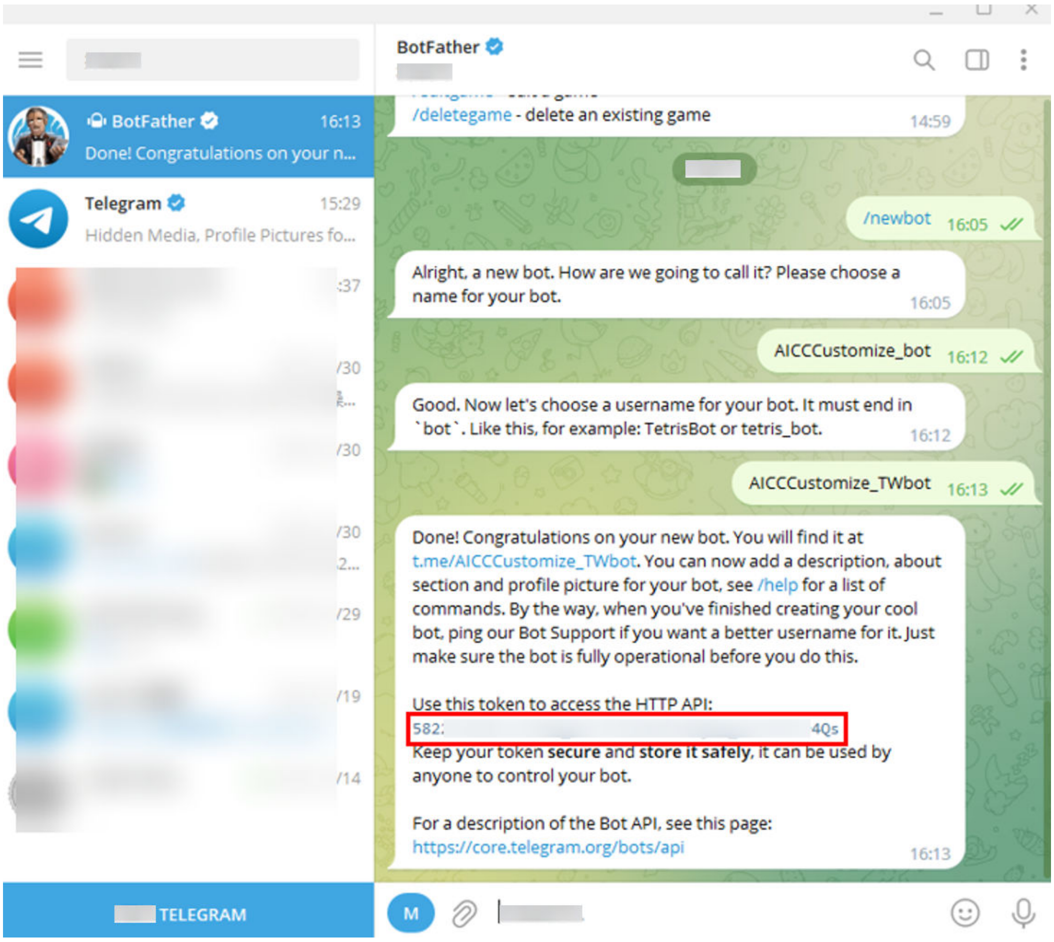


Step 2 Create a Telegram chatbot.

1. Log in to the Telegram client using the registered account.
   - To log in to the Telegram web client, visit https://web.telegram.org.
   - To log in to the Telegram mobile client, download the app at https://telegram.org first.
2. Search for **@BotFather** and add it as a contact.



3. Click **BotFather**, send the **/newbot** command, send a chatbot name and username, and save the generated token.
   - The name is customized, for example, **AICCCustomize_bot**.
   - The username is customized and ends with **bot**, for example, **AICCCustomize_TWbot**.
   - The token is automatically generated by the system and displayed on the page, for example, **582*************4Qs**. Save it for subsequent configuration.



----End

2.5.11.2 Configuring AICC Information

A tenant administrator can configure the Telegram channel for customers to access.

Prerequisites

- You have contacted the system administrator to obtain the app key and app secret of the app that has subscribed to the ccmessage_telegram_north_v1.0.0, telegram_north_v1.0.0, and file_donload_get-v1.0.0-manual - v1.0.0 APIs and bound to the tenant space for which the Telegram channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page.
- You have contacted the system administrator to set **ApiFabric interface Address** to the IP address and port number of the API Fabric under **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Service Channels** > **Common**. The format must be *IP address*:*Port number*.
- You have submitted an application to the system administrator to add the IP address and port number for logging in to the system frontend to the address trustlist. The value must start with **https://**, for example, **https://*.*.*.*:28090**. A domain name is not supported for this channel.

- You have obtained the authentication certificate provided by the API Fabric and the identity certificate of the current system, and have uploaded them by referring to **2.17.6 Managing a Certificate**. To obtain the authentication certificate, perform the following steps:
  a. Contact O&M personnel to log in to the system backend and run the following command on the active container node to generate a certificate:
  ```
  openssl s_client -showcerts -connect IP:28090 </dev/null 2>/dev/null|openssl x509 -outform PEM >mycertfile.pem
  ```
  Set *IP* to the IP address for logging in to the system frontend or the IP address of the server where the NSLB is located.
  b. Convert the certificate format to obtain the authentication certificate.
  ```
  openssl x509 -in mycertfile.pem -outform der -out mycert.cer
  ```
- You have installed the Telegram software.

Context

If the app ID and app secret provided by the API Fabric are changed, you need to modify the involved Telegram channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **APP Key** and **APP Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-60 Channel information parameters

Parameter	Description
Channel Selection	Select **Telegram**.
APP Key	App ID information obtained from the API Fabric, which is the AK.
APP Secret	App secret information obtained from the API Fabric, which is the SK.
BaseUrl	IP address and port number for logging in to the system frontend. The value must start with **https://**, for example, **https://*.*.*.*:28090**. A domain name is not supported.
Trust certificate	Authentication certificate of the API Fabric, which has been uploaded in **2.17.6 Managing a Certificate**.
Identity certificate	Identity certificate of the current system, which has been uploaded in **2.17.6 Managing a Certificate**.

Step 4 Set basic configuration parameters.

Table 2-61 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**.
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**.
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**.
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**.

Parameter	Description
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**.

Step 5 Set robot configuration parameters.

Table 2-62 Robot configuration parameters

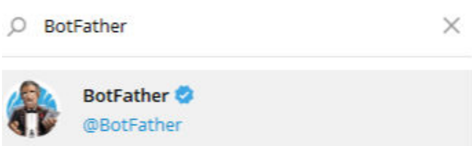
Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**.

Step 6 Click **The next step**. The **Channel Integration** page is displayed.

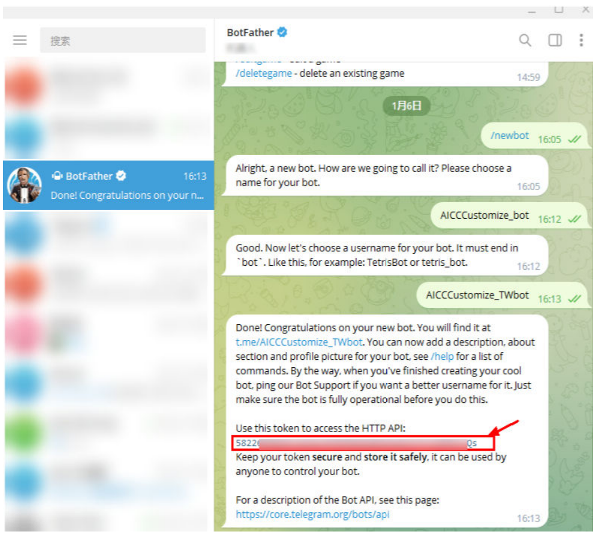
View and copy the value of **url used to send message to agent** to the local PC.

Step 7 Use the Telegram software to generate a token.

1. Use any account to log in to Telegram.
2. Search for **@BotFather** and add it as a contact.

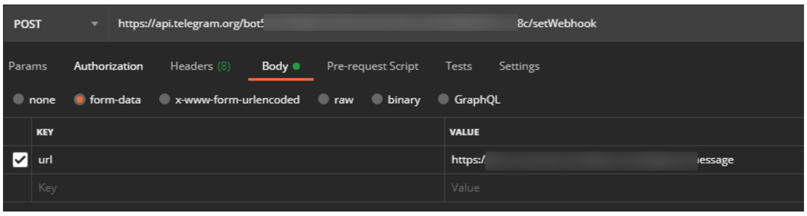


3. Send the **/newbot** command.
4. Send the robot name **AICCCustomize_TWbot**.
   The value must end with **bot**.
5. Save the generated token.



Step 8 Set the callback URL for message forwarding.

Invoke the https://api.telegram.org/bot*Token*/setWebhook API.



Token: Enter the token generated in **Step 7**.

Request parameter: Enter the value of **url used to send message to agent** obtained in **Step 6**.

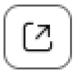
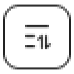
----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.

1. Return to the channel list.
2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.12 FAQ

This section describes the common problems that may occur during channel configuration.

2.5.12.1 How Do I Set the Click-to-Dial Called Route?

After **Click To Call** is enabled, a customer can initiate a voice or video call during a text chat with an agent.

Prerequisites

A click-to-dial called route has been configured.

Procedure

Step 1 Click to enable **Click To Call**.

Step 2 Set **CTD Called Party Configuration**. The options are as follows:

- **Audio and video agent**
- **IVR**

Step 3 Select a configured called route.

Step 4 Click **The next step** to complete the configuration.

----End

2.5.12.2 How Do I Enable the Last Agent Mode?

After **Last Agent Mode** is enabled, when a customer is connected to an agent through a channel, the session is preferentially assigned to the agent who chats with the customer last time.

Procedure

Step 1 Click to enable **Last Agent Mode**.

Step 2 Select a mode for filtering last agents and set the corresponding parameter.

- **Time range**: an integer ranging from 1 to 168, in hours
- **Current day**: 00:00 on the current day to the current time

Step 3 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.3 How Do I Set Session End Due to No Customer Reply?

After **Session End Due to No Customer Reply** is enabled, the timeout period for no customer reply and session end message can be customized.

Context

You do not need to set the session end message (**Conclusion**) for the email and SMS channels.

Procedure

Step 1 Click to enable **Session End Due to No Customer Reply**.

Step 2 Set **Customer Reply Timeout Period** and **Conclusion**.

- **Customer Reply Timeout Period**: The value ranges from 1 to 60, in minutes.

  The default value is **60** for the email channel and **20** for other channels.

NOTE

The period specified by **Customer Reply Timeout Period** must be longer than that specified by **Max. Waiting Time (s)** of the multimedia skill queue.

- **Conclusion**: The value can contain a maximum of 256 characters.

Step 3 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?

After **Session Transfer Due to No Agent Reply** is enabled, the timeout period for session transfer due to no agent reply and prompt message for agent reassignment can be customized.

Procedure

Step 1 Click to enable **Session Transfer Due to No Agent Reply**.

Step 2 Set **Agent Reply Timeout Period** and **Prompt for Agent Reassignment**.

- **Agent Reply Timeout Period**: The value is an integer ranging from 1 to 5 and must be less than or equal to that of **Customer Reply Timeout Period**.
- **Prompt for Agent Reassignment**: The value can contain a maximum of 256 characters.

NOTE

You do not need to set this parameter for the email and SMS channels.

Step 3 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.5 How Do I Set Session Transfer?

You can set **Session Transfer** to configure multimedia skill queues displayed on the transfer page.

Procedure

Step 1 Click to enable **Session Transfer**.

- : When an agent transfers a session, multimedia skill queues of the current channel type and non-subtype multimedia skill queues are displayed on the transfer page.
- : When an agent transfers a session, skill queues of the current channel type are displayed on the transfer page.

Step 2 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.6 How Do I Set the Third-Party Authentication Key?

Context

- Only the web channel supports this function.
- If the third-party authentication key provided by the third party is changed in the third-party system, you need to modify the key in the AICC by referring to the following procedure. Set **secretKey** to the new third-party authentication key.

Procedure

Step 1 Click  to enable **Third-party authentication key**.

Step 2 Set **secretKey**.

Step 3 Click **The next step** to complete the configuration.

----End

2.5.12.7 How Do I Enable Offline Messages?

After **Offline Messages** is enabled, an agent can receive offline messages sent by a customer during non-working time or when the agent fails to be connected. The agent can also proactively contact the customer.

Prerequisites

None

Context

- If the page or interface is integrated into a web client, offline messages cannot be automatically pushed. You need to manually invoke the interface described in **Proactively Polling Messages Sent by Agents (poll)** to assign offline messages. The push mode is recommended. That is, enable **Message Push** in the channel configuration. For details, see **2.5.12.8 How Do I Enable Message Push?**.
- Only the web, 5G RCS, email, WhatsApp, SMS, Instagram, and Telegram channels support this function.

Procedure

Step 1 Click  to enable **Offline Messages**.

Step 2 Customize **Offline Message Prompt**.

The value can contain a maximum of 256 characters and cannot contain the following special characters: '"/<>\;

You do not need to set this parameter for the email and SMS channels.

Step 3 Set **Offline Message Routing Time Limit**.

The value is an integer ranging from 1 to 60. The default value is **30**.

Step 4 Set **Agent Outbound Call Time Limit**.

The value is an integer ranging from 0 to 10080. The default value is empty, indicating that the timeout period is not limited. The value **0** indicates that agents are not allowed to reply to offline messages.

Step 5 Set **Called Customer Reply Timeout Period**.

The value is an integer ranging from 1 to 5. The default value is **5** for the email channel and **3** for other channels.

The value of **Called Customer Reply Timeout Period** must be less than that of **Customer Reply Timeout Period**.

Step 6 Set **Routing Mode**. The options are as follows:

- **Skill Queue Routing**
- **Last Agent Mode**
- **Connect to Chatbot**

To select **Last Agent Mode**, enable the last agent mode first and ensure that the configuration is the same as that under **Last Agent Mode**. For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**

If you select **Connect to Chatbot**, set the robot access code. For details, see **2.6.2 Configuring an Intelligent Robot**.

Step 7 Click  to enable **Automatically reply to each email**.

After this function is enabled, the templates specified in **Automatic reply during working hours** and **Automatic reply during non working hours** are used to reply. For details, see **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**

Only the email channel is involved.

Step 8 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.8 How Do I Enable Message Push?

Prerequisites

To use the message push function, you need to prepare a message push API. For details about the API specifications, see **2.5.12.8.1 Message Push Interface Specifications**. After the API is developed, you need to submit an application to the system administrator to add the message push address (*{baseUrl}*/webhooks/v1/messages) to the address trustlist.

If *{baseUrl}* is an HTTPS URL, you also need to prepare an authentication certificate. Only a JKS, DER, or PEM certificate is supported.

NOTE

HTTP has security risks. You are advised to use the secure HTTPS protocol.

If two-way authentication is enabled for the message push address, you also need to prepare the identity certificate of the current system.

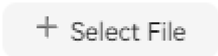
Context

- Only the web and WhatsApp channels support message push.

  For the WhatsApp channel, the system automatically pushes messages. No manual configuration is required.
- If the message push key provided by the message pusher is changed, you need to modify the key in the AICC by referring to the following procedure. Enter the new message push key.

Procedure

Step 1 (Optional) If *{baseUrl}* is an HTTPS URL, upload the push address trust certificate and system identity certificate.

1. Choose **Configuration Center** > **System Management** > **Certificate**.
2. Click **New** and set the certificate name and password as prompted.
3. Select the type of the certificate to be uploaded.
4. Click 

, select the trust certificate and identity certificate from the local PC, and click **Open**.
5. Click **Save**.

Step 2 Go to the web channel configuration page.

Step 3 Click  to enable **Message Push**.

Step 4 Enter the prepared message push address, which is *{baseUrl}*.

Step 5 Upload the certificates. Perform this step when the push address is an HTTPS address.

1. (Optional) Click **Trust certificate** and select the certificate uploaded in **1**.
2. (Optional) Click **Identity certificate** and select the certificate uploaded in **1**.

Step 6 Select an authentication mode. The options are **Signature Authentication** and **OAuth Authentication**.

- If **Signature Authentication** is selected, messages are directly pushed to customers. In this case, you need to set the following parameter:

  Key: The value is a string of 43 characters and can contain only letters and digits.
- If **OAuth Authentication** is selected, messages are pushed to the API Fabric, and then the API Fabric pushes the messages to customers. In this case, you need to set the following parameters:

  App ID: Contact the system administrator to obtain the app key of the app that has subscribed to the pushMsg API and bound to the tenant space for which the web channel needs to be configured on the **Online Studio** > **API Management** > **APP Service** > **APP Management** page, and enter the app key here.

  App Secret: Contact the system administrator to obtain the app secret of the app that has subscribed to the pushMsg API and bound to the tenant space for which the web channel needs to be configured on the **Online Studio** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret here.

Step 7 Click **The next step** to complete the configuration.

----End

2.5.12.8.1 Message Push Interface Specifications

Scenario

AICC will invoke this API to push messages which replied by agents or system messages.

Method

POST

URI

{baseUrl}/webhooks/v1/messages

Request Description

Table 2-63 Request header parameters

No.	Name	Type	Mandatory or Not	Description
1	Authorization	string	True	Used for authentication. Value is auth-v2/{accessKey}/{timestamp}/{SignedHeaders

Table 2-64 Request body parameters

No.	Name	Type	Mandatory or Not	Description
1	messages	list[**DownLinkMsg**]	True	Messages and events.
2	timestamp	long	True	Send time, and it will be used to generate authentication signature.

Table 2-65 Parameter structure of DownLinkMsg

No.	Name	Type	Mandatory or Not	Description
1	channel	string	True	Message Channel Type,Such as WEB.
2	isOfflineStatus	Boolean	False	It is used in client to judge whether can send message in next step. When user wait timeout, AICC will push a message, if async switch is on, the value will be true. If async switch is off, the value will be false.
3	content	string	True	Content of the MT message sent to the customer. If controlType is CHAT, and If mediaType is TEXT, the value is text content. If mediaType is IMAGE/VIDEO/AUDIO, the value is id of resource, client should use downloadFileStream API to get resource. If mediaType is LOCATE, the value is location information, format is latitude/longtitude/description. If controlType is READ, the value is messageId array which already be read.
4	from	string	True	ID of the message sender. Channel ID.

No.	Name	Type	Mandatory or Not	Description
5	mediaType	string	True	Message media type, for example, text type (TEXT), image (IMAGE), video (VIDEO), voice (AUDIO), and location (LOCATE).
6	senderNickname	string	False	Nickname of the message sender.
7	sourceType	string	True	Message sender, for example, agent (AGENT), robot (ROBOT), and system (SYSTEM).
8	controlType	string	True	Message control type, such as connect(CONNECT) chat (CHAT) and disconnect (DISCONNECT),Transfer to manual service(TRANS2AGENT),Read report(READ)
9	timestamp	long	True	Message sending timestamp.
10	to	string	True	userId
11	simQuestions	string	False	Similarity Question Content.
12	messageCode	string	False	A Unique value which is used to identify the message agent sent. Max length is 64.

Response Description

Status code: 200

Table 2-66 Response body parameters

No.	Name	Type	Mandatory or Not	Description
1	resultCode	String	True	0 is success, If returns not HTTP 200 or resultCode is not 0, it means push message failed.
2	resultDesc	String	False	Customization

Example

- Request header:

```
Content-Type: application/json
Authorization: Bearer XXXXXXXXXXXXXXXXXXXXXXX
```

- Request parameters:

```
{
    "timestamp": 1625898453913,
    "messages": [//1connected{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "CHAT",
        "mediaType": "TEXT",
        "content": "The call is connected to an agent.",
        "simQuestions": null,
        "senderNickname": "SYSTEM",
        "timestamp": 1625898453913,
        "sourceType": "SYSTEM",
        "callId": null,
        "messageCode": null,
    },
    //queuing{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "CHAT",
        "mediaType": "TEXT",
        "content": "Queuing...",
        "simQuestions": null,
        "senderNickname": "SYSTEM",
        "timestamp": 1625898453913,
        "sourceType": "SYSTEM",
        "messageCode": null,
    },
    //disconnect because of agent
{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "DISCONNECT",
        "mediaType": null,
        "content": null,
        "simQuestions": null,
        "senderNickname": null,
        "timestamp": 1625898871961,
        "sourceType": "AGENT",
        "messageCode": null,
    },
    //disconnect because of timeout, and async switch is off
```

```
{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "DISCONNECT",
        "mediaType": null,
        "content": null,
        "simQuestions": null,
        "senderNickname": null,
        "timestamp": 1625898871961,
        "sourceType": "SYSTEM",
        "messageCode": null,
    },
//disconnect because of timeout, and async switch[D1]  is on
{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "DISCONNECT",
          "isOfflineStatus":true,
        "mediaType": "TEXT",
        "content": "{TIPS}",
        "simQuestions": null,
        "senderNickname": null,
        "timestamp": 1625898871961,
        "sourceType": "SYSTEM",
        "messageCode": null,
    },
//read{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "READ",
        "mediaType": null,
        "content": "messageId1,messageId2[D2] ",
        "simQuestions": null,
        "senderNickname": null,
        "timestamp": 1625898871961,
        "sourceType": "AGENT",
        "messageCode": null,
    }
]
}
```

- Response parameters:

```
{
    "resultCode": "0",
    "resultDesc": "success."
}
```

2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?

After the functions are enabled, emails or SMS messages can be automatically replied to customers based on the configured notification template.

Prerequisites

For the email channel, you have created an auto reply email template and non-workday reply email template. For details about how to create the templates, see **Step 3**.

For the SMS channel, you have created an auto reply SMS template and non-workday reply SMS template. For details about how to create the templates, see **Step 2**.

Context

Only the email and SMS channels support the auto reply and non-workday reply functions.

Procedure

Step 1 Enable the auto reply function.

1. Click to enable the auto reply function.
2. Select a configured auto reply template.

   For the email channel, select an email template.

   For the SMS channel, select an SMS template of the **SMS Gateway** type.

Step 2 Enable the non-workday reply function.

1. Click to enable the non-workday reply function.
2. Select a configured non-workday auto reply template.

   For the email channel, select an email template.

   For the SMS channel, select an SMS template of the **SMS Gateway** type.

Step 3 Click **Saved** to complete the configuration.

----End

2.5.12.10 How Do I Enable Connection to the Intelligent Robot?

After **Connecting to the Intelligent Robot** is enabled, a customer communicates with the robot after accessing the system through a channel.

Context

For the email and SMS channels, only the following parameters are available: **Avatar**, **Name**, **Gender**, and **Robot**.

Procedure

Step 1 Click to enable **Connecting to the Intelligent Robot**.

Step 2 Set the avatar. Click **Update** to change the avatar. Seven system avatars are available.

Step 3 Set the robot name and gender.

Step 4 Select a robot. The robot is configured in the intelligent IVR. For details, see **2.6.2 Configuring an Intelligent Robot**.

NOTE

When configuring the intelligent IVR, you need to configure the call transfer diagram element. The call transfer type cannot be **31**, **32**, or **33**.

Step 5 Customize the default reply, timeout reply, and prompt for transferring calls to the manual service.

Step 6 Configure a silent agent skill queue. After the configuration, when the robot encounters a problem that cannot be resolved during the conversation with a customer, the robot can seek help from an agent in the skill queue.

Step 7 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.11 How Do I Enable Connection to the Robot Assistant?

Context

Only the email and SMS channels do not support the robot assistant.

Procedure

Step 1 Click to enable **Access Robot Assistant**.

Step 2 Select a robot assistant. The robot assistant is configured in the intelligent IVR. For details, see **2.6.2 Configuring an Intelligent Robot**.

Step 3 Click **The next step** to complete the configuration.

----End

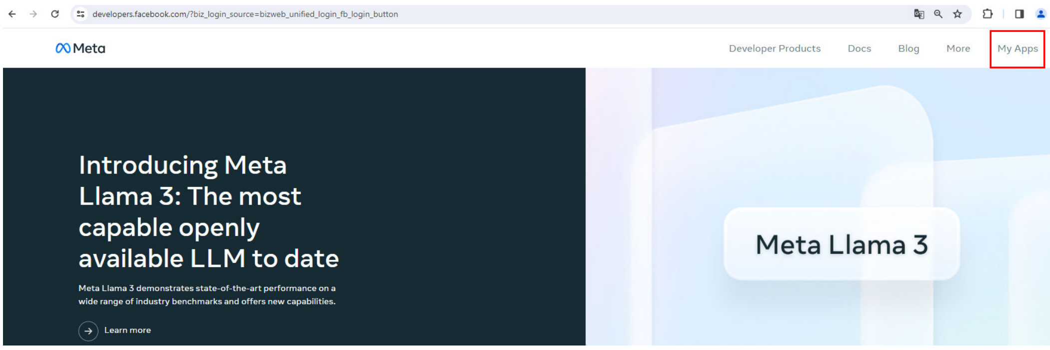
2.5.12.12 Creating an App Using a Facebook Developer Account

Question

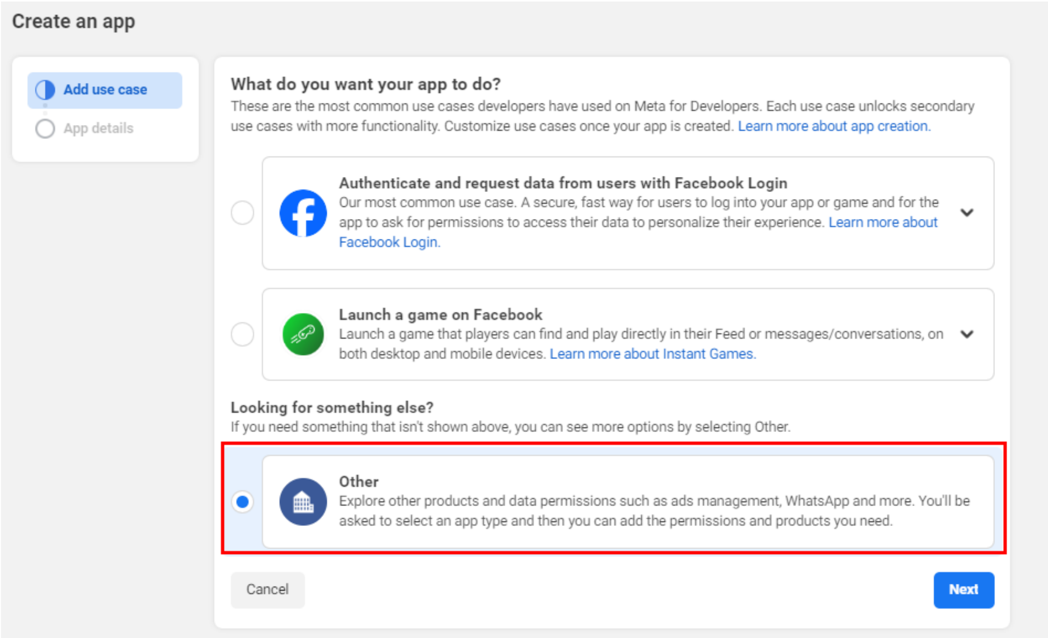
If I have a Facebook developer account, how can I directly create an app?

Answer

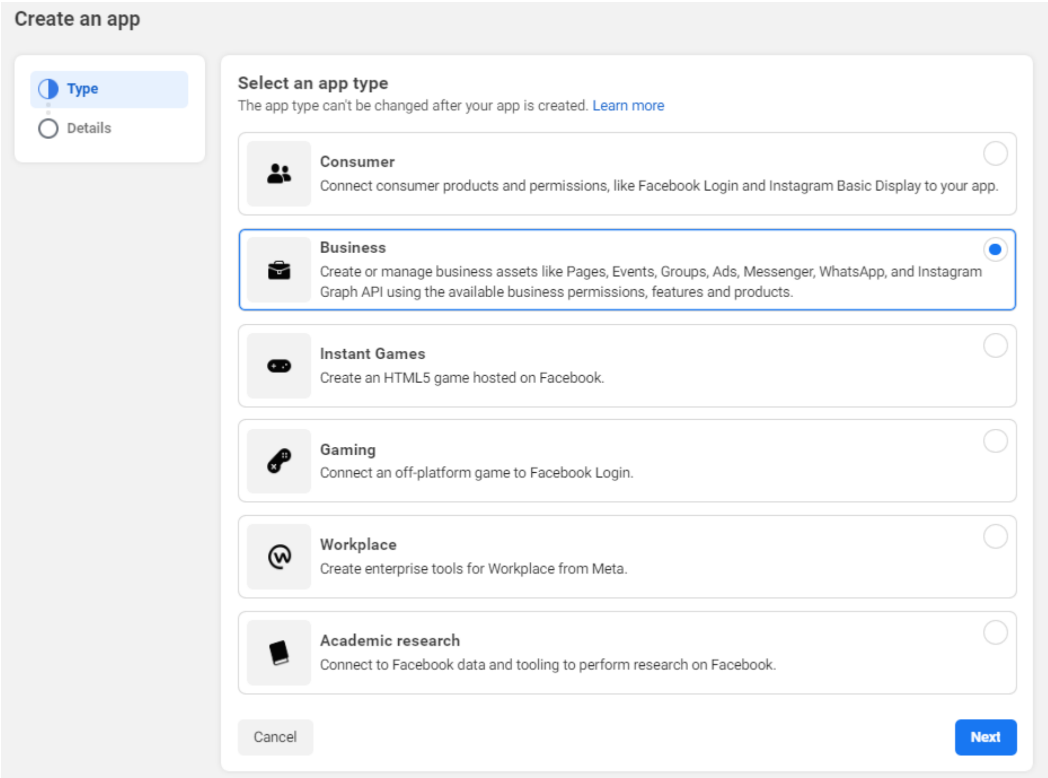
1. Use a Facebook account to log in to **https://developers.facebook.com/**.
2. Click **My Apps** in the upper right corner.



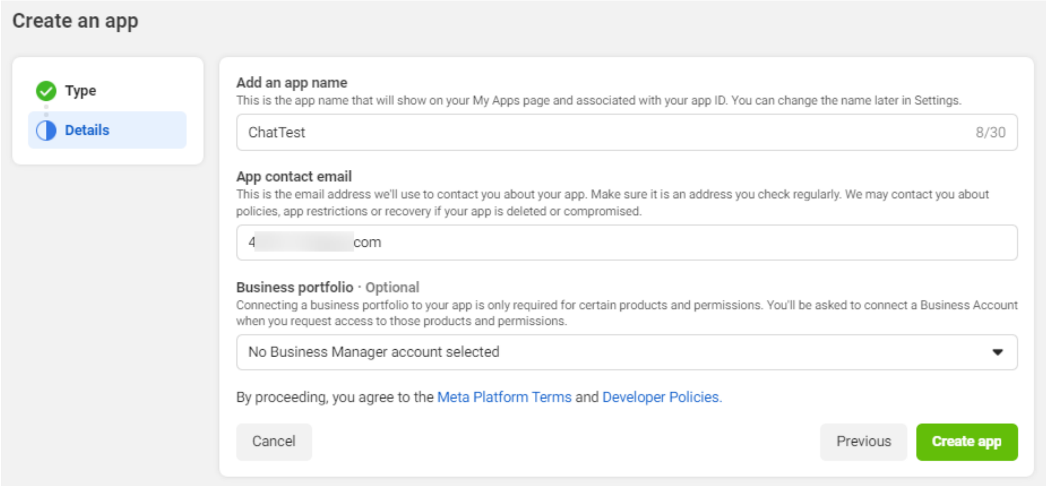
3. On the **Apps** page, click **Create App** in the upper right corner.
4. On the **Create an app** page, select **Other** and click **Next**.



5. Select **Business** and click **Next**.



6. Enter an app name and click **Create app**.



2.5.12.13 How Do I Set Automatic Email Reply?

The email channel supports automatic email reply using the intelligent robot.

Prerequisites

You have created an automatic email reply template by referring to **Step 3**.

Procedure

Step 1 Enable automatic reply for the email channel by referring to **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**.

Step 2 Configure an intelligent robot for automatically replying to emails by referring to **2.6.2 Configuring an Intelligent Robot**.

- Create a variable and set **Data Type** to **Character** and **Default Value** to a value in *Automatic reply email template ID*,*Personal email address* format. Use commas (,) to separate multiple items.

  NOTE

  Obtain *Automatic reply email template ID* on the **Notification Template** page after you create an email template by referring to **Step 3**.

  – 24.200 and earlier versions: Press **F12** on the **Notification Template** page to query the email template ID.

  – Versions later than 24.200: Directly obtain the template ID on the **Notification Template** page.

- Create an intelligent robot flow and drag the **Robot Reply** diagram element to the canvas.
  – Set **Reply Way** to **TTS**.
  – Set **Reply Source** to **Reply Variable**.
  – Set **Reply Variable** to the flow variable created in the previous step (the options are global and flow variables).
  – Set **Reply Mode** as required.

Step 3 Enable **Connecting to the Intelligent Robot** for the email channel by referring to **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**.

Set **Robot** to the robot created in the previous step.

----End

2.6 Robot Management and Configuration Guide

2.6.1 Getting Started

Online Intelligent Assistant Platform (OIAP) provides intelligent self-services. It is an enhanced version of the traditional interactive voice response (IVR). (If the OIAP is used with the IVR, voice enhancement can be implemented. If the OIAP is used alone, intelligent text reply can be implemented.) Based on the enhanced version of the IVR, customers can perform self-service operations in voice dialogs, meeting customers' requirements on self-service and intelligence of customer service systems. Enterprises can use SaaS-based OIAP services to reduce customization difficulty and costs for building self-service customer service centers.

Before using the OIAP to develop your dialog flow and configure dedicated chatbots for your customers, you need to understand the following concepts and prepare the following environment.

2.6.1.1 Common Concepts

Table 2-67 Concept list

Concept	Description
Task-oriented chatbot	Completes tasks with clear objectives such as booking flight tickets, ordering meals, and subscribing to the RBT service.
Q&A chatbot	Provides answers based on users' questions. The content of the answer is more knowledge-based rather than user-oriented. The main feature of Q&A-oriented chatbots is one question and one answer. Even though the matching scope can be expanded through similar questions and answers.
Intention	An intention can be understood as a question of a customer. The customer achieves a certain goal such as air ticket booking using one or a group of intentions.
Corpus	A corpus refers to language texts that a user may say or enter. By analyzing the questions that a user may ask when performing a task and adding them as a corpus to an intention template for semantic recognition model training, a chatbot can better understand the user's language.

Concept	Description
Slot	Slots are parameters to be collected during dialogs. For example, to implement a train ticket booking intention, a user needs to provide information such as the departure location, arrival location, and departure time. Such information is called slots.
Entity	An entity refers to a word that can be understood as a parameter value in text content of a user. For example, such words can be "3 kilograms" and "apple" in the sentence "I want to buy 3 kilograms of apples", or "one", "tomorrow", and "Beijing" in the sentence "One train ticket to Beijing tomorrow."
Flow	A flow represents an IVN task. You need to connect your intentions and voice replies in the entire flow to provide the self-service voice service for customers. Flows are classified into main flows and subflows. No obvious business logic division is available for main flows and subflows. A recommended scenario is as follows: Only one main flow can be configured for a tenant space. If no flow is associated with the access code in **2.6.2.2.9 Configuring a Robot**, the customer is connected to the main flow directly. Subflows can be used in other scenarios.

2.6.1.2 Environment Preparation

Table 2-68 Environment requirements

Item	Requirement
Access address	• In the public cloud scenario, use the URL and access account provided by the operation personnel. The URL format is as follows: **https://servicestage.besclouds.com/service-cloud/sm/login/login.html?redirectUrl=%2Fsm%2Fportal%2Fhome.html%3Ftimestamp%3D1582247986428&logoutReason=SessionInvalid**. • In the private cloud and on-premises scenarios, obtain the OIAP login URL from the environment maintenance personnel.
Client configuration requirements	Set the resolution to 1280 pixels x 1024 pixels or higher. The height must be 1024 pixels or more; otherwise, the menu may fail to be completely displayed on a page.

Item	Requirement
Voice file	Static voice files must be recorded in advance, uploaded on the **Configuration Center** > **Resource Management** > **Audio and Video** page of the AICC, and approved by the AICC system administrator.
Interface invocation	● If you need to invoke the interface provided by the third-party system to obtain the response information in the robot flow, the AK/SK authentication information and interface specifications of the third-party system are required. ● If you require a third-party system to invoke the interface of this system, provide the AK/SK and interface document of this system to the third-party system. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and configure and view the AK/SK on the **Third-party password** tab page. ● If you require AppCube to invoke the API of this system, provide the AK/SK and API document of this system to AppCube. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and configure and view the AK/SK on the **AppCube Password** tab page.
RPA interface invocation	If the agent workbench needs to use the intelligent case robot to automatically create cases, collect data, and fill in case information, the OIAP must be connected to the RPA system. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and configure and view the settings on the **RPA Settings** tab page.

2.6.1.3 Greeting the Robot

NOTICE

- The OIAP can be deployed independently or integrated with the AICC on the public cloud. Therefore, the navigation paths vary depending on the environment.
- In this document, all the navigation paths are those selected when the OIAP is deployed independently. In the AICC public cloud scenario, you can choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** to access the OIAP.
- To use the intelligent robot (intelligent IVR) on the public cloud, ensure that you have subscribed to intelligent IVR, TTS, and ASR resources for the tenant space.

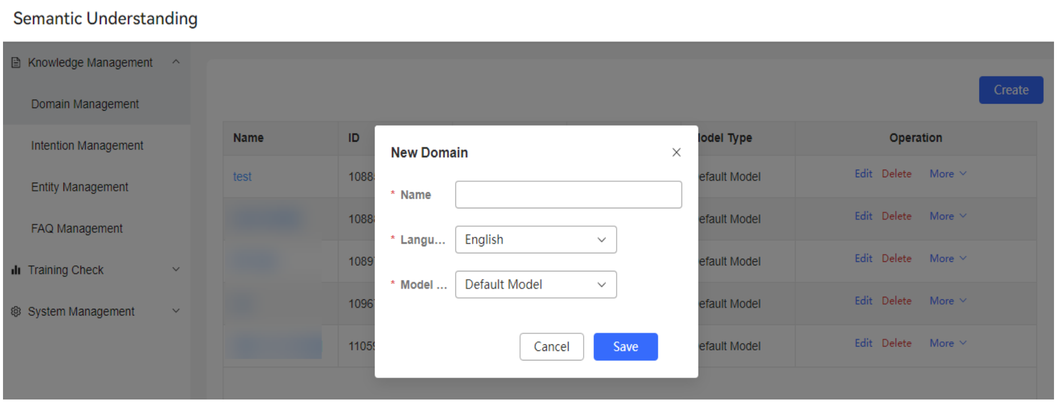
  For how to check whether IVR, TTS, and ASR resources have been subscribed to, do as follows:

  Log in to the Huawei Cloud console and choose ☰ > **Business Applications** > **Cognitive Engagement Center**. On the **Cognitive Engagement Center** page, choose **Instance Management** and click **Details** corresponding to the desired call center instance. On the **IVR** tab page, check whether intelligent IVR resources have been subscribed to. On the **TTS&ASR** tab page, check whether TTS and ASR resources have been subscribed to.

You can configure your dedicated robot online using flowcharts. To help you understand the entire configuration process, this section describes the configuration of a robot who replies with "Hello" to your greeting.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management**, click Create in the upper right corner, enter a name, and click Save.



Step 2 Choose **Intention Management**, click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

Figure 2-82 Corpus

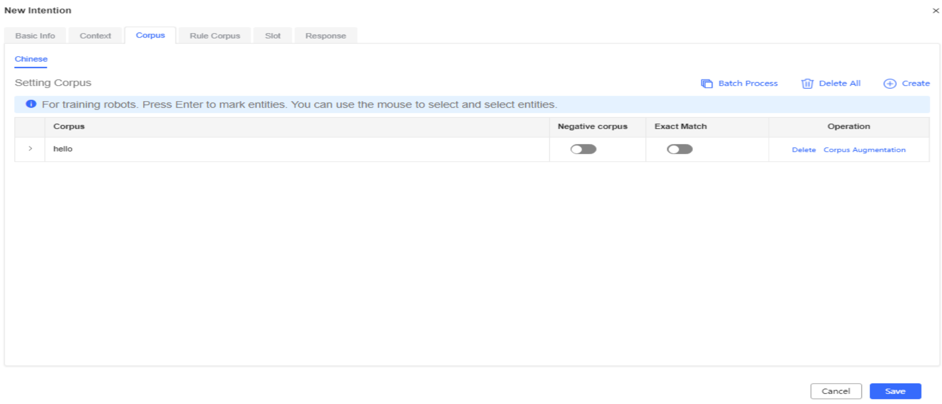
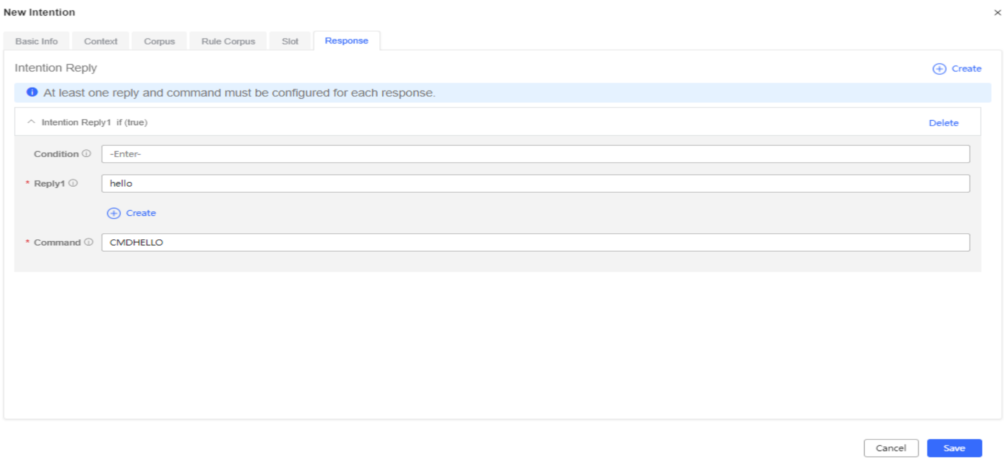


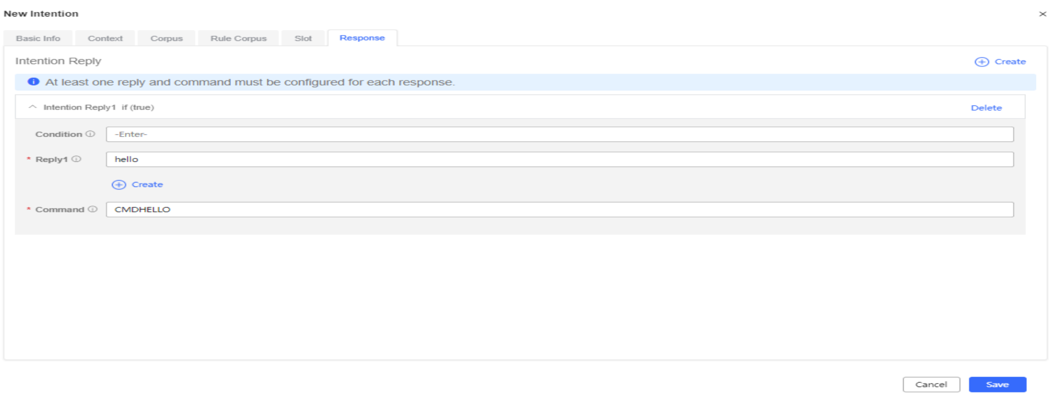
Figure 2-83 Response



Step 3 In the upper right corner of the **Intention Management** page, click **Train**.

Step 4 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management** and click **Active**.

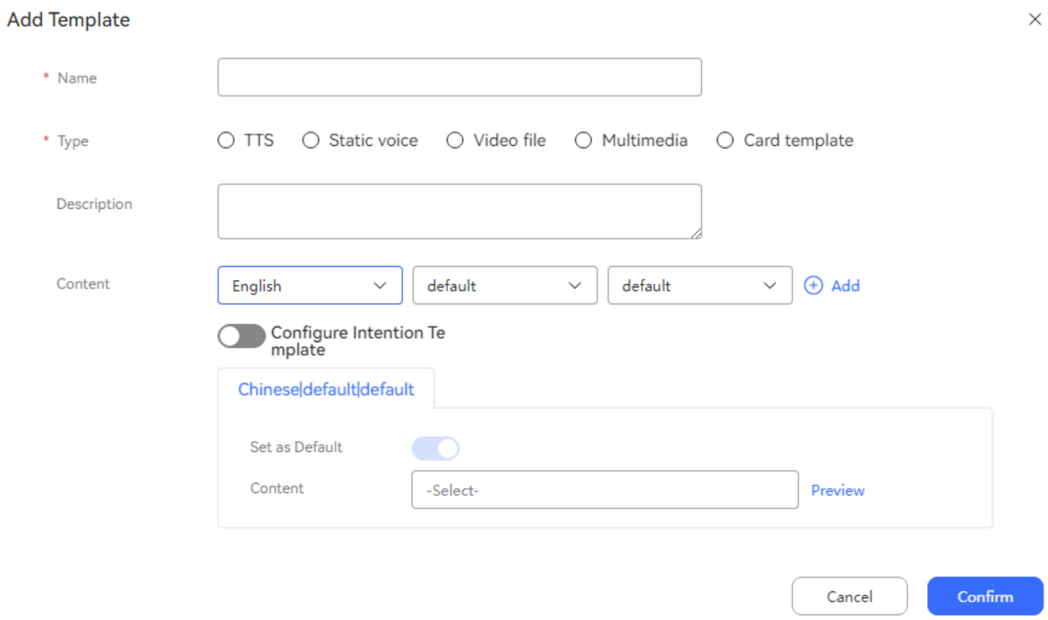
Figure 2-84 Activating a domain



Step 5 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Resource Template**.

In the integration environment, after the template type is set to **TTS**, the template content is selected from a drop-down list. You need to choose **Configuration Center** > **Resource Management** > **Audio and Video**, add a TTS text, and submit the text for approval. After the system administrator approves the text, you can select the text from the drop-down list.

Figure 2-85 Maintaining a resource template

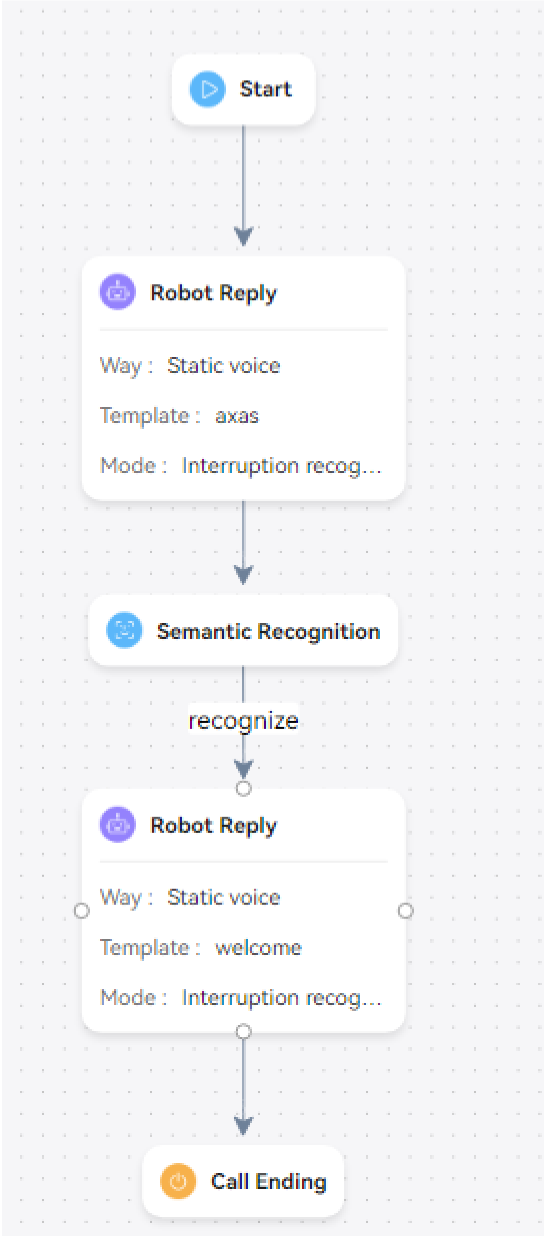


Step 6 Choose **Flow Management** > **Flow Orchestration**, click **Add** in the upper part, and set the robot script flow.

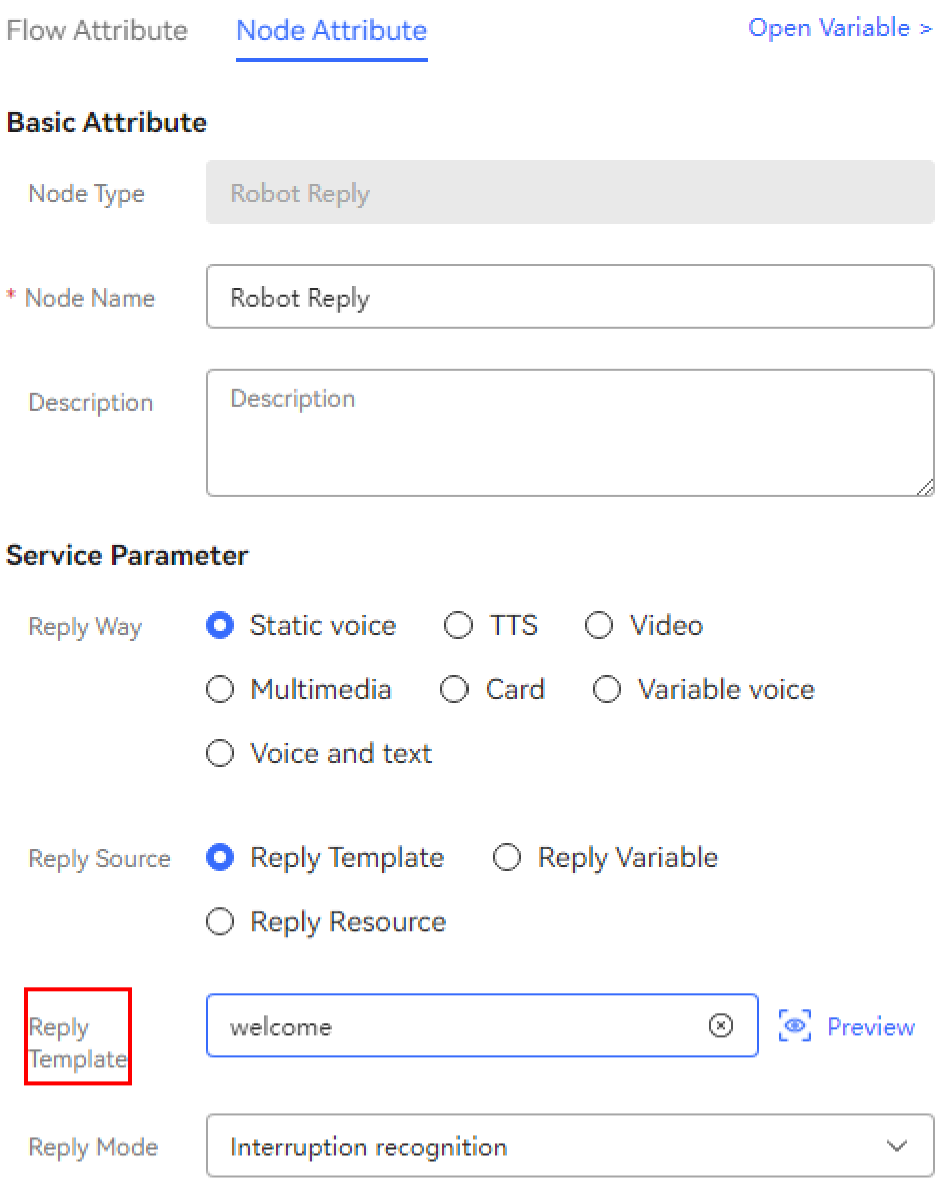
The script flow is as follows: After a call is connected, the customer hears "Hello" from the robot, then the customer says "Hello", and finally the robot replies with "Hello" again.

1. Select **Blank Flow**.
2. Drag diagram elements on the left to the canvas and connect them with lines.

Figure 2-86 Dragging diagram elements

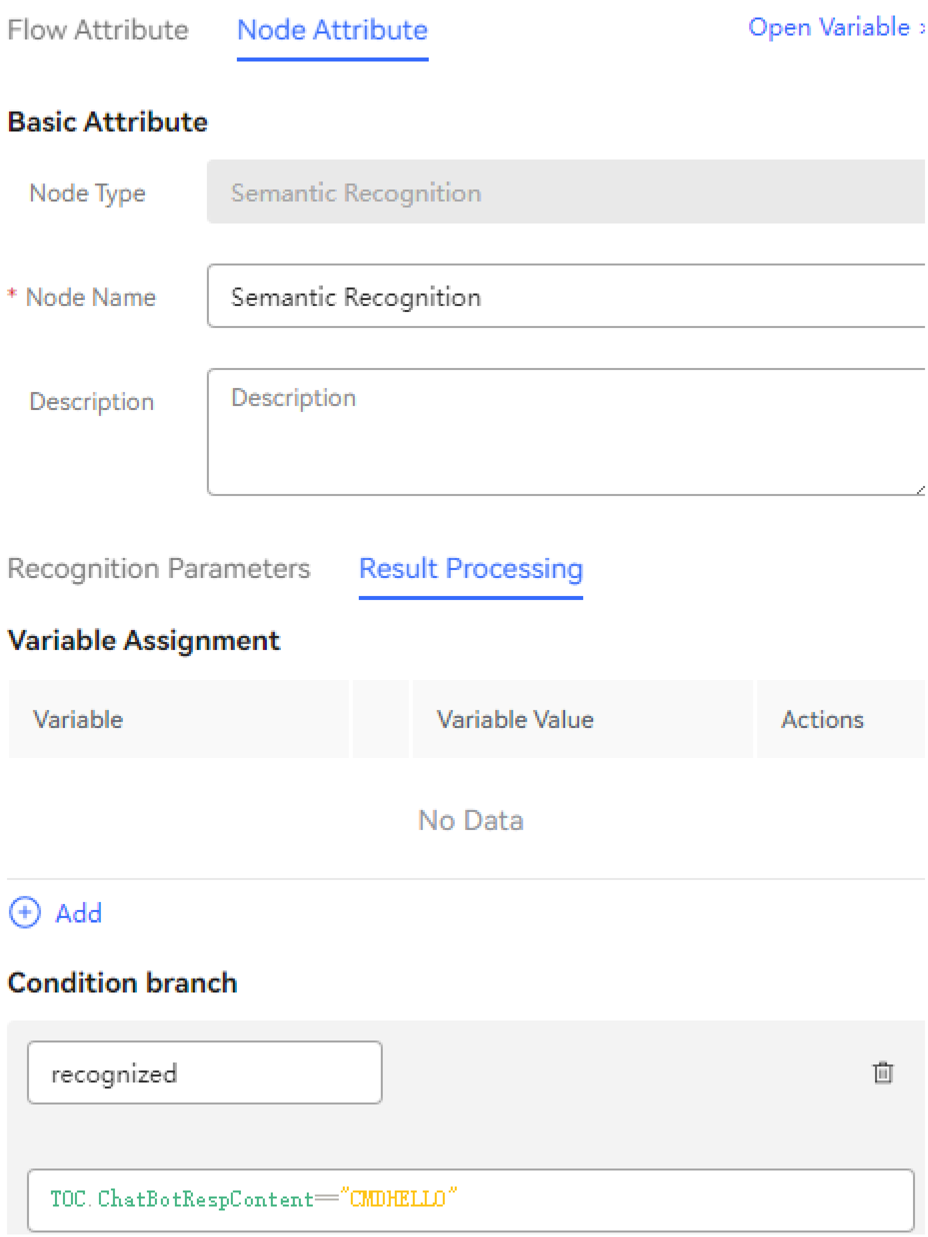


3. Click the **Robot Reply** diagram element and set **Reply Template**.



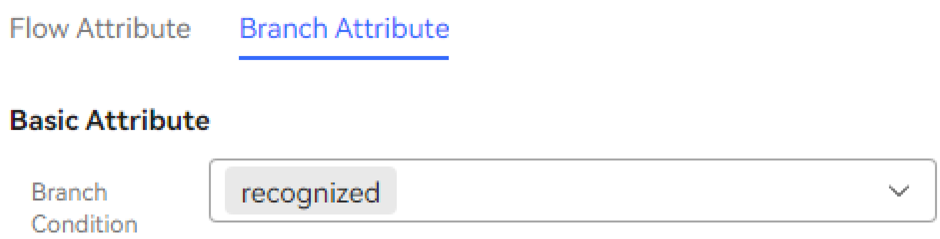
4. Click the **Semantic Recognition** diagram element and set the recognition condition to **TOC.ChatBotIntentCode=="CMDHELLO"**.

Figure 2-87 Configuring the Semantic Recognition diagram element



5. Click the connection line between the **Semantic Recognition** diagram element and the last **Robot Reply** diagram element, and select a branch condition.

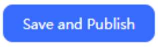
Figure 2-88 Setting a branch



6. Click the last **Robot Reply** diagram element and set **Reply Template** to the template the same as that in the first **Robot Reply** diagram element.

7. Click

on the top of the canvas.

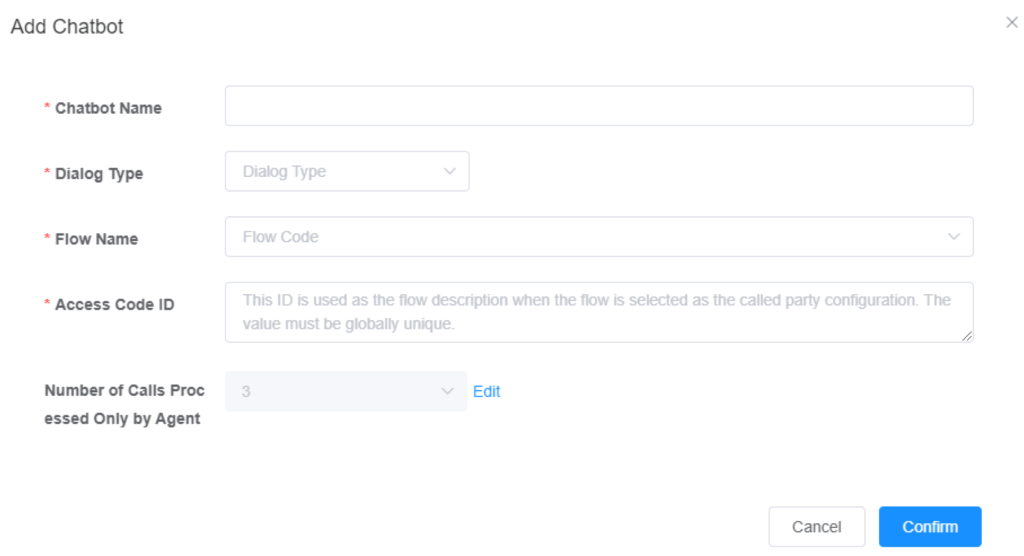
8. Click 

on the top of the canvas. In the **Publish** dialog box, click 

.

Step 7 Choose **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot**, and click 

to associate a flow access code with the new flow.



Step 8 Click **Test Call** corresponding to the flow and enter **Hello**. The robot then replies with "Hello".

Step 9 If **Dialog Type** is set to **Chatbot**, configure a channel.

1. Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.
2. Click **New**. In the **Robot Configuration** area, enable **Connecting to the Intelligent Robot** and select the published robot.

Step 10 If **Dialog Type** to **Voice navigation** or **IVR flow**, configure a called route.

1. Choose **Configuration Center** > **Access Configuration** > **Called Party**.
2. Click **New**, set **Access Code** and **Extension Code**, set **Device Type** to **IVR**, and select the published robot.
3. Click **Save**.

----End

Summary

What is the general process for configuring a robot?

1. Add a voice or video resource template.

2. Configure the intentions to be recognized.
3. Orchestrate a script flow and publish it.
4. Configure a robot and associate it with the corresponding script flow.

2.6.2 Configuring an Intelligent Robot

You can drag diagram elements to draw a flow and configure a task-type multi-round robot and a Q&A robot.

2.6.2.1 Overview

The OIAP supports the configuration of the chatbots listed in the following table.

Chatbot Type	Function	Industry-specific	Example
Q&A-oriented chatbot	Provides answers based on customers' questions. The content of the answer is more knowledge-based rather than customer-oriented.	In vertical domains, technical emphases are placed on the technology of replying to questions directly using the knowledge base and knowledge graph.	Customer: I am in Tianhe District. Where can I request social security handling? Chatbot: (Query the FAQ knowledge base and find the corresponding answer.) B: Hello, the addresses of service centers of Social Security Bureau are as follows: XXX in Baiyun East Road in Baiyun District; No.101 of Tianhe Building in Tianhe District; XXX in Yuexiu District...

Chatbot Type	Function	Industry-specific	Example
Task-oriented chatbot	Completes tasks with clear objectives such as booking flight tickets, ordering meals, and subscribing to the RBT service.	In vertical domains (limited information), technologies such as multi-round dialogs and slot extraction are required.	Customer: I want to subscribe to a data package. B: We have 5 GB and 10 GB monthly data packages and unlimited data package. Which do you prefer? Customer: 5 GB monthly data package. B: Are you sure you want to subscribe to the 5 GB monthly data package? Customer: Yes. B: (Transfer the service number and 5 GB monthly data package parameter to invoke the service interface for subscribing to the package and receive a success result.) B: OK. You have successfully subscribed to the 5 GB monthly data package. The package takes effect 10 minutes later. B: Do you need other services?

2.6.2.2 Configuring an Appointment Chatbot (Task-oriented Robot)

This section uses a simple configuration example to describe how to configure a task-oriented robot.

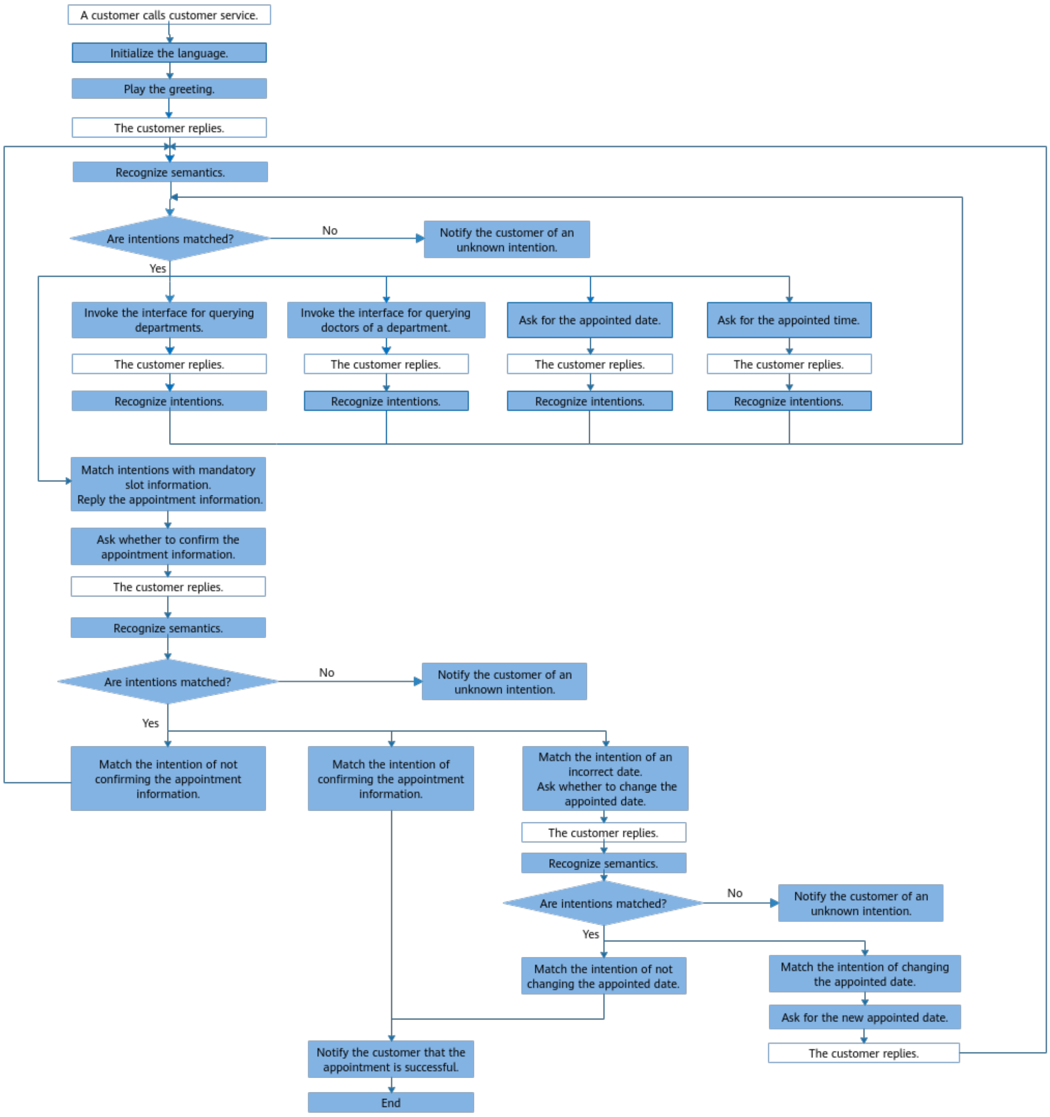
2.6.2.2.1 Configuration Scenario

This section describes how to configure a task-oriented robot.

Scenario

The following flowchart shows a scenario where a hospital uses the intelligent voice navigation (IVN) to complete a simple robot-based appointment flow.

Figure 2-89 Robot-based appointment flow



Note: The blue steps are performed by the IVN.

1. A customer dials the hospital customer service hotline 123456.
2. Initialize the language (Chinese or English).
3. Play the greeting.
4. The customer speaks.
5. Match the customer's words with existing intentions. If no appointment intention is matched, notify the customer of an unknown intention.
6. If the appointment intention (with four mandatory slots: appointed department, doctor, date, and time) is matched, ask the customer for the appointed department, doctor, date, and time.
7. If the customer replies the preceding information, notify the customer of the appointment information and ask the customer whether to confirm the appointment.
8. The customer replies.

9. Match the customer's words with existing intentions (whether to confirm the appointment).
    a. If the intention of confirming the appointment is matched, go to the next step and notify the customer that the appointment is successful.
    b. If the intention of not confirming the appointment is matched, return the previous appointment information to the intention recognition in **5**.
    c. If the intention of an incorrect date is matched:
        i. Ask the customer whether to change the appointed date.
        ii. The customer replies.
        iii. Match the customer's words with existing intentions (whether to change the date).
        iv. If the intention of not changing the date is matched, go to the next step and notify the customer that the appointment is successful. If the intention of changing the date is matched, ask the customer for the new date.
        v. The customer replies.
        vi. Return the customer's reply and the previous appointment information to the intention recognition in **5**.
    d. If no intention is matched, notify the customer of an unknown intention.
10. Notify the customer that the appointment is successful.
11. The customer hangs up.

Requirement Analysis

Based on the preceding flow, the following resources and configurations are required.

Table 2-69 Requirement analysis

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Start	-		-	-

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Initialize the language.	Business interface for initializing the language		Variable name: **GLOBAL.language** Variable value: **"en_US"**	In the actual application scenario, you can invoke a real interface to determine the language. In this robot configuration example, this diagram element is used to assign a value. You can directly add a cache variable and assign a value to it to initialize the language, without selecting an interface to be invoked. For example, to initialize English, set **Response Attribute** to the

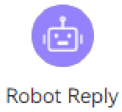
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
				following value: **"en_US"**
Play the greeting.	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.welcome**. Set **Reply Mode** to **Recognition after playback**.	Add a flow variable as follows: Set **Variable Name** to **welcome**. Set **Data Type** to **Character**. Set **Default Value** to **Welcome to the self-service appointment system**.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the customer's reply.	Business interface for caching the dialog interaction result.		Variable name: **FLOW.ask** Variable value: **IVRREQUEST.input**	You can directly add a variable without selecting an interface to be invoked. Add a flow variable as follows: Set **Variable Name** to **ask**. Set **Data Type** to **Character**. Set **Default Value** to **Appoint ${FLOW.docSlot}'s ${FLOW.roomSlot} at ${FLOW.timeSlot} on ${FLOW.dateSlot}**.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Recognize intentions (whether intentions are matched).	Intention template for appointment		Set **Semantic Recognition Content** to **FLOW.ask**. Set the following variables: • Variable for obtaining the department that matches intentions – Variable name: **FLOW.roomSlot** – Variable value: **TOC.ChatBotroom** • Variable for obtaining the doctor that matches intentions – Variable name: **FLOW.docSlot** – Variable value: **TOC.ChatBotdoctor** • Variable for obtaining the date that matches intentions – Variable name: **FLOW.dateSlot** – Variable value: **TOC.ChatBotdate** • Variable for obtaining the time that matches intentions – Variable name: **FLOW.timeSlot** – Variable value: **TOC.ChatBottime** In **Judgment Conditions**, set the following conditions: • Condition when the configured appointment intention is matched – Set **Condition** to **finish**. – Set **Condition Expression** to **TOC.ChatBotIntentCode=='finish'**.	Add flow variables as follows: Set **Variable Name** to **roomSlot**. Set **Data Type** to **Character**. Set **Variable Name** to **docSlot**. Set **Data Type** to **Character**. Set **Variable Name** to **dateSlot**. Set **Data Type** to **Character**. Set **Variable Name** to **timeSlot**. Set **Data Type** to **Character**.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
			• Condition when the command word of the mandatory department slot of the configured appointment intention is matched – Set **Condition** to **room**. – Set **Condition Expression** to **TOC.ChatBotIntentCode=='room'**. • Condition when the command word of the mandatory doctor slot of the configured appointment intention is matched – Set **Condition** to **doctor**. – Set **Condition Expression** to **TOC.ChatBotIntentCode=='doctor'**.	

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the department that the customer needs to appoint. (The **room** condition is matched.)	Business interface for querying departments		Variable name: **FLOW.answer** Variable value: **FLOW.room +TOC.ChatBotRespContent**	You can directly add a variable without selecting an interface to be invoked. Add flow variables as follows: Set **Variable Name** to **answer**. Set **Data Type** to **Character**. Set **Variable Name** to **room**. Set **Data Type** to **Character**. Set **Default Value** to **Currently, the available departments are Internal Medicine and Surgery**.

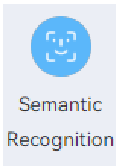
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	-		Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.answer**. Set **Reply Mode** to **Recognition after playback**.	-

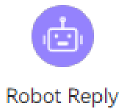
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the doctor that the customer needs to appoint. (The **doctor** condition is matched.)	Business interface for querying doctors in a department		Variable name: **FLOW.answer** Variable value: **FLOW.doctor** +**TOC.ChatBotRespContent**	You can directly add a variable without selecting an interface to be invoked. Add flow variables as follows: Set **Variable Name** to **answer**. Set **Data Type** to **Character**. Set **Variable Name** to **doctor**. Set **Data Type** to **Character**. Set **Default Value** to **Dr. Liu and Dr. Li are on duty in the current department**.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	-	Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.answer**. Set **Reply Mode** to **Recognition after playback**.	-
Notify the customer of the appointment information. (The **finish** condition is matched.)	-	Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **TOC.ChatBotRespContent**. Set **Reply Mode** to **Playback only**.	-
Send the default reply. (No condition is matched.)	-	Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **TOC.ChatBotRespContent**. Set **Reply Mode** to **Playback only**.	**NOTE** If no condition is matched on a connection line, the flow goes to the default branch.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Ask whether to confirm the appointment information.	-		Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.check**. Set **Reply Mode** to **Interruption recognition**.	Add a flow variable as follows: Set **Variable Name** to **check**. Set **Data Type** to **Character**. Set **Default Value** to **Are you sure you want to confirm the preceding information?**

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Recognize intentions (whether intentions are matched).	Intention template for confirmation		In **Judgment Conditions**, set the following conditions: ● Condition when the intention of confirming the appointment information is matched – Set **Condition** to **yes**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='yes'**. ● Condition when the intention of not confirming the appointment information is matched – Set **Condition** to **no**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='no'**. ● Condition when the intention of an incorrect date is matched – Set **Condition** to **part**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='incorrect date'**.	-
Use a cache variable to cache data and recognize semantics to confirm the customer's appointment information. (The **no** condition is matched.)	-		Variable name: **FLOW.ask** Variable value: **'Appoint '**	You can directly add a variable without selecting an interface to be invoked.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Confirm whether the customer wants to change the date. (The **part** condition is matched.)	Reply template for confirming whether to change the date	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Template**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Template** to **redate**. Set **Reply Mode** to **Interruption recognition**.	Add a reply template.
	Intention template for confirmation		In **Judgment Conditions**, set the following conditions: ● Condition when the intention of not changing the date is matched – Set **Condition** to **yes**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='yes'**. ● Condition when the intention of changing the date is matched – Set **Condition** to **no**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='no'**.	-

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	Ask for the new date and recognize semantics to confirm the appointment information. (The **no** condition is matched.)		Variable name: **FLOW.dateSlot** Variable value: **''** Variable name: **FLOW.answer** Variable value: **'What date would you like to appoint?'** '	You can directly add a variable without selecting an interface to be invoked.
			Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.answer**. Set **Reply Mode** to **Interruption recognition**.	-
			Variable name: **FLOW.dateSlot** Variable value: **IVRREQUEST.input** Variable name: **FLOW.ask** Variable value: **'Appoint '+FLOW.docSlot+''s '+FLOW.roomSlot+' at '+FLOW.timeSlot+' on '+FLOW.dateSlot**	You can directly add a variable without selecting an interface to be invoked.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Notify the customer of the appointment information and play a thank-you message. (The **yes** condition is matched.)	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.thanks**. Set **Reply Mode** to **Playback only**.	Add a flow variable as follows: Set **Variable Name** to **thanks**. Set **Data Type** to **Character**. Set **Default Value** to **The appointment is successful. Thank you. Goodbye**.
End	-	 Call Ending	-	-

NOTICE

To ensure fault tolerance, you need to configure an unknown intention for situations where no intention is matched.

In intention recognition, the following information needs to be further analyzed. The following takes the appointment intention as an example. Other intentions can be analyzed using a similar method.

- Statements that the customer may use to reply appointment information. (corpus)
  - I want to see a doctor.
  - Appointment
  - I want to make an appointment.
  - I want to appoint Dr. Li's Internal Medicine at 16:00 tomorrow afternoon.

  Consider as many scenarios as possible to ensure the accuracy of intention matching.

- Information that needs to be obtained from the customer's reply. (slot and entity)

  For example, if the customer replies "Appoint 16:00", "16:00" is the slot information that needs to be obtained. You need to add the slot information to the intention. The slot information needs to be associated with a time entity, so you need to check whether a similar entity exists in entity configuration. In this example, you can use the system entity **@system.time**.

  If the customer replies "Appoint Dr. Li", "Dr. Li" is the slot information that needs to be obtained. You need to add the slot information to the intention. The slot information needs to be associated with a doctor entity but the entity does not exist among system entities, so you need to manually add the entity.
- Command word used for intention matching, that is, the value of **TOC.ChatBotIntentCode** required by the **Semantic Recognition** diagram element, which must be globally unique. (response)

  Branch conditions can be set for responses in the intention. You can directly add branches to reply different values of **TOC.ChatBotIntentCodes**.

2.6.2.2.2 Adding Business Interfaces

Business interfaces are encapsulated from third-party interfaces, and are then associated and invoked by the **Interface Invoking** diagram element. The IVN supports RESTful interfaces.

According to the analysis in **2.6.2.2.1 Configuration Scenario**, you need to add multiple business interfaces. All the business interfaces are used in cache variable mode, and no real interface is invoked. If you need to invoke a real interface in actual scenarios, refer to this section.

NOTICE

The business interface orchestration capability is insufficient. Therefore, in actual applications, the interface adaptation team must provide the invoked interfaces to prevent the interface definition differences between different systems.

For example, if we need to invoke an interface to obtain the values of two parameters from two interfaces in the actual business system, the interfaces need to be orchestrated to one interface for invocation.

Prerequisites

You have contacted the system administrator to add the IP address or domain name of the third-party interface to be invoked to the trustlist.

Procedure

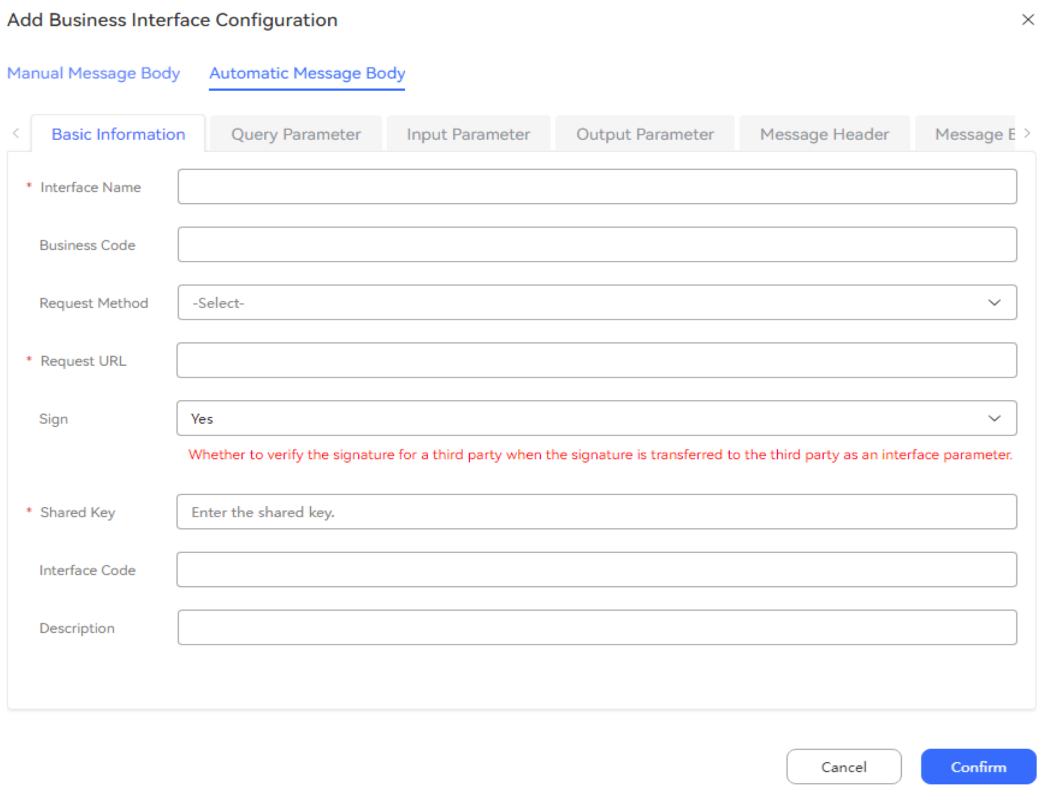
Step 1 Sign in as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Business Interface**. Click **New**.

Step 3 Add an interface by automatically generating a message body or manually entering a message body. The following describes how to add an interface in either of the two ways.

Step 4 Add an interface by automatically generating a message body.

1. On the **Automatic Message Body** tab page, set basic information about the interface to be invoked, including the interface name, request method, and request URL.



– When **Request Method** is set to **TUC**, enter one of the following URLs in the **Request URL** text box based on site requirements. For details about the input and output parameters of the interface, see **2.6.2.5.3 TUC Interfaces**.

Table 2-70 Request URLs when Request Method is set to TUC

URL	Description
/chatbot/rest/tuc/v1/nlp/detectRegularEntity	Rule entity detection used in the case flow.
/chatbot/rest/tuc/v1/nlp/identify	Language interface.
/chatbot/rest/tuc/v1/recommendFaq	FAQ recommendation interface.
/chatbot/rest/tuc/v1/qualityInspection/qiOnline/recognize	Interface for intelligent assistant real-time inspection.

URL	Description
/chatbot/rest/tuc/v1/nlp/feedback	Satisfaction feedback interface.
/chatbot/rest/tuc/v1/nlp/textClassify	Text classification interface.
/chatbot/rest/tuc/v1/nlp/detectEntity	Entity recognition interface.
/chatbot/rest/tuc/v1/qualityInspection	Intelligent training interface.

NOTICE

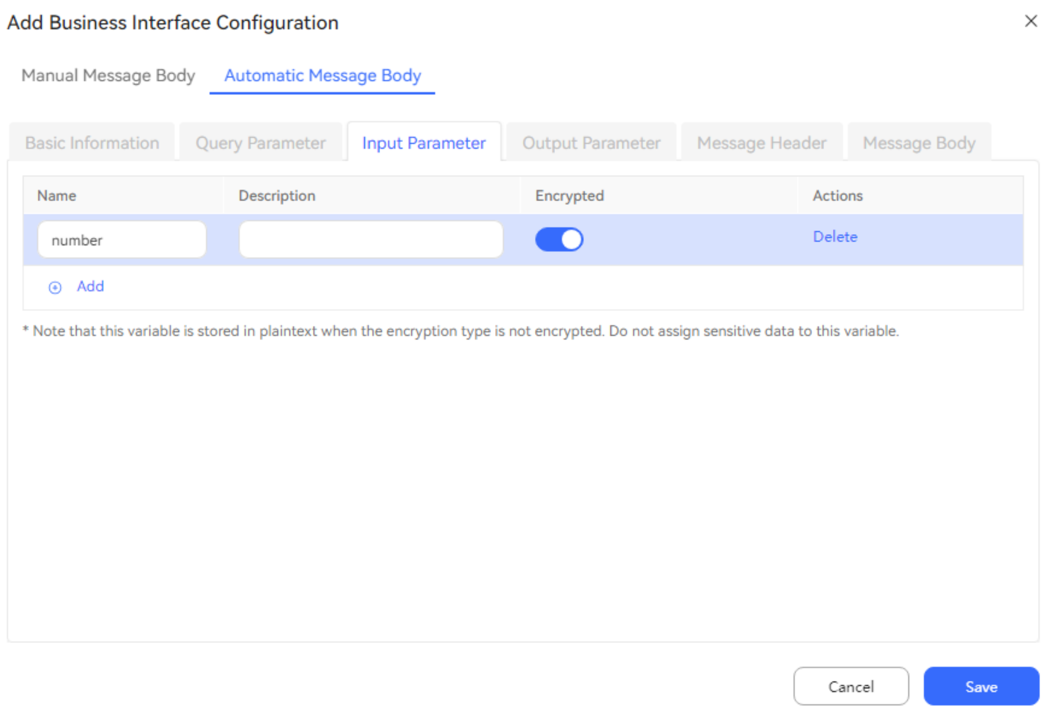
HTTP is not secure and may cause security risks. HTTPS is recommended.

– **Sign**: Set this parameter based on whether signature verification is performed on the third-party interface. If signature verification is enabled, contact the third party to provide the shared key.

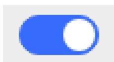
NOTE

- If signature verification is disabled, security risks exist. You are advised to enable signature verification.
- If signature verification is enabled, after the shared key provided by the third party is changed periodically, change the shared key on this page accordingly.

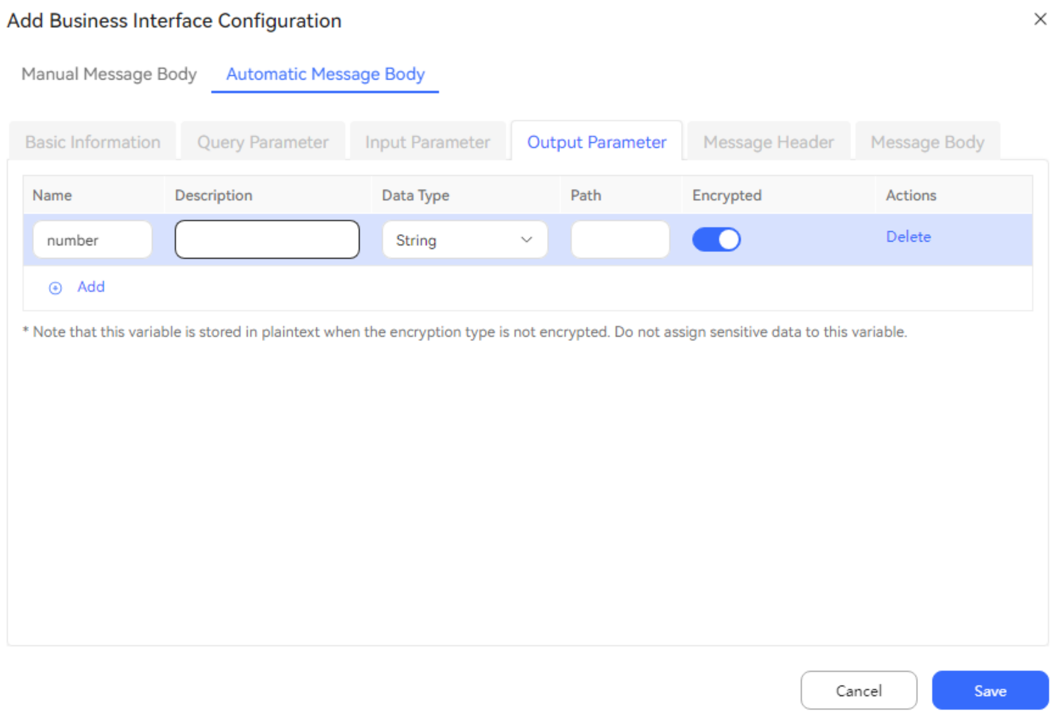
2. (Optional) If the interface has query parameters, add the query parameters, that is, *Interface request URL***?***Path parameter 1***=***Parameter value***&***Path parameter 2***=***Parameter value*.
3. Add interface input parameters. On the **Input Parameter** tab page, click **Add**. Generally, the input parameters of the interface are the same as those of the third-party system interface specifications.



NOTICE

For security purposes, set **Encrypted** to  if the input parameter contains personal data, such as the customer ID card number.

4. Add interface output parameters. On the **Output Parameter** tab page, click **Add**. The output parameters of the interface are the same as those of the third-party system interface specifications.

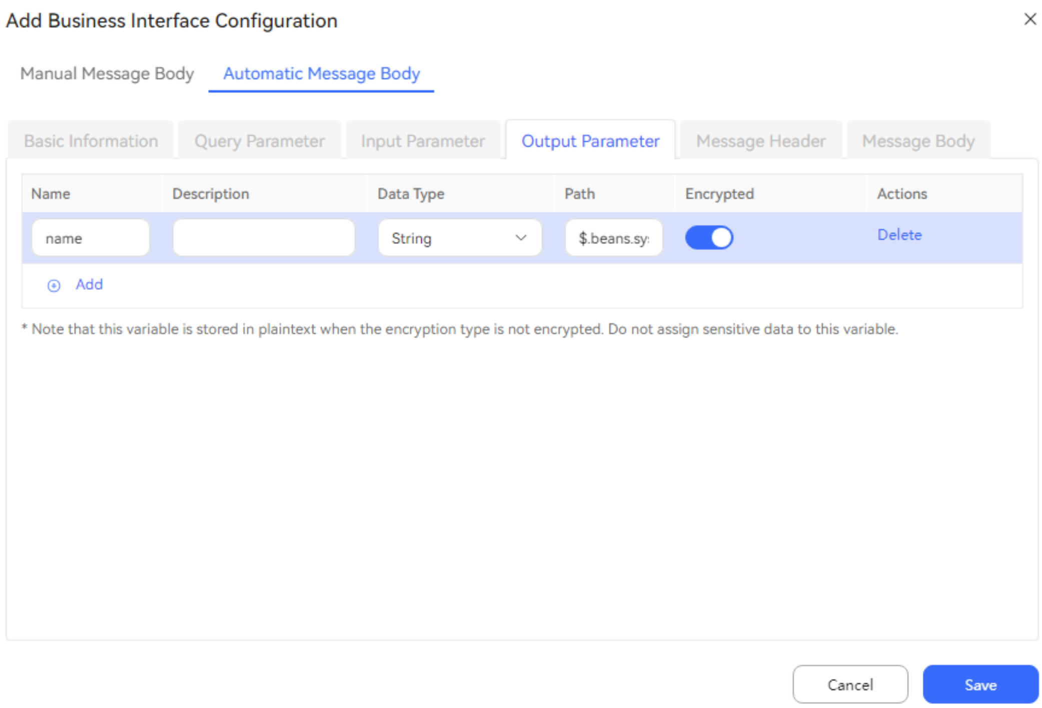


NOTICE

For security purposes, set **Encrypted** to  if the output parameter contains personal data, such as the customer ID card number.

The following figure shows how to set **Path**. To obtain the entire return result, set **Path** to **$**. To obtain a field, add **$** at the beginning and use periods (.) to separate each level. The level structure must be the same as the structure of the return result. Otherwise, the parsing fails, or the required field cannot be obtained.

Figure 2-90 Output parameter configuration example



5. (Optional) Add an interface message header. On the **Message Header** tab page, add the authentication information required by the interface. If the information does not exist, ignore this step. The authentication information is configured based on the specifications of the third-party system.

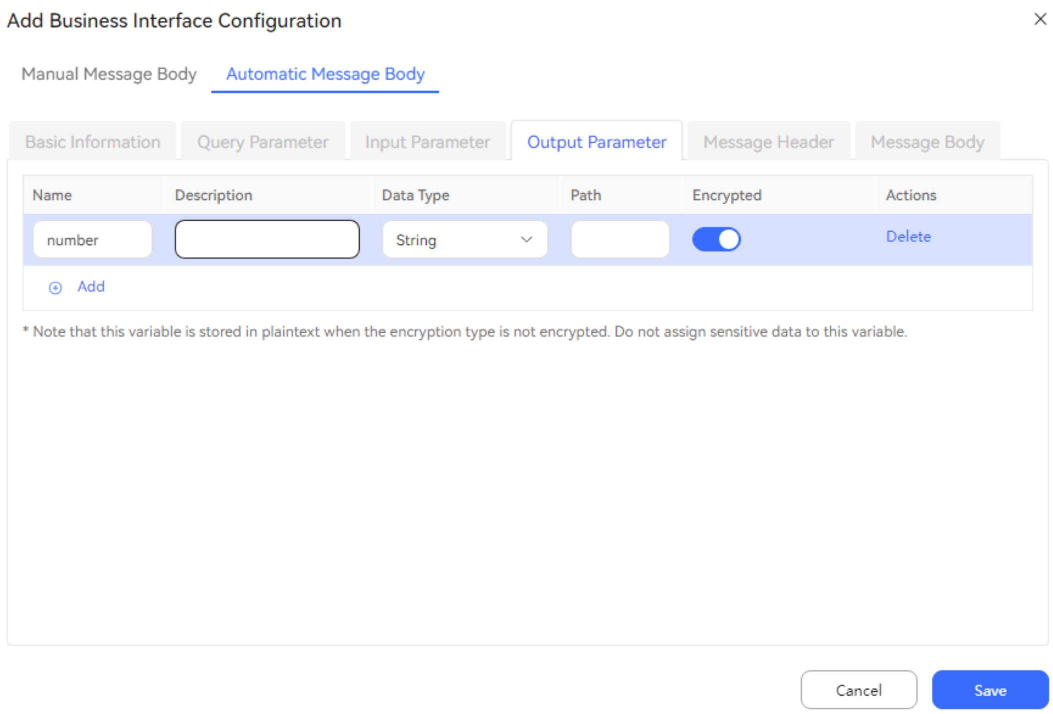
NOTICE

For security purposes, set **Encrypted** to **YES** if the interface message header contains personal data, such as the customer ID card number.

6. On the **Message Body** tab page, view the automatically generated message body. You can copy the generated message to the commissioning tool to check whether the interface can be invoked successfully.
7. Click **Confirm**.

Step 5 Add an interface by manually entering a message body.

1. Click the **Manual Message Body** tab. Set basic information about the interface to be invoked, including the interface name, request method, and request URL. For details about the parameters, see **Step 4.1**.
2. (Optional) If the interface has query parameters, add the query parameters, that is, *Interface request URL***?***Path parameter 1***=***Parameter value***&***Path parameter 2***=***Parameter value*.
3. Add interface output parameters. On the **Output Parameter** tab page, click **Add**. The output parameters of the interface are the same as those of the third-party system interface specifications.

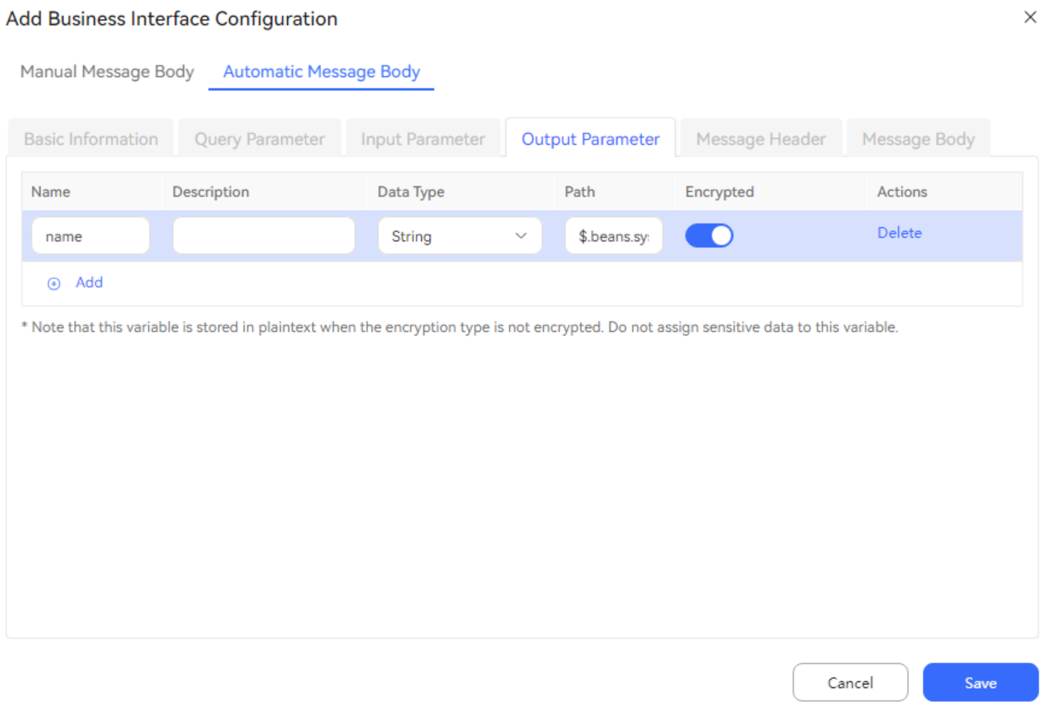


NOTICE

For security purposes, set **Encrypted** to  if the output parameter contains personal data, such as the customer ID card number.

The following figure shows how to set **Path**. To obtain the entire return result, set **Path** to **$**. To obtain a field, add **$** at the beginning and use periods (.) to separate each level. The level structure must be the same as the structure of the return result. Otherwise, the parsing fails, or the required field cannot be obtained.

Figure 2-91 Output parameter configuration example



4. (Optional) Add an interface message header. On the **Message Header** tab page, add the authentication information required by the interface. If the information does not exist, ignore this step. The authentication information is configured based on the specifications of the third-party system.

NOTICE

For security purposes, set **Encrypted** to **YES** if the interface message header contains personal data, such as the customer ID card number.

5. Add a message body. On the **Message Body** tab page, enter the request message body. The following is an example:

```
{
   "callId": "${businessReqId}",
   "provId": "202205130514",
   "busiType": "0",
   "params": {
      "tenantId": "${tenantId}"
   }
}
```

If a message body is manually entered, the input parameters cannot be manually added. Instead, the input parameters are automatically generated by parsing the message body content. In the preceding example, two input parameters **businessReqId** and **tenantId** are generated. The input parameters **businessReqId** and **tenantId** can be variables that need to be transferred when the interface is invoked in the subsequent flow.

6. Click **Confirm**.

----End

2.6.2.2.3 Adding Resource Templates

Resources include static voice files, TTS voice files, and SMS messages. Before orchestrating flows, you need to add the involved resources, including voice and SMS templates, to the system.

Context

Table 2-71 Description of the resources that can be added

Template Type	Description	Configuration Prerequisites
TTS	When **Reply Way** of the **Robot Reply** diagram element is set to **TTS**, the resource is configured for playing the configured text information using the TTS.	If the text contains parameters, ensure that the parameters to be used have values in the current step. For example, when a slot of a certain intention is used as a variable, the related value must be obtained before the step.
SMS	When the **SMS Sending** diagram element is used, you need to select a content template for sending SMS messages.	If the text contains parameters, ensure that the parameters to be used have values in the current step. For example, when a slot of a certain intention is used as a variable, the related value must be obtained before the step.
Static voice	When **Reply Way** of the **Robot Reply** diagram element is set to **Static voice**, the resource is configured for directly using the voice file on the server. The configuration here is for reference only.	Parameter variables cannot be configured. You need to upload the voice file with the same name of the template to the UAP file server first.

Template Type	Description	Configuration Prerequisites
Video file	When **Reply Way** of the **Robot Reply** diagram element is set to **Video**, the resource is configured for directly using the video file on the server. The configuration here is for reference only.	Parameter variables cannot be configured. You need to upload the video file with the same name of the template to the UAP file server first.
Card template	When **Reply Way** of the **Robot Reply** diagram element is set to **Card**, the resource is configured for directly using the card on the server.	You can select a card template only after it has been configured under **Configuration Center** > **Resource Management** > **Multimedia Library** in the AICC.
Multimedia	When **Reply Way** of the **Robot Reply** diagram element is set to **Multimedia**, the resource is configured for directly using the multimedia content on the server.	You can select a rich text, image, location, or other templates only after it has been configured under **Configuration Center** > **Resource Management** > **Multimedia Library** in the AICC.

Template Type	Description	Configuration Prerequisites
WhatsApp Interactive Messages	When **Reply Way** of the **Robot Reply** diagram element is set to **WhatsApp Interactive Messages**, the resources configured here need to be used.	To set the template content, choose **Configuration Center** > **Resource Management** > **Multimedia Library** > **Card Template** > **WhatsApp Interactive Messages**.

According to **Table 2-69**, you need to add a reply template for the **Robot Reply** diagram element. The following describes how to add a reply template for determining whether to change the date.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Resource Template**. Click **New**.

Step 3 Set **Name**, set **Type** to **TTS**, set **Content** as follows, and click **Confirm**.

In the integration environment, after the template type is set to **TTS**, the template is selected from a selection box. You need to choose **Configuration Center** > **Resource Management** > **Audio and Video**, add a TTS text, and submit the text for approval. After the system administrator approves the text, you can select the text from the selection box. Only IVR voice files in the current language are displayed in the selection box.

Figure 2-92 Resource template configuration page (integration environment)

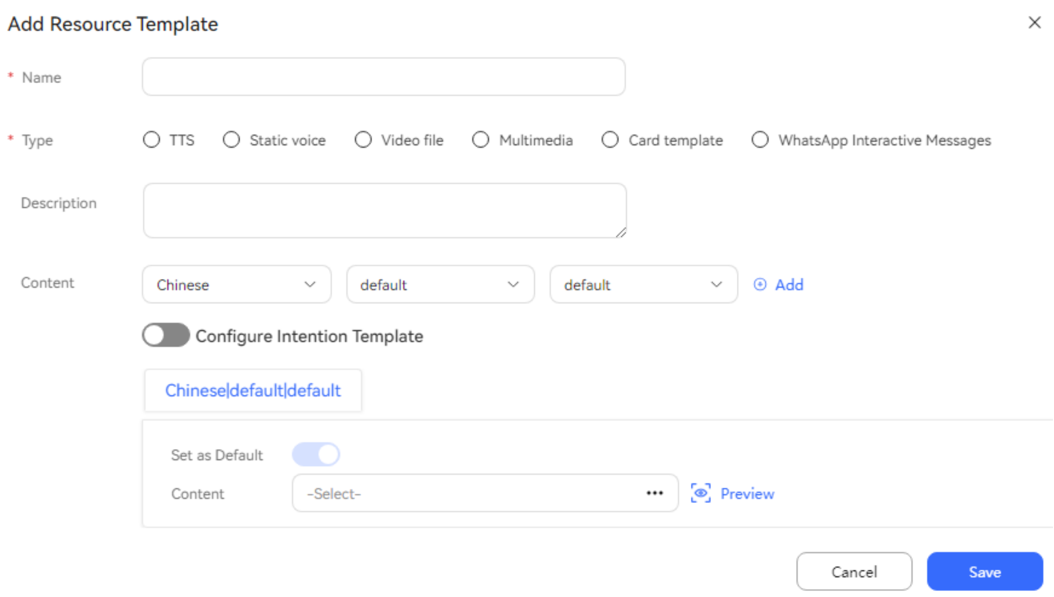
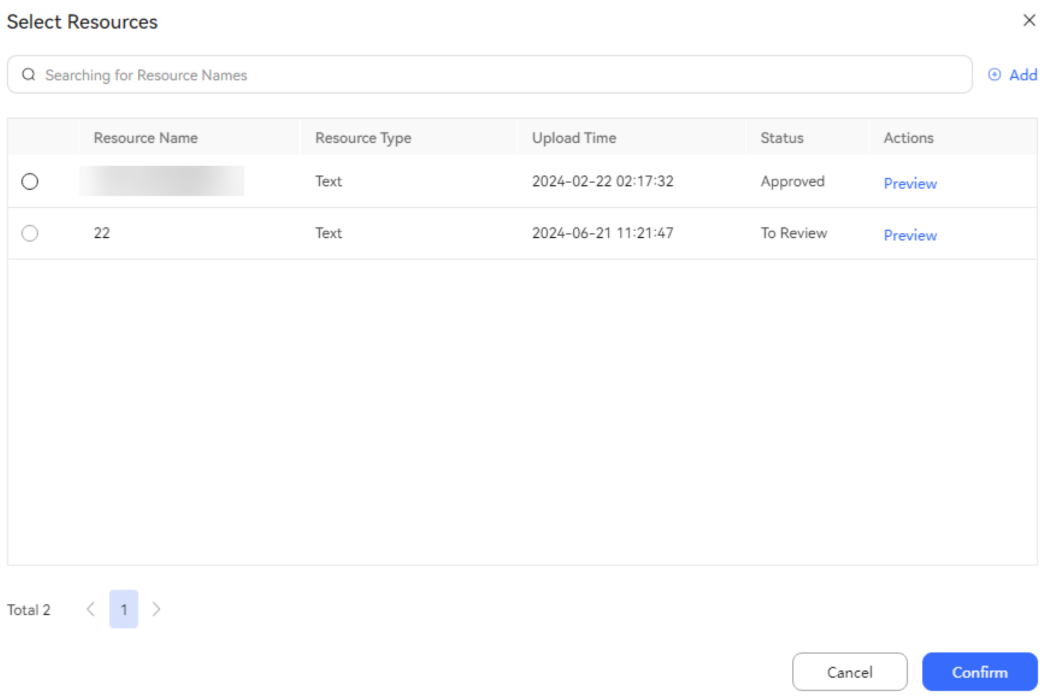


Figure 2-93 Selecting the template content



NOTE

The **Configure Intention Template** switch provides a simple tree-structured intention adding entry for guiding flow configurations in the intelligent agent assistant scenario. This function is not enabled in the current version.

----End

Reference

To configure the dialog template for intelligent recommendation, you can obtain required information by querying customers with the intention list in the resource template.

2.6.2.2.4 Adding an Intention

An intention can be understood as a question of a customer. The customer can achieve a certain goal such as seat booking using one or a group of intentions. During IVR flow orchestration, if the semantic recognition service diagram element is selected, the intention template needs to be configured for the semantic recognition diagram element to recognize customer intentions.

Intentions can be classified into the following types:

- General Intention: intention driven by corpora. The general intention is the most commonly used. It is usually configured when the **Semantic Recognition** diagram element is used to recognize the semantic content in the customer statements in a dialog flow.

- Unknown Intention: intention selected when customer input is not recognized. Each domain needs this type for the intentions not matched in the domain. The unknown intention is preset.
- Event Intention: intention selected when a specific event is triggered. For example, if a sensitive word configured in the system exists in customer statements, the **Sensitive Word** event is triggered. The event intention is usually used to match specific events and return the matched events. The **Sensitive Word** and **Clear Context** event intentions are preset.

NOTE

What are the differences between a general intention and an unknown intention?

A general intention is a common intention that contains corpus information. For example, queries about weather and air tickets are general intentions. An unknown intention is an intention that is not recognized and contains no corpus information. It contains only response information.

You need to understand the following concepts during the intention configuration:

- Corpora are all possible statements of customers for an intention. For example, you need to prepare a template for playing music for customers. In this template, all possible statements related to music playback need to be listed, for example, "Play music for me" and "Play a song".
- For details about how to add a common corpus, see **Step 3.4**. For details about how to add a rule corpus, see **2.6.2.6.12 How Do I Use a Rule Corpus?**.

  NOTE

  Corpora are classified into corpora and rule corpora. What are the differences between a corpus and a rule corpus?

  - Corpus: all possible statements of customers for an intention.

    Slots can be marked in a corpus. When marking slots directly, use a corpus.
  - Rule corpus: corpus that is configured to match the customer input. A rule corpus cannot mark slots, but can be applicable to all expressions of the same sentence. When expressing statements in fixed sentence patterns, use a rule corpus. For example, in **[Help me|I want to] (subscribe to a data package|subscribe to the broadband service)**, the square bracket defines optional rules, the vertical bars (|) indicate multiple choices, and the parentheses define mandatory parts. In this case, **subscribe to a data package** and **subscribe to the broadband service** can be recognized through the **Semantic Recognition** diagram element.
- **Slots** are parameters to be collected during dialogs. For example, to implement a train ticket booking intention, a customer needs to provide information such as the departure city, arrival city, and departure time. Such details are called slots. To obtain a customer intention, you can obtain customer information, such as the time, location, and category, and add the information as slots.
- **Entities** refer to words that can be understood as parameter values in the voice content of a customer. For example, such words can be **3 kilograms** and **apple** in the content **I want to buy 3 kilograms of apples** or **one**, **tomorrow**, and **Beijing** in the content **One train ticket to Beijing tomorrow**. The difference of the entity and slot is as follows: A slot represents the nature of an intention. An entity is not dedicated to an intention but used to fill a slot. In this way, modeling is performed for parameters and values separately.

Based on **Table 2-69**, you need to add two intentions and two entities. You can use the two preset entities. The following describes how to add an appointment intention.

Procedure

Step 1 Add a domain. For details, see **2.6.2.4.5 Adding Domains**.

Step 2 Add a doctor entity and department entity. For details, see **2.6.2.4.6 Adding Entities**.

Figure 2-94 Adding a doctor entity

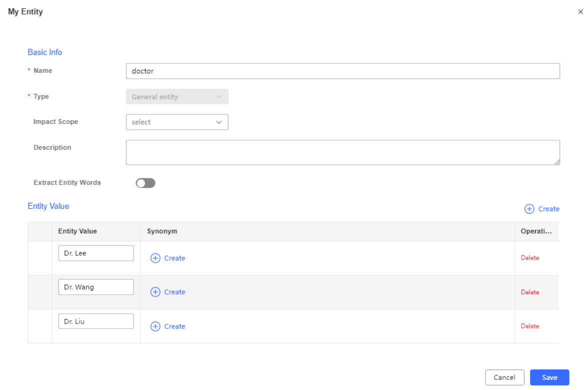
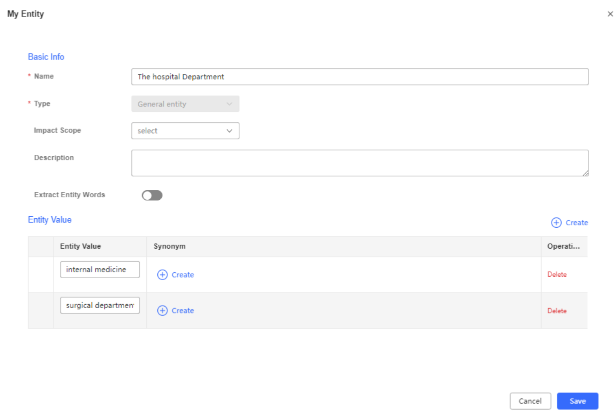


Figure 2-95 Adding a department entity



Step 3 Add an appointment intention.

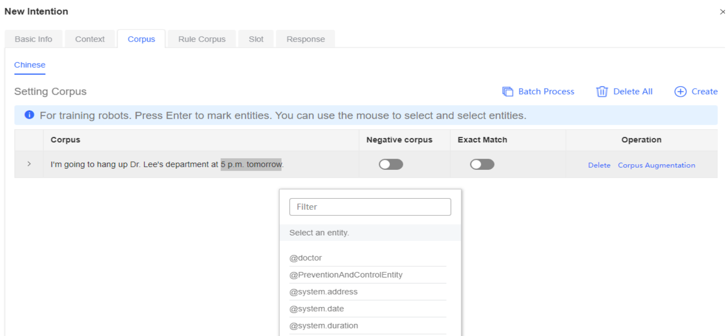
1. Go to the new domain, click **Create**, and choose **General Intent**.
2. Enter an intention name, for example, **Appointment**.
3. On the **Context** tab page, click **Create** in the **Input Context** area to add a context for the current intention. In this example, no context is added.

   Context indicates that the robot processes multiple groups of statements as the same round of dialogs based on the value in a multi-round dialog. When an intention is specified, character strings configured in the context can be used to locate it.

   An intention context can be understood as the dialog memory of a robot. A robot identifies and handles multiple rounds of dialogs that have the same context as one task. For example, by multiple rounds of Q&A, a robot successively obtains the departure time, departure location, and destination for flight reservation. When the robot receives other contexts in the flight reservation context, such as a weather query context, the robot switches to a new intention that corresponds to the customer's questions. In this way, multi-intention conversion is realized.

4. On the **Corpus** tab page, click **Create**.

   Analyze the customer's possible answers and add the answers to the corpus. For example, if the customer may answer "I want to appoint Dr. Li's Internal Medicine at 16:00 tomorrow afternoon", double-click the text box and enter **I want to appoint Dr. Li's Internal Medicine at 16:00 tomorrow afternoon**. Then, select **tomorrow afternoon** and choose **@system.date** from the displayed menu, and select **16:00** and choose **@system.time** from the displayed menu.

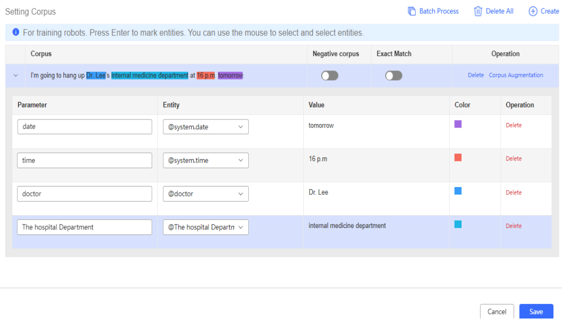


NOTE

How to mark a slot?

After the corpus is entered, press **Enter** to automatically mark the slot. However, some corpora are special (such as this example), that is, the slot that is automatically marked after you press **Enter** does not meet the requirements. Therefore, you need to manually mark the slot.

You can add the following corpus information.

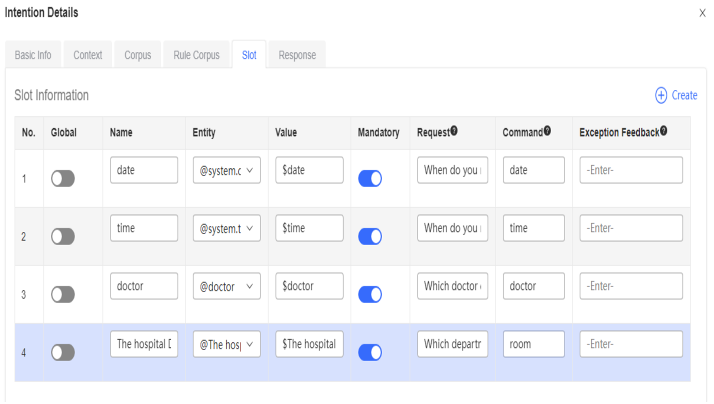


5. On the **Slot** tab page, set the slot name, whether the slot is mandatory, and the question information provided by the system when the slot information is missing.

   The name of the slot will be part of the slot variable name used during flow orchestration.

NOTICE

The complete time, date, department, and doctor must be provided to confirm an appointment. Therefore, the four slots are mandatory. Enable **Mandatory** for them.

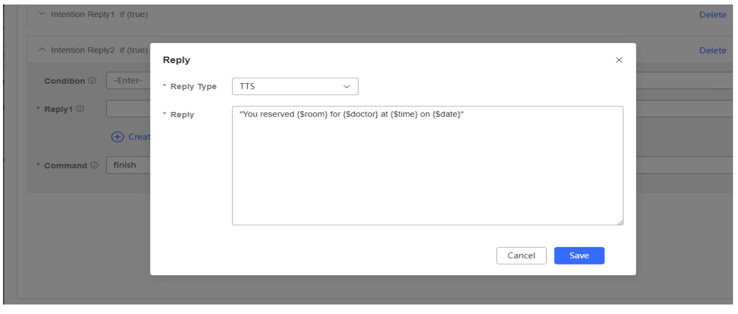


6. On the **Response** tab page, click **Add**, and configure the command word returned after the intention matching succeeds.

   Response means the text or command word to be reported when the intention is matched. A response can return different texts or command words depending on the condition expressions. When you need a matched intention to return prompt information to the customer, configure the TTS. When you need a matched event to be written into *TOC.IntentCode* and returned to the invoker (for example, the dialog flow), configure the command word.

   Click the **Command** text box, and set it to **finish**.

   Click Create, set **Reply Type** to **TTS**, and set **Reply** to **You have appointed {$doctor}'s {$room} at {$time} on {$date}**.



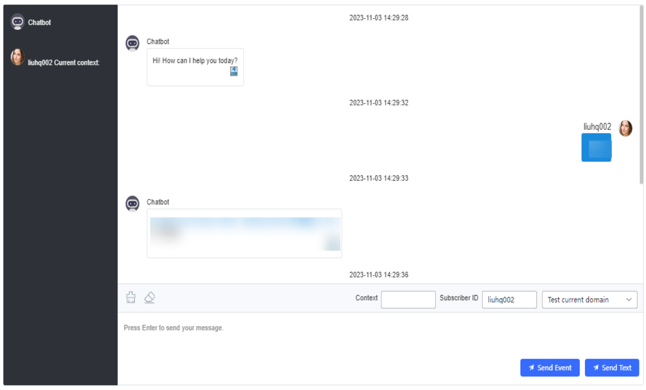
7. Click **Save** in the lower right corner.

8. Click **Train** in the upper right corner. A message is displayed, indicating that the training is successful.
9. Click **Test** in the upper right corner to test the current intention.

   If you have configured the context when adding an intention, enter the configured context in the context text box on the chat page before asking the robot. Otherwise, you do not need to enter the context.

   During the test, ask the robot based on your corpus and check the robot reply. If the following information is displayed, the matching is successful.

   Test Chatbot



----End

2.6.2.2.5 Adding Flows

A flow represents an IVN task. You need to connect your intentions and voice replies in the entire flow to provide the self-service voice service for customers.

Flows are classified into main flows and subflows. No obvious business logic division is available for main flows and subflows. A recommended scenario is as follows:

Only one main flow can be configured for a tenant space. If no flow is associated with the access code in **2.6.2.2.9 Configuring a Robot**, the customer is connected to the main flow directly.

Subflows can be used in other scenarios.

For details about the description and usage of each node in the flow, see **2.6.2.5.1 Diagram Elements**.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Flow** > **Orchestration** and click **New**.

Step 3 Set the flow template to **Blank Flow**. A blank template is used as an example to describe the usage of common diagram elements.

NOTE

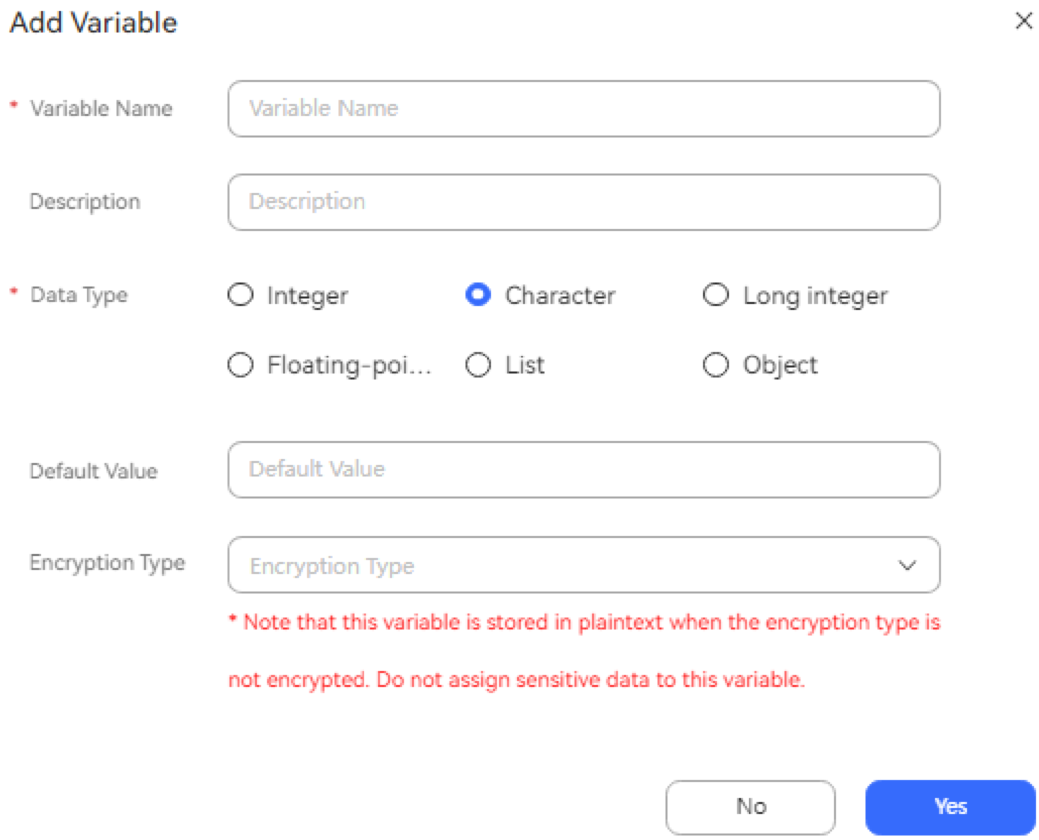
What are the benefits of using a flow template?

The flow templates for inbound and outbound calls are preset, including complete recognition nodes, recognition parameters, and branch conditions for processing logic that fails to recognize an intention for three times. You only need to add the corresponding reply templates, variables, and branch condition values for the flows. You can use a template to quickly configure a robot in corresponding scenarios.

In the Thai environment, the inbound call flow template and outbound call flow template cannot be selected.

Step 4 Set flow parameters.

1. Click **+** in the **Flow Variable** area.
2. In the dialog box that is displayed, set **Variable Name** and **Data Type**.



This variable is used to store data in other diagram elements. According to the plan, you also need to add the following variables:

- **welcome**: greeting. The value is a string. The default value is **Welcome to the self-service appointment system**.
- **answer**: reply variable for the question asking for the appointed department or doctor or the new date. The value is a string. There is no default value.
- **room**: variable for asking for the appointed department. The value is a string. The default value is **Currently, the available departments are Internal Medicine and Surgery**.

- **doctor**: variable for asking for the appointed doctor. The value is a string. The default value is **Dr. Liu and Dr. Li are on duty in the current department**.
- **check**: variable for asking whether to confirm the appointment information. The value is a string. The default value is **Are you sure you want to confirm the preceding information?**
- **docSlot**: appointed doctor. The value is a string. There is no default value.
- **roomSlot**: appointed department. The value is a string. There is no default value.
- **dateSlot**: appointed date. The value is a string. There is no default value.
- **timeSlot**: appointed time. The value is a string. There is no default value.
- **ask**: customer reply, which is used for semantic recognition and intention matching. The value is a string. The default value is **Appoint ${FLOW.docSlot}'s ${FLOW.roomSlot} at ${FLOW.timeSlot} on ${FLOW.dateSlot}**.
- **default**: default reply when no intention is matched. The value is a string. The default value is **Excuse me, please say it again**.
- **thanks**: thank-you message. The value is a string. The default value is **The appointment is successful. Thank you. Goodbye**.

3. Select an encryption type and click **Confirm**.

NOTICE

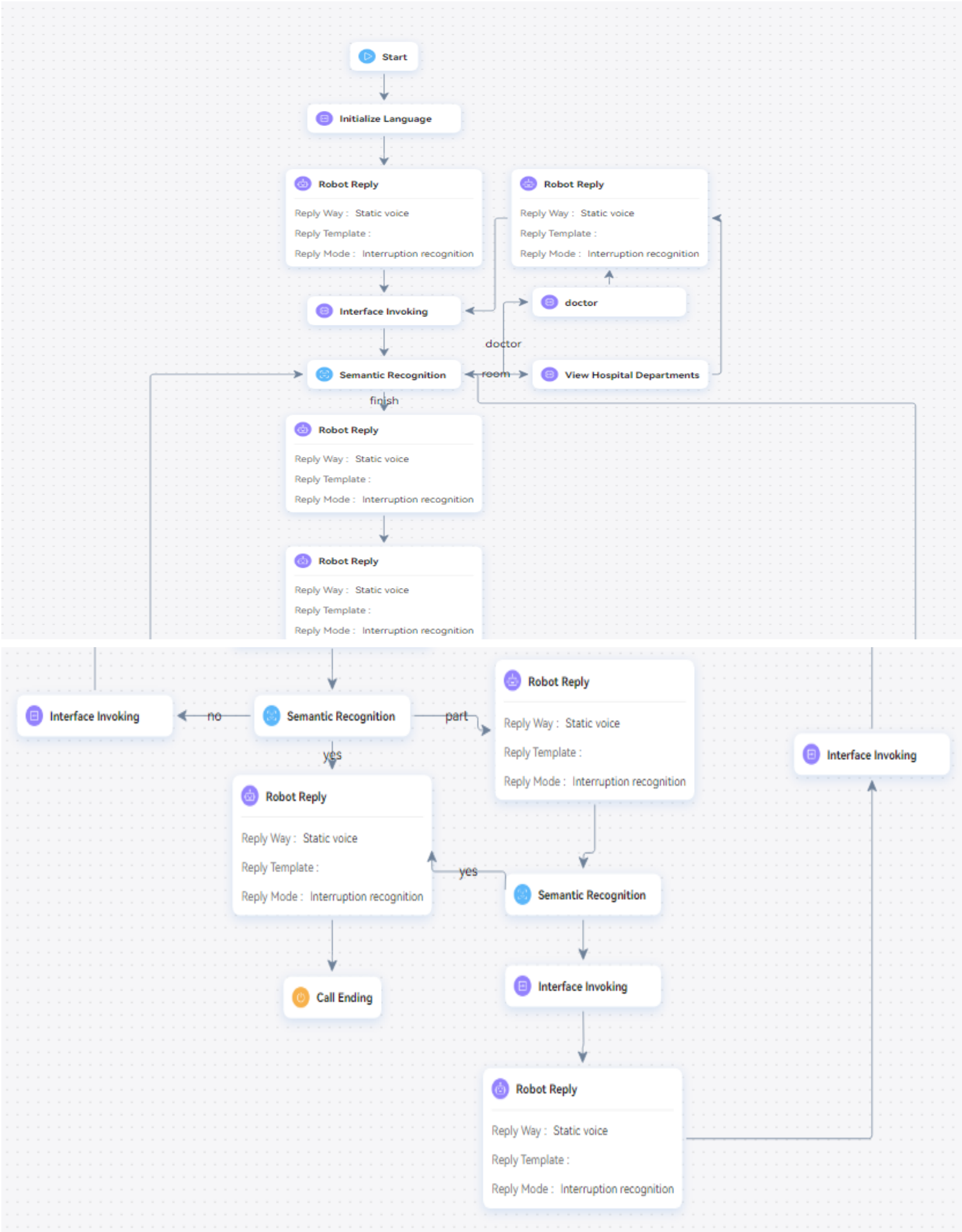
For security purposes, set **Encryption Type** to **Encrypted for storage and decrypted upon retrieval** or **Encrypted for storage and retrieval** if the flow variable contains personal data, such as the customer ID card number.

Step 5 Drag the corresponding diagram elements to the canvas on the right and connect the diagram elements based on **Figure 2-89** and **Table 2-69**.

The following figure shows the flow after the configuration is complete. When configuring a flow, you can right-click the canvas to move the canvas on the page.

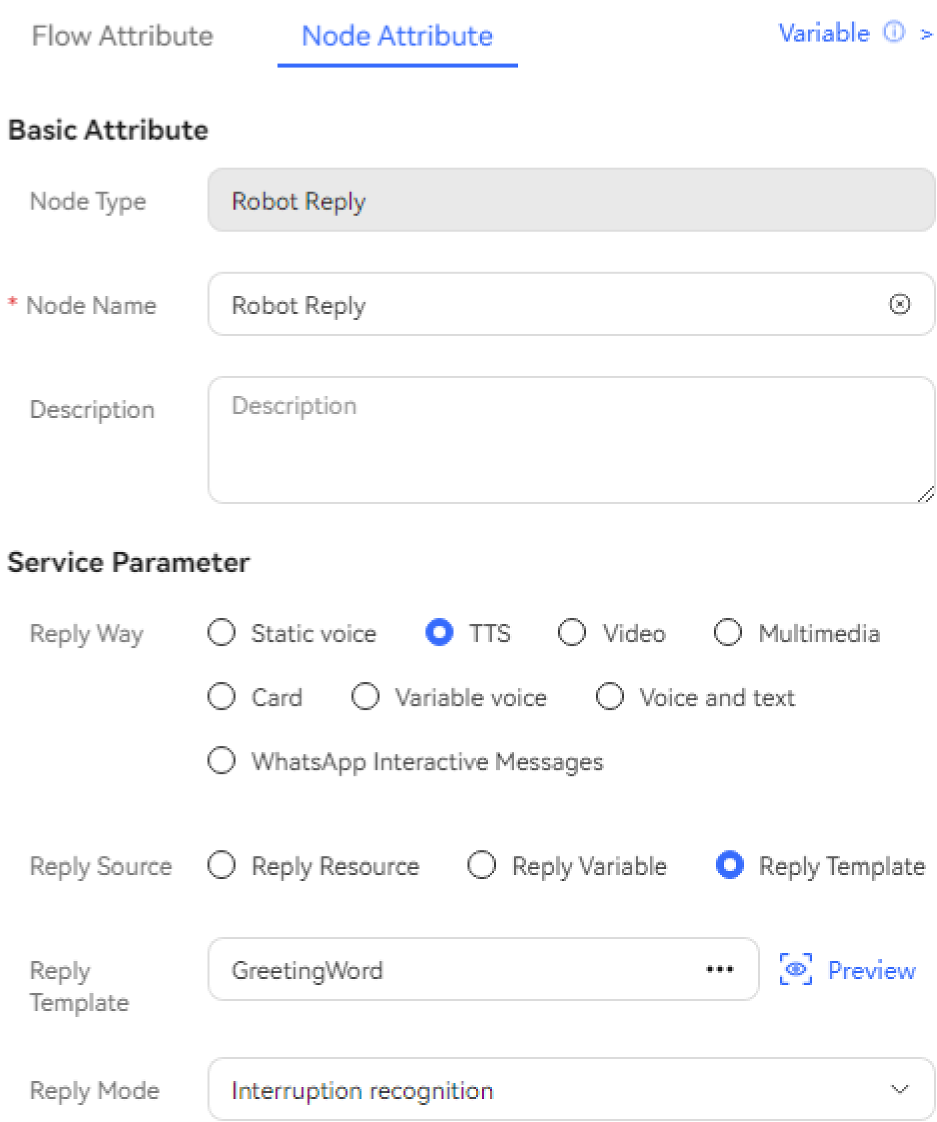
NOTE

After condition judgment is performed on a diagram element, you need to add a branch without selecting a condition name, that is, the default branch. Ensure that the IVR flow can find the next node when other conditions are not met.



Step 6 Configure information for each node and connection in sequence. The configuration methods of diagram elements of the same type are similar. This section describes only one diagram element of each type. For other configurations, complete them based on **Table 2-69**.

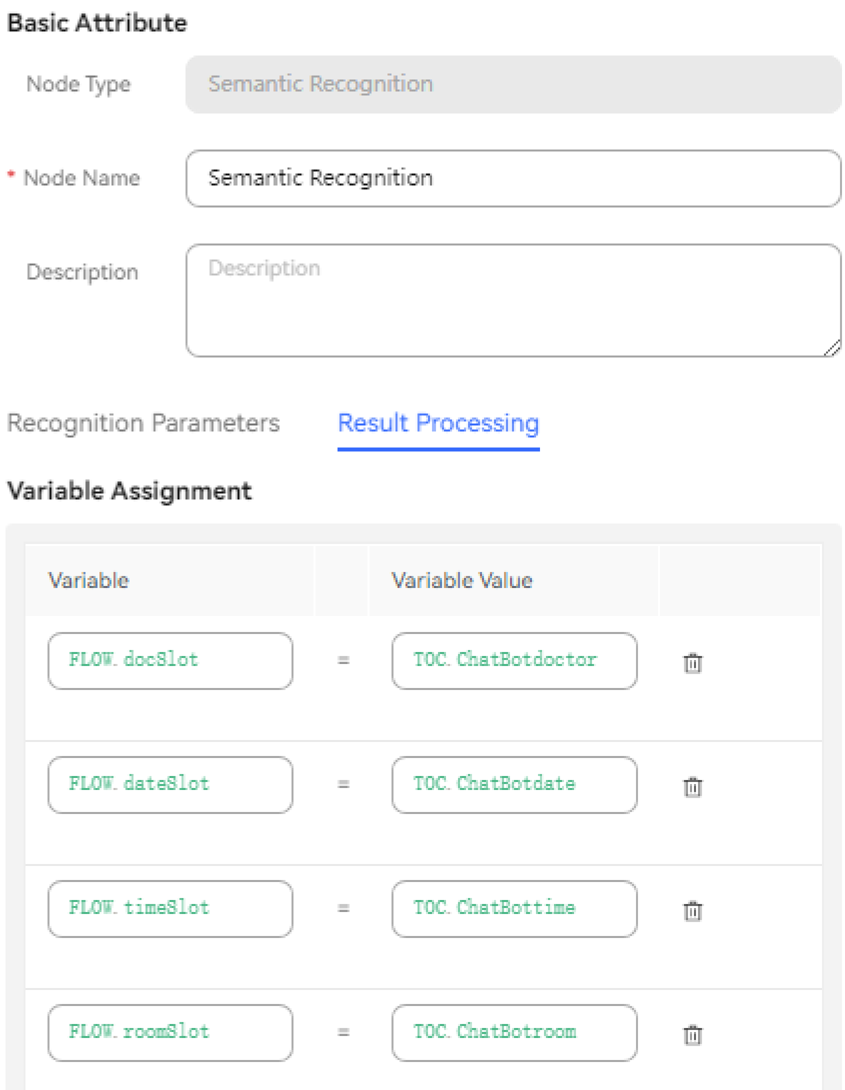
1. Configure a flow to ask whether to change the appointed date.



Set **Reply Way** to **TTS**, and select the template configured in **2.6.2.2.3 Adding Resource Templates** for **Reply Template**.

If **Reply Mode** is set to **Interruption recognition**, the customer can speak before the voice playback ends, which saves the service time.

2. Configure the **Semantic Recognition** node.

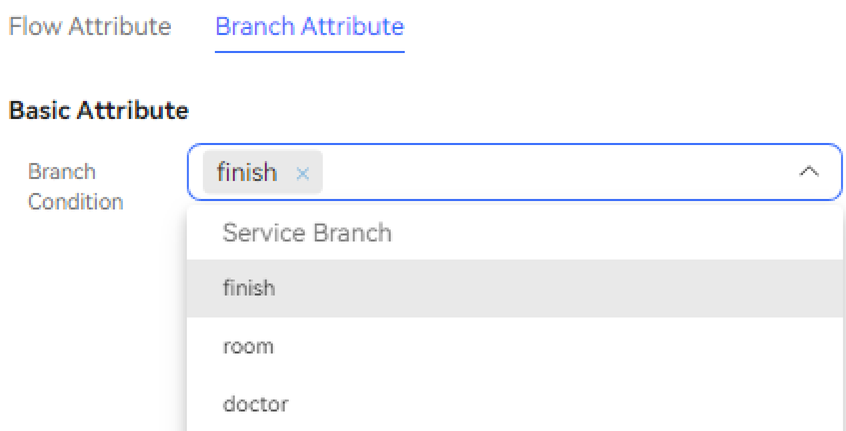


The configuration indicates that the diagram element has a branch based on the returned result. That is, the branch whose intention code is **finish** is matched successfully, and the values of the slot variables **doctor**, **date**, **time**, and **room** in the matched intention are assigned to the flow variables **docSlot**, **dateSlot**, **timeSlot**, and **roomSlot**.

NOTICE

If an intention has multiple slots (for example, book time query node), you need to set **Event** to **Clear Current Context Cache** during semantic recognition setting. Besides, judgment control needs to be performed in the flow. For details, see **2.6.2.6.4 How Do I Configure the Scenario Where Multiple Slots Are Filled Repeatedly?**. In this example, for ease of understanding, the case of multiple rounds of slot filling is not considered.

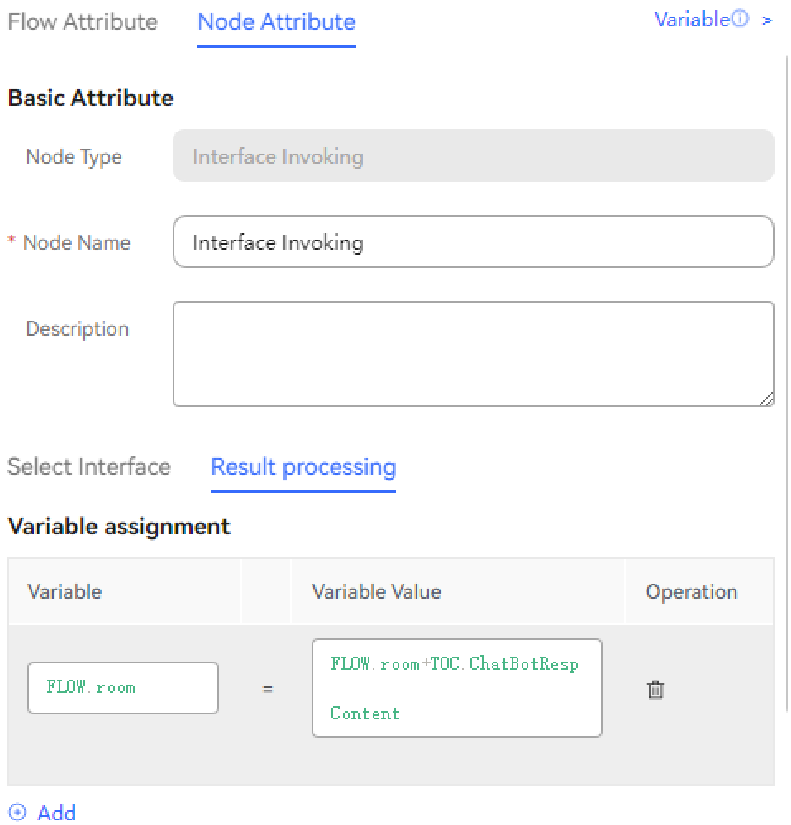
3. Click the connection line between the **Semantic Recognition** and **Robot Reply** diagram elements (the voice recognition matches the reply information configured in the intention response), and select the branch corresponding to the connection line as the branch configured in the previous step.



4. Configure the **Interface Invoking** node.

   If the **Business Interface Invocation** diagram element is applied to the interface invocation scenario, you need to select an interface configured in **2.6.2.2.2 Adding Business Interfaces**. Set input parameters of the interface.

   In this scenario, real interfaces do not need to be invoked. The **Business Interface Invocation** diagram element is used to add cache variable names.



Step 7 After diagram elements are configured and connection lines and branches are correctly selected, click **Save** on the top of the canvas.

----End

2.6.2.2.6 Importing Flows

In the following scenarios, importing flows is more convenient, efficient, and secure than manually adding flows:

Business scenario 1: Import historical data. When the company introduces a new system, the retained data of previous years needs to be imported into the system.

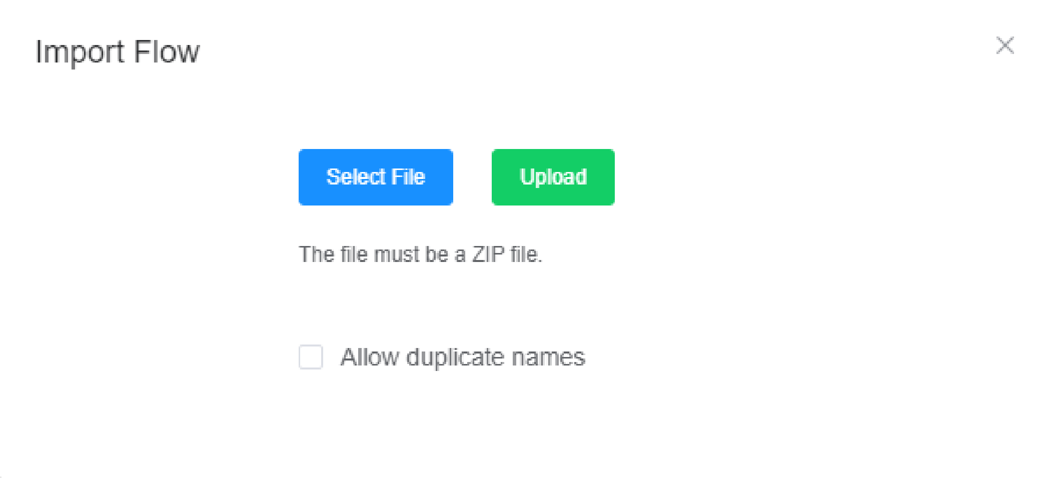
Business scenario 2: Import summary data. Due to permission issues, not everyone can use the system. Therefore, data needs to be summarized level by level and imported into the system by a specific person.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Flow** > **Orchestration** and click **Import**. The **Import Flow** dialog box is displayed.

Figure 2-96 Import Flow



Step 3 Click **Select File**, select the file to be imported, click **Upload**, and click **Confirm**.

NOTE

1. In the ZIP package, each file must be in JSON format, and its size cannot exceed 4 MB. Otherwise, the import fails.

2. The size of the ZIP package must be less than 20 MB. Otherwise, the import fails.

3. In a JSON file, the request URL of the business interface and the database URL in the stored procedure must be added to the trustlist. Otherwise, the import fails. Contact the administrator to configure the trustlist.

----End

2.6.2.2.7 Adding Gray Rules

A gray rule indicates that a publishing rule can be specified when a flow is published so that a customer who meets the rule can experience the flow. A number segment can be specified for the current gray rule, which is used in the test phase.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Gray Rule** and click **Create**.

Step 3 Configure a number segment for the gray rule and click **Confirm**.

----End

2.6.2.2.8 Publishing a Flow

The newly added flow is in draft state. You need to publish the flow for the flow to take effect. To modify a published flow, you need to bring the flow offline, edit the flow, and publish the flow again.

Currently, the system supports gray release and official release. The difference is that only customer numbers that meet the gray rules can use the flow after the gray release is complete.

Currently, the flow of the silent agent system can be connected. When the silent agent system is connected, you can set **Work Mode** to **Monitor** (silent agents only view the replies of the robot), **Insert** (silent agents assist the robot in replying), or **Common** (default).

Procedure

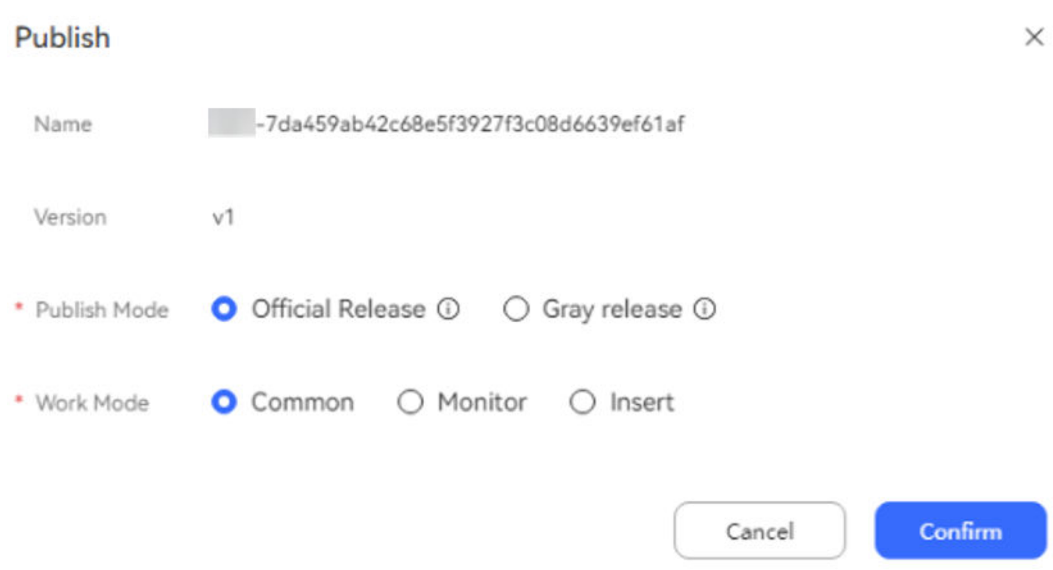
Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Flow** > **Orchestration** and click **Publish** corresponding to the flow to be published.

NOTE

You can also go to a specific flow page and click **Save and Publish** on the top of the canvas to publish a flow.

Step 3 Set publishing parameters and click **Confirm**, as shown in the following figure.



----End

If features need to be modified in a published flow, you are advised to click **Upgrade** to save the current flow as a new version. After the new version is modified, bring the old version offline and publish the new version.

2.6.2.2.9 Configuring a Robot

After the flow is published, associate your flow with the robot to generate the robot access code. Then, choose **Configuration Center** > **Access Configuration** > **Called Party** to bind the robot access code. Your customer service hotline consists of the access code and extension code.

The OIAP supports the access in the following scenarios:

- **Voice navigation**: applicable to the general voicebot scenario.
- **Intelligent outgoing call**: applicable to the scenario where a flow is automatically triggered during outbound calls.
- **Chatbot**: applicable to the scenario where a chatbot is used.
- **IVR flow**: applicable to the scenario where the AICC is connected.

In this example, the first scenario is used.

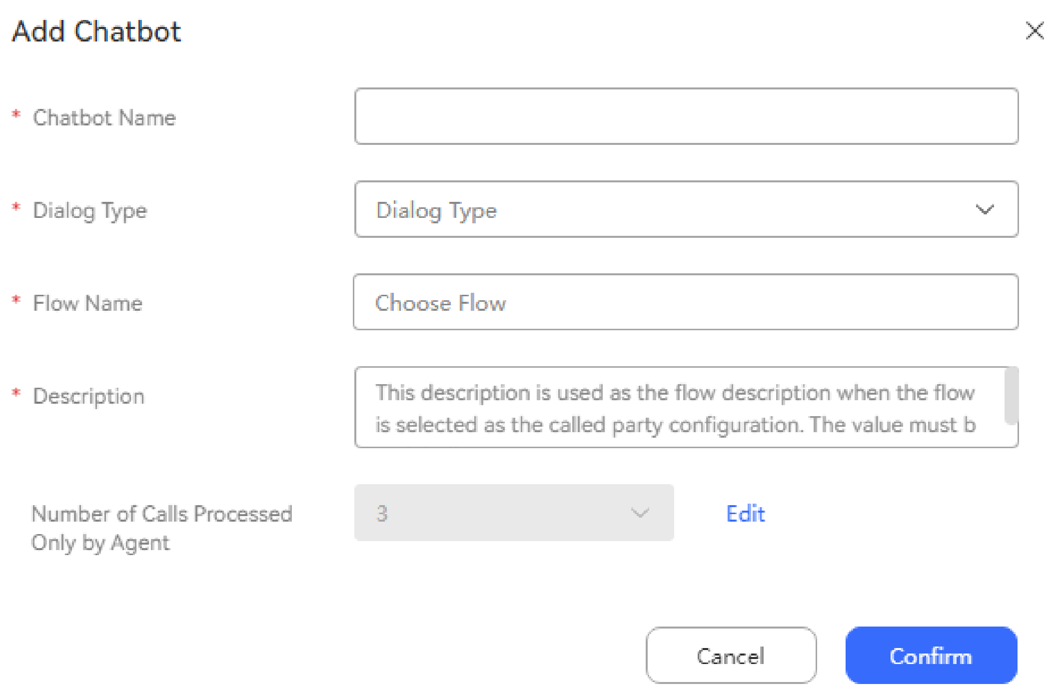
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Intelligent Chatbot**. Click **New**.

Step 3 Enter information by referring to the following figure and click **Confirm** to save the configuration.

Figure 2-97 Add Chatbot



- **Chatbot Name**: Enter a customized name.
- **Chatbot Access Code**: Enter an identifier for associating with the flow when a called route is added in the IVR or AICC.
  – In the public cloud scenario where the OIAP is integrated with the AICC, this code is automatically generated. The system automatically synchronizes the flow access code information to the WAS console.
- **Dialog Type**: Select **Voice navigation**.

  The mappings between dialog types and scenarios are as follows:
  – When the robot interacts with a customer using voices, set **Dialog Type** to **Voice navigation**.
  – When the robot is connected to text chat platforms of the AICC as an intelligent chatbot, set **Dialog Type** to **Chatbot**.
  – When a robot survey is required for outbound calls, set **Dialog Type** to **Intelligent outgoing call**. This function is not enabled in the current version.
  – When the traditional key pressing function is required on the AICC, set **Dialog Type** to **IVR flow**. This function is not used on the OIAP. You can choose **Configuration Center** > **Flow Configuration** > **Flow** in the AICC to configure flows.
- **Flow Name**: Select a flow that has been orchestrated and published. If a flow has been upgraded for multiple times, that is, the same flow code has multiple versions, the drop-down list displays only one flow and does not display the version information. When a customer initiates a call, the backend selects a flow version based on the calling number of the customer. If the calling number of the customer is within the number range specified by the gray rule of a version, the flow of this version is preferentially selected. Otherwise, the default flow is selected.

- **Number of Calls Processed Only by Agent**: This parameter is used to distinguish the maximum number of calls directly transferred to manual service from the maximum number of calls transferred to manual service after consultation during report statistics. The default value is **3**.

NOTE

- How to match the flow only with the intention in the specified domain?

  When configuring the access code, set the ID of the specified domain. Ensure that the configured domain has been activated.

Step 4 Click ⋮ corresponding to the new robot and choose **Bind Domain** to set its domain range.

In addition, you can bind Q&As to the robot, and the robot preferentially matches the result of the Q&As.

----End

2.6.2.2.10 Testing a Robot

You can test your robot to determine whether your configuration is correct.

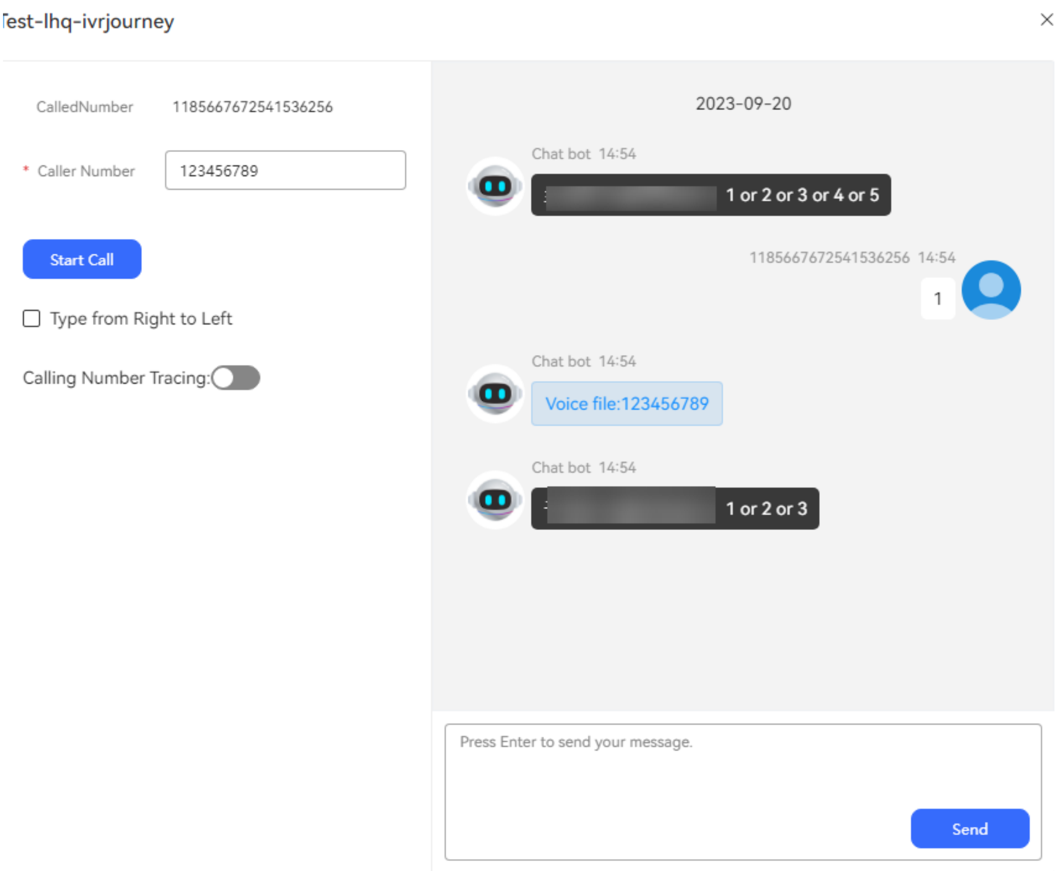
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Intelligent Chatbot**. Click **Test Call** in the last column corresponding to the access code to be tested.

Step 3 In the test dialog box that is displayed, click **Start Call**.

Figure 2-98 Testing a robot



----End

2.6.2.2.11 Viewing Flow Tracks

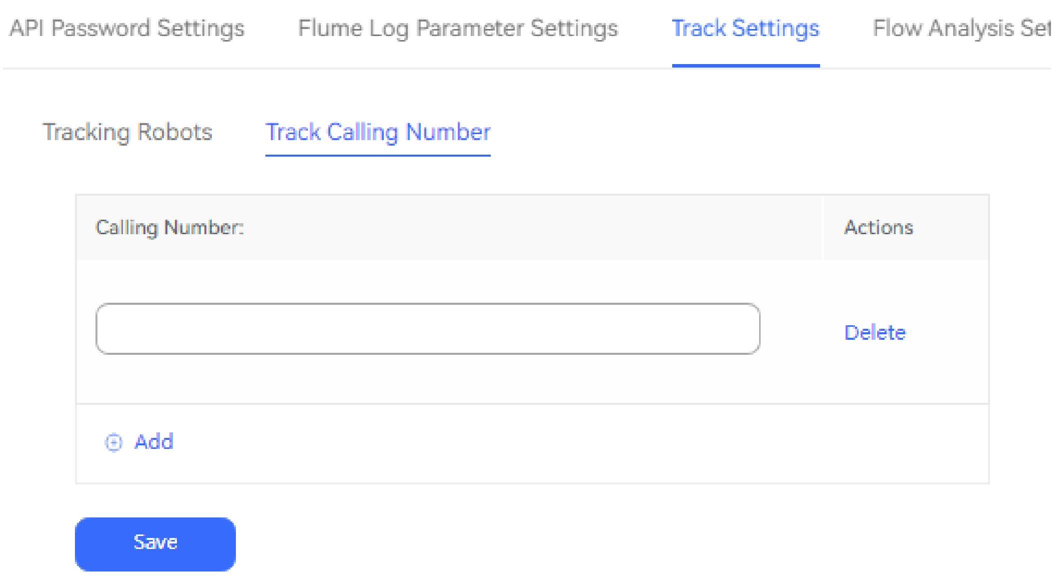
A flow track refers to the flow nodes that a call passes through after the call accesses the flow on the OIAP and the information returned by each node. When an error occurs in the test robot, you can use the test number to view the value change on each node in the flow track and locate the cause of the error.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Add the test number to the tracking trustlist.

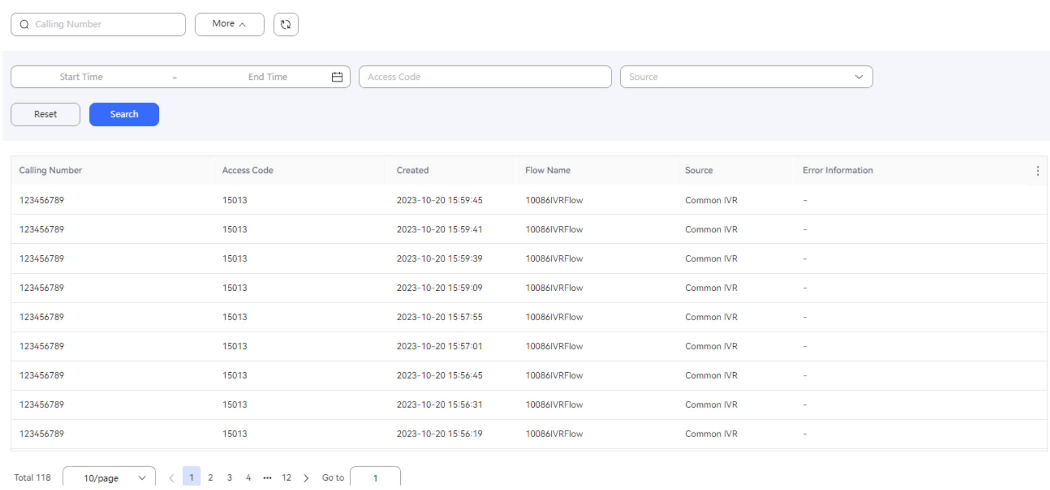
1. Choose **System** > **System Settings**. Click the **Track Settings** tab.
2. Click **Track Calling Number**, add a calling number, and click **Save**, as shown in the following figure.



3. Alternatively, click **Tracking Robots** and add a robot to track the flow based on the robot access code.

Step 3 Choose **Flow** > **Flow Tracking**.

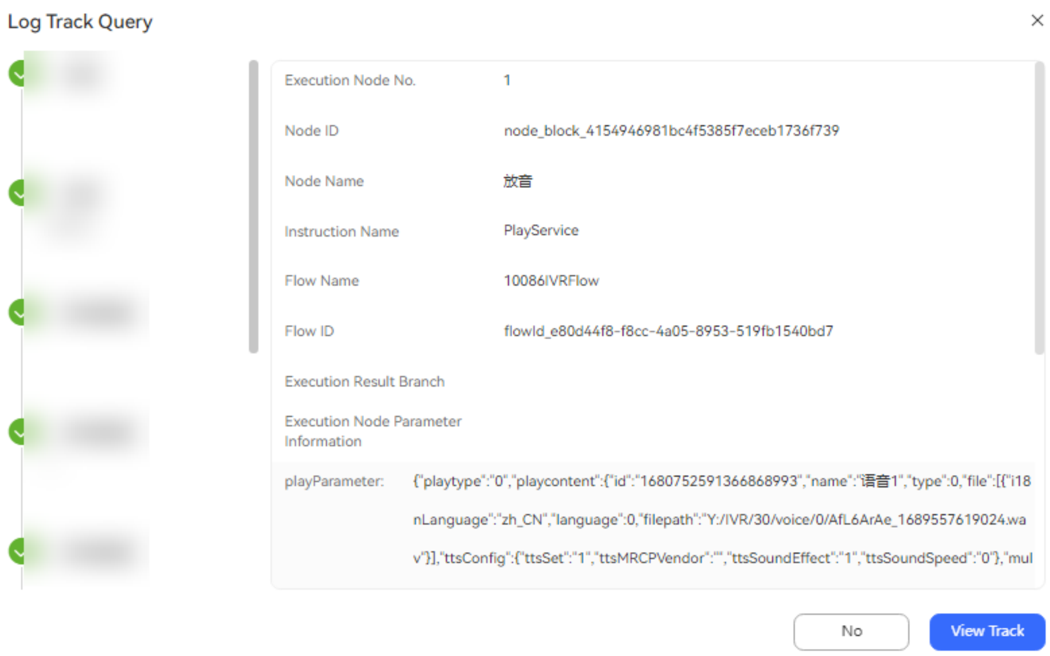
Step 4 Enter a calling number, set the tracking time range, and select an access code.



Step 5 Test the robot again by referring to **2.6.2.2.10 Testing a Robot**.

Step 6 Return to the **Flow Tracking** page, click **Search**, and click the record that is displayed.

Step 7 Click the node where the fault occurs in the flowchart, and view the log information and error information.



- Click **>>** next to **Current node information** for details.
- Or click **View Current Flow Track** below. On the page that is displayed, view the configurations of the flow node.

----End

Follow-up Procedure

Choose **System** > **System Settings**. On the **Track Settings** tab page, delete the added calling number.

2.6.2.2.12 Performing Dialog Tests

If you already have a large number of intelligent robots and need to frequently test whether these robots function properly, you can create dialog test cases, execute them in batches, and check whether functions are normal based on the results.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Dialog Test**.

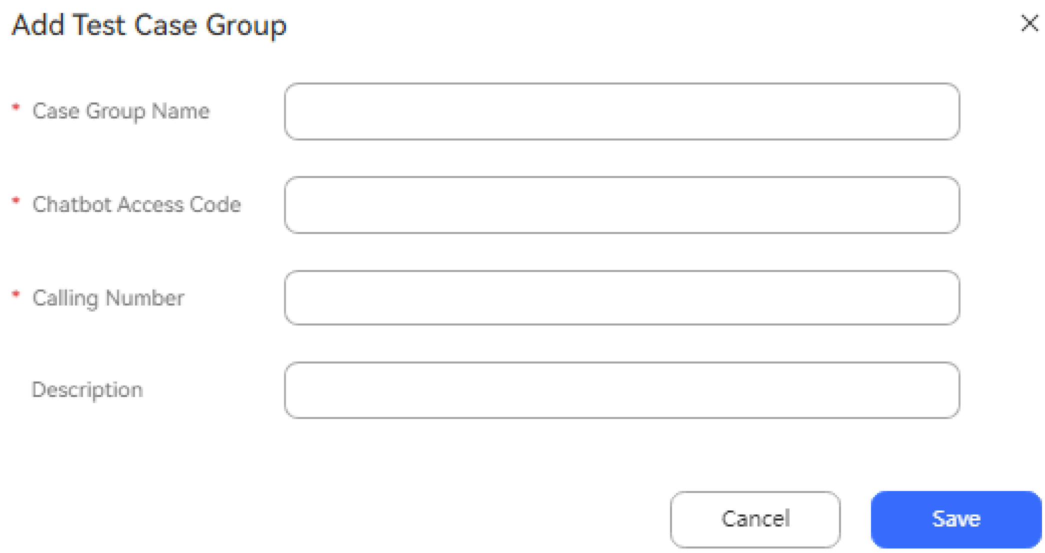
Step 2 Create a test case group.

1. Click 

, enter test case group information, and click 

. The test case group is successfully created.

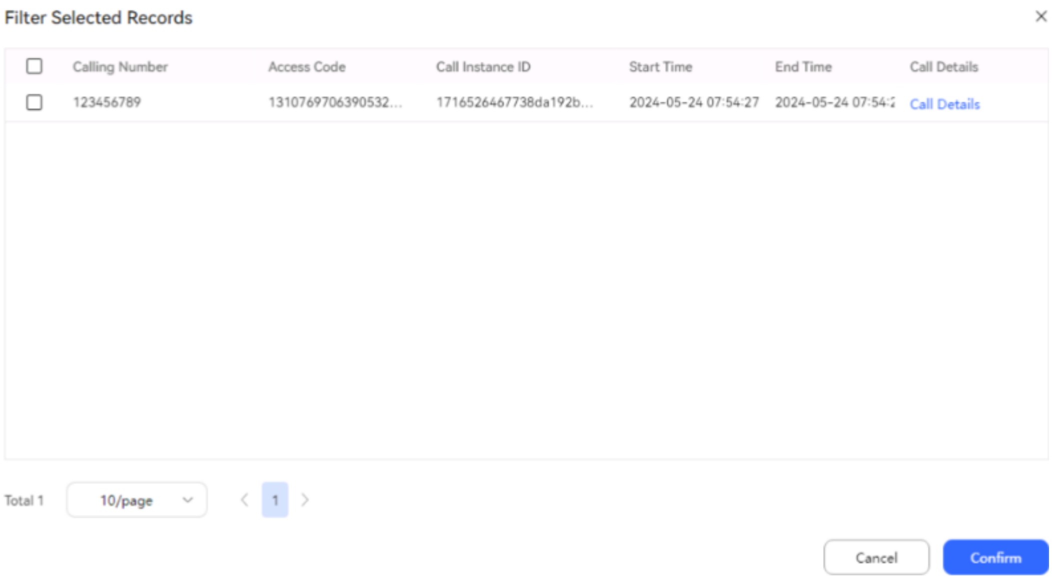
Figure 2-99 Add Test Case Group



2. Alternatively, click **Batch operation** and choose **Generate Case** to generate a test case group in the **Initialize** state. Click  to filter selected records.

Figure 2-100 Generate Dialog Case

Figure 2-101 Filter Selected Records



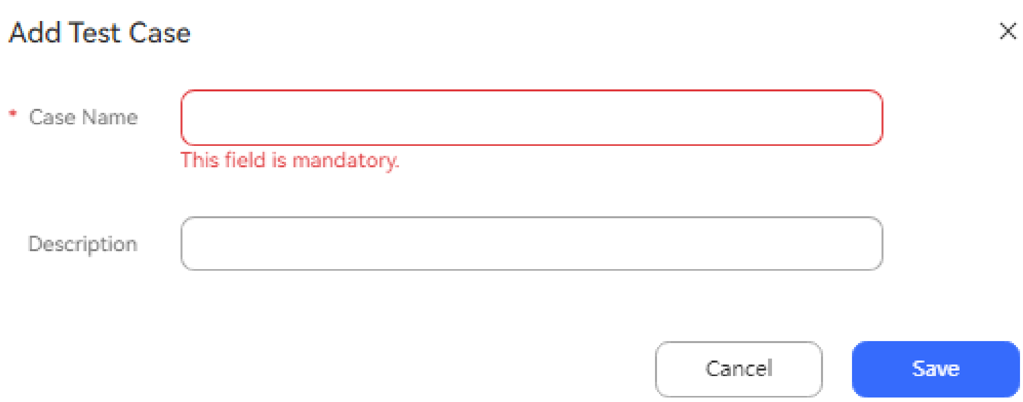
NOTE

The filtering function can be used only if the **oifde.chatrecord.switch** parameter in the configuration file is enabled.

Step 3 Create a test case.

1. Click **Manage** corresponding to the new test case group. The **Manage Test Case** dialog box is displayed.

Figure 2-102 Add Test Case

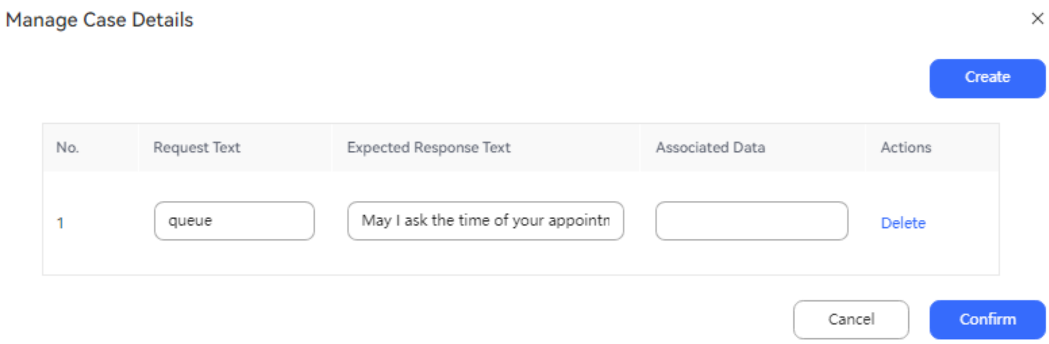


2. Click 

 to create a test case.
3. After a test case is created, in the **Manage Test Case** dialog box, click **Manage** corresponding to the new test case, create call content information, and click 

.

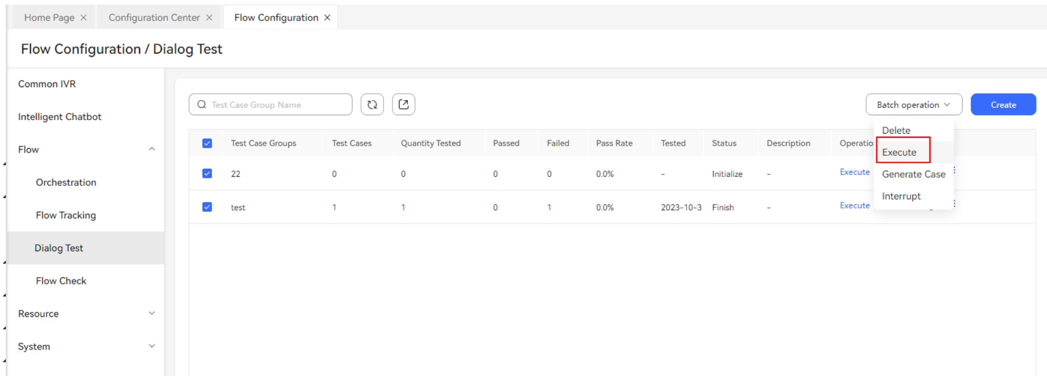
Figure 2-103 Manage Case Details



Step 4 Perform a dialog test.

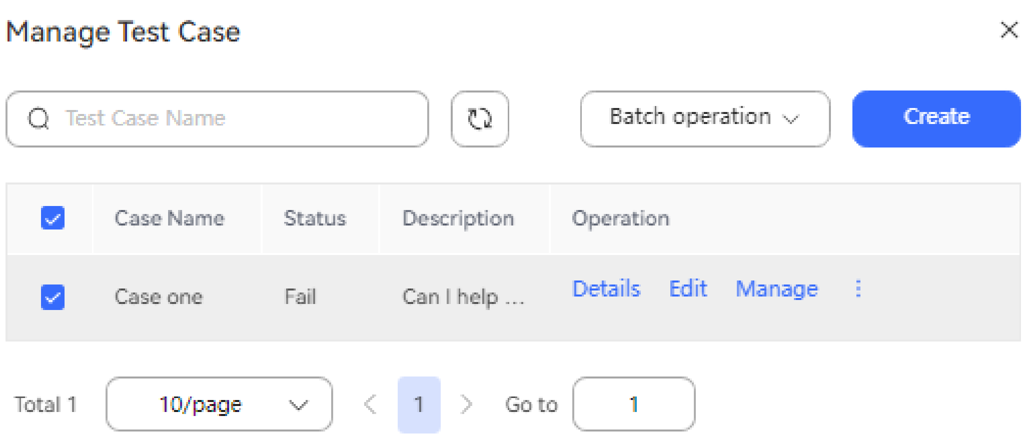
- Return to the **Dialog Test** page, and click **Execute** in the **Operation** column on the right of the new case group to execute the entire case group. After the execution is successful, **Status** changes to **Finish**.
- Select some case groups, click **Batch operation**, and choose **Execute** to execute the selected case groups in batches. After the execution is successful, **Status** changes to **Finish**.

Figure 2-104 Executing some case groups



- In the **Manage Test Case** dialog box, select some test cases, click **Batch operation**, and choose **Execute** to execute the selected test cases in batches. After the execution is successful, **Status** changes to **Success**.

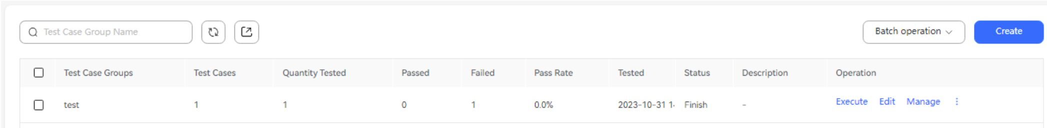
Figure 2-105 Executing some test cases



Step 5 View the execution result and export the test report.

1. After executing a test case group, view the number of tested cases, number of passed cases, number of failed cases, and pass rate.

Figure 2-106 Viewing the execution result



2. Select the test case group that has been executed and click  to export the test report.

----End

2.6.2.3 Adding a Q&A-oriented Robot

If there is a large number of Q&A corpora, and complex scenarios such as invoking an interface to dynamically obtain information or performing multiple interactions do not need to be implemented, you can use a Q&A-oriented robot to quickly add questions and answers.

A Q&A-oriented robot answers a customer's questions based on knowledge rather than the customer's objective.

Before adding a Q&A-oriented robot, you need to add an FAQ group, which is similar to a domain used in a task-oriented robot. An FAQ group is used to answer specific business questions, such as a product tariff question.

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **FAQ Management**.

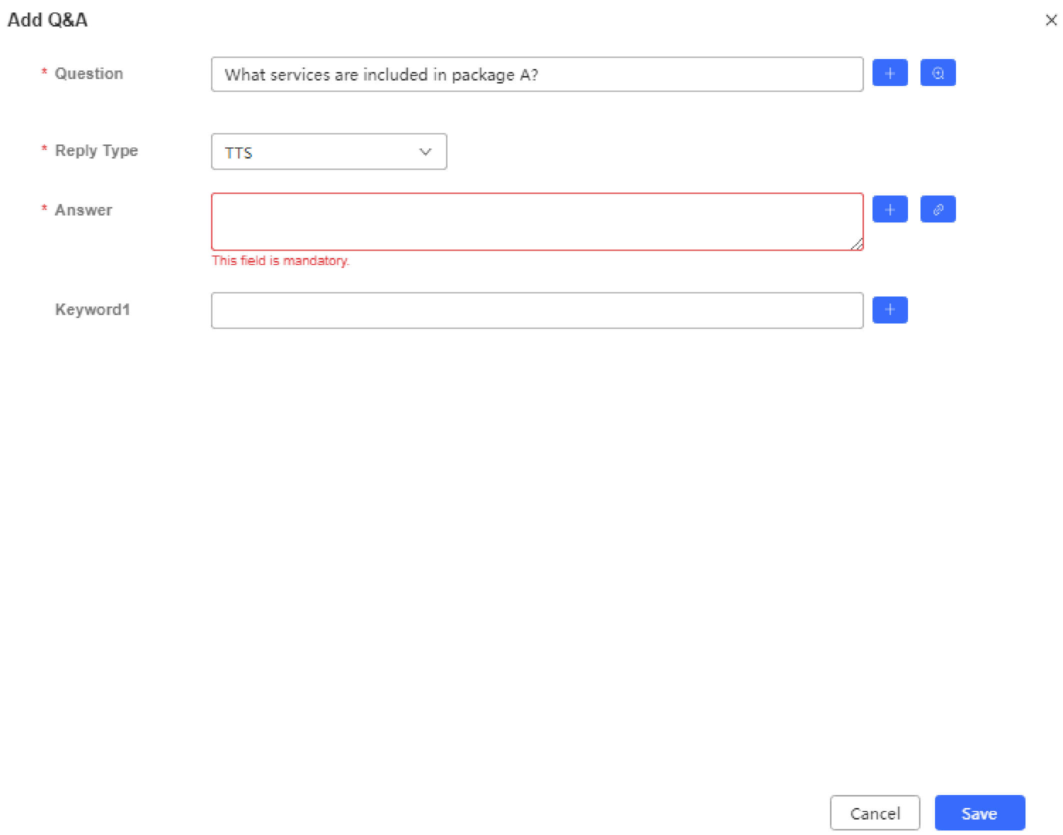
Step 2 Click Create.

Step 3 Enter an FAQ group name and click Confirm.

Step 4 Enter a question and click  to check whether a similar question has been added to the current FAQ group. If no, go to the next step.

Step 5 Click the number in the **Quantity** column. The **Manage FAQ Group** dialog box is displayed.

Step 6 Click Create and set the question, standard answer, and reply type (**TTS** or **Resource template**), as shown in the following figure.

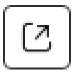


Step 7 To improve the answer matching accuracy, click  next to **Question** or  next to **Keyword1** to add a similar question or keyword.

Step 8 Click 

.

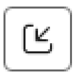
Step 9 (Optional) To improve efficiency in managing Q&As, enter them in a specified format and import them into the system in batches.

1. Select a Q&A and click  .

   The system exports a .json file, as shown in the following figure.

```
{"answer":"Local call duration of 100 minutes, 200 SMS messages, and 1 GB provincial traffic per month.",
"keyWords":[],
"question":"What services are included in package A?",
"resource":"text",
"simAnswers":[],
"simQuestions":[]}]
```

   Multiple records are supported for **simQuestions**, **simAnswers**, and **keyWords**. They must be entered in formats provided in the preceding figure.

2. After entering all Q&A records, click , click 

, select the .json file on the local PC, and click 

.

If certain questions to be uploaded exist in the FAQ group, when you select **Overwrite Existing Configuration**, they overwrite the existing ones. Otherwise, they will be imported as new records.

Step 10 Test the Q&A-oriented robot.

1. Click **Active** in the **Status** column to activate the Q&A-oriented robot.
2. Close the **Manage FAQ Group** *dialog box, click **More** corresponding to the new FAQ group, choose **Test**, and select **Test activated FAQ group** to activate the FAQ group.
3. In the input area, enter a question or keyword, and click 

.

   The Q&A-oriented robot returns an answer and a list of similar questions.

----End

2.6.2.4 Other Operations

This section describes other operations related to an IVR flow.

2.6.2.4.1 Managing Variables

Variables are used in dialog flows to store data generated during flow execution. Variables defined in a flow can be used only in this flow. If a variable is involved in multiple flows, you need to define the variable as a global variable. Global variables can be referenced by all flows. Global variables are used in flows. The format of a global variable is **${GLOBAL.***ParamName***}**.

Adding a Global Variable

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Variable** and click 

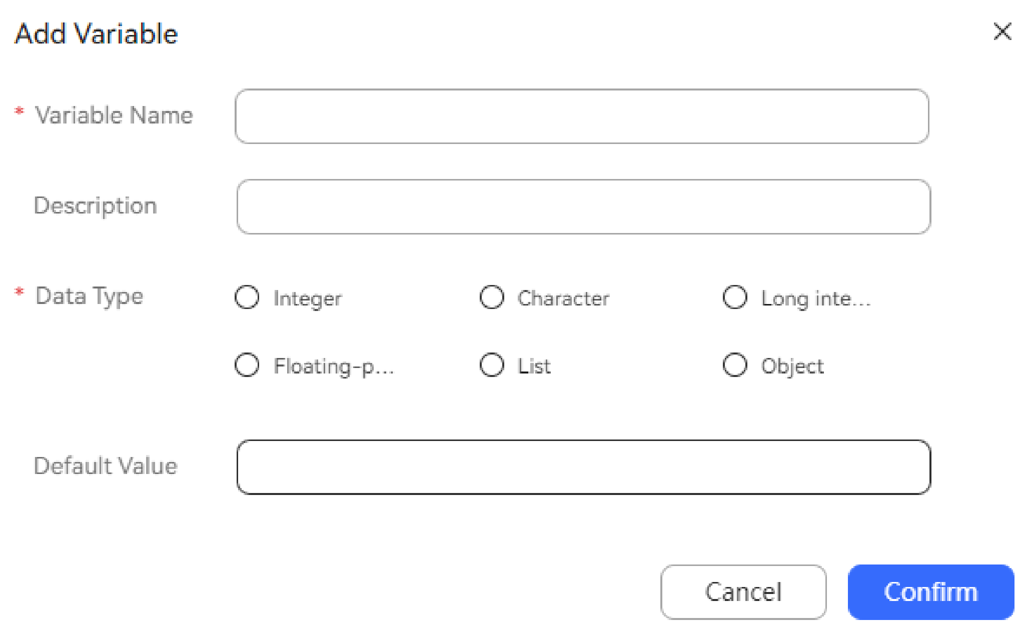
.

Step 3 Set **Variable Name** and **Data Type**, as shown in the following figure.

Step 4 Select an encryption type and click **Confirm**.

NOTE

For security purposes, set **Encryption Type** to **Encrypted for storage and decrypted upon retrieval** or **Encrypted for storage and retrieval** if the variable contains personal data, such as the customer ID card number.



----End

Modifying a Built-in Variable

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource Management** > **Variable Management** and click the **Built-in Variable** tab.

Step 3 Click **Edit** in the **Actions** column of one of the following built-in variables and change the default value based on site requirements.

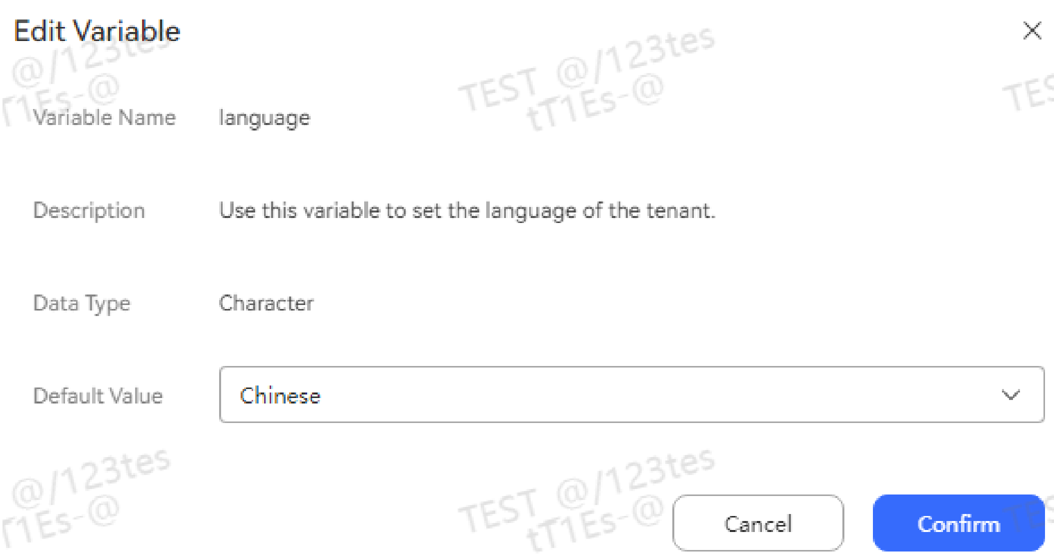


Table 2-72 Built-in variables

Variable Name	Description	Data Type	Value Range	Default Value
language	Use this variable to set the language of the tenant.	Character	• **Chinese** • **English** • **Spanish** • **Arabic** • **Thai** • **Portuguese** • **French**	**Chinese**
timezone	Use this variable to set the offset of the time zone in which the tenant resides.	Floating-point number	–12 to 12	None
channeltype	Use this variable to set the channel of the tenant.	Character	**default**	**default**
responsestyle	Use this variable to set the style of the tenant.	Character	**default**	**default**
ttsSpeed	Use this variable to set the TTS speech speed of the tenant.	Integer	–500 to 500	**0**
ttsVolume	Use this variable to set the TTS volume of the tenant.	Integer	0 to 100	**50**
ttsPitch	Use this variable to set the TTS fundamental frequency of the tenant.	Integer	–500 to 500	**0**
voiceName	Use this variable to set the TTS speaker of the tenant.	Character	• **Graceful** • **Mature** • **Soft** • **Sweet** • **Natural**	**Graceful**

Step 4 After the modification is complete, click .

----End

2.6.2.4.2 Maintaining Stored Procedures

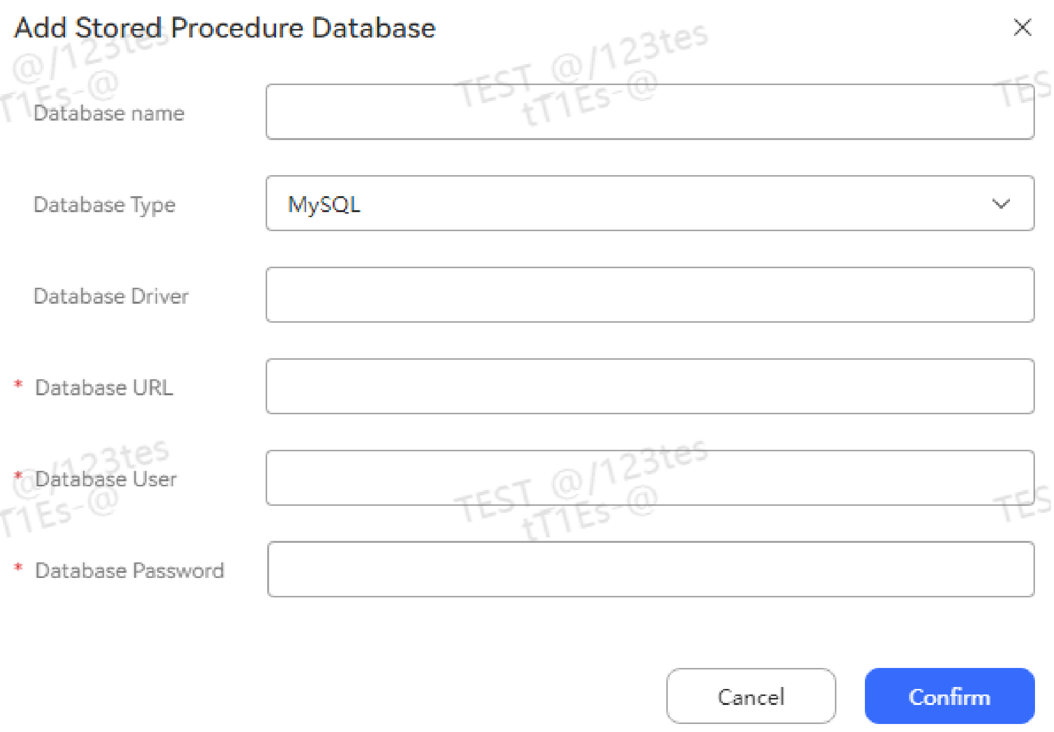
When deploying and running the OIAP system independently, a carrier can use stored procedures to interact with a third-party system database to obtain or update data, for example, to query the work order types defined by the third-party system.

The system supports the MySQL, Oracle, and GaussDB stored procedures. The stored procedures must be predefined.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Stored Procedure**, click the **Stored Procedure Databases** tab, and click  to configure the database connection information of stored procedures. If this information has been configured, click **Edit**. A maximum of 200 records are allowed.



- **Database Name**: Database name. The value can contain only letters, digits, spaces, underscores (_), and single quotation marks (').
- **Database Type**: The options are **MySQL**, **GaussDB**, and **Oracle**. Select a value based on site requirements.

- **Database Driver**: Driver used for connecting to the database. Generally, you do not need to set this parameter.
- **Database URL**: Database connection string, which is a JDBC connection string. Contact the administrator to add it to the trustlist.

Table 2-73 Configuration format of the database connection string

Database	Configuration Format	Configuration Example
MySQL	**jdbc:mysql://**_IP address_:_Port number_/_SID_	**jdbc:mysql://**_IP address_:_Port number_/**oiap?useUnicode=true&characterEncoding=utf-8&useSSL=false**
GaussDB	**jdbc:zenith:@**_IP address_:_Port number_	**jdbc:zenith:@**_IP address_:_Port number_
Oracle	**jdbc:oracle:thin:@**_Host IP address_:_Port number_:_SID_	**jdbc:oracle:thin:@**_IP address_:_Port number_:**oiap**

- **Database User** and **Database Password**: Username and password for connecting to the database.
- If the database password provided by the third-party system is changed periodically, return to this page and click **Edit** to change the database password correspondingly.

Step 3 Choose **Resource** > **Stored Procedure** and click 

in the upper right corner of the **Stored Procedures** tab page.

Step 4 Enter the basic information about the stored procedure.

- **Stored Procedure**: Enter a customized value based on the function of the stored procedure.

- **Value**: Enter the name of an existing stored procedure in the database.
- **Database Connection**: Select the database created in 2.

Step 5 Click the **Input Parameter** tab. Click **Add** and configure the input parameters of the stored procedure one by one.

The input parameters of a stored procedure are usually in the same line as **CREATE PROCEDURE** and are identified by **IN**. For example, four input parameters are defined in the following stored procedure definition, where **varchar** corresponds to the **Character** data type in the system.

```
CREATE PROCEDURE p_modify_column_name (in tableName varchar(128), in oldName varchar(128), in
newName varchar(128), in incolumnType varchar(128))
```

Step 6 Click the **Output Parameter** tab. Click **Add** and configure the output parameters of the stored procedure one by one.

Step 7 Click 

.

----End

2.6.2.4.3 Creating Work Calendar Templates

A tenant administrator can create a work calendar template to directly reference it in the **Time Selection** diagram element to reduce the workload.

Procedure

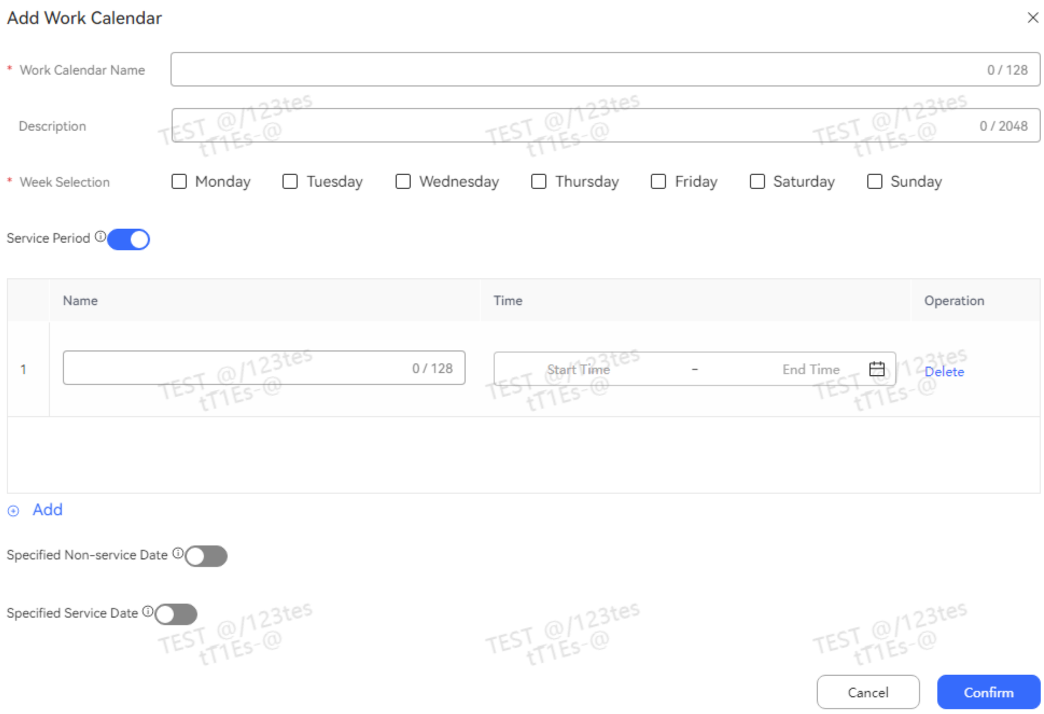
Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Work Calendar** and click 

.

Step 3 Configure work calendar information.

Figure 2-107 Add Work Calendar



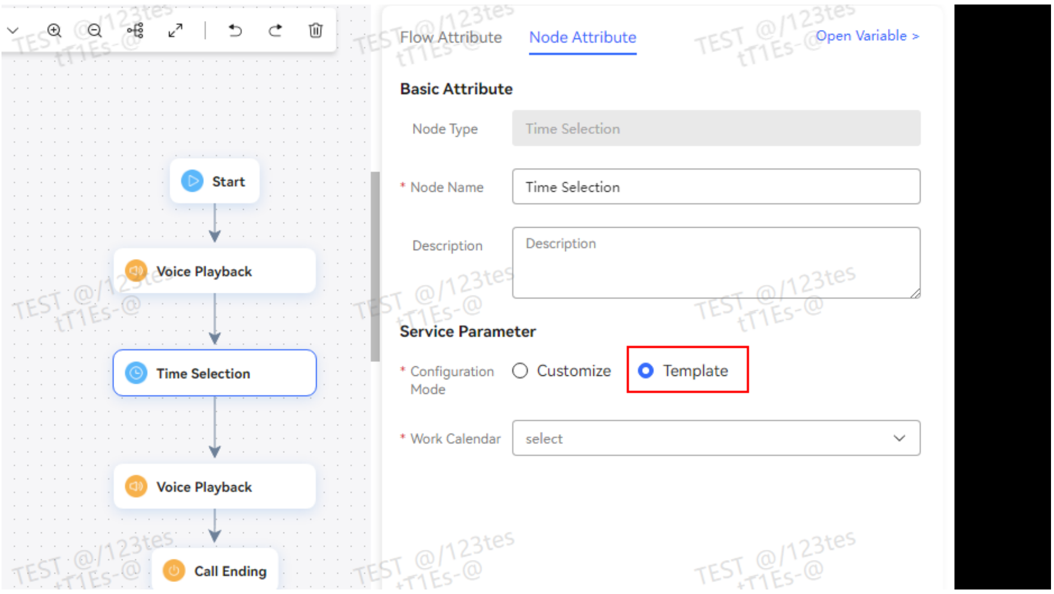
- **Work Calendar Name**: (Mandatory) Field displayed in the **Time Selection** diagram element. The value must be unique and can contain a maximum of 128 characters, including only letters, digits, spaces, underscores (_), and single quotation marks (').
- **Description**: (Optional) The value can contain a maximum of 2048 characters.
- **Week Selection**: (Mandatory) At least one day must be selected. After a day is selected, it is regarded as a working day.
- **Service Period**: (Mandatory) 1 to 10 service periods must be configured. This parameter is used with **Week Selection**, both of which are mandatory.
- **Specified Non-service Date**: (Optional) A maximum of 50 records are allowed. After a date is specified as a non-service date, it is regarded as a non-working day. This parameter has the highest priority. If a date is specified as both a non-service date and a service date, it is regarded as a non-service date.
- **Specified Service Date**: (Optional) A maximum of 50 records are allowed. This parameter is used to specify service dates that are not within the working days specified by **Week Selection**. After a date is specified as a service date, it is regarded as a working day.

Step 4 Click **Confirm** to save the information.

Step 5 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 6 Choose **Flow** > **Orchestration** and add a flow. The created work calendar template can be referenced in the **Time Selection** diagram element.

Figure 2-108 Time Selection diagram element



----End

2.6.2.4.4 Adding Data Tables

If customized data is required in a flow, you can add a customized data table and then add or import data to it. When editing a flow, you can use the **Data Table** diagram element to use data in a customized data table.

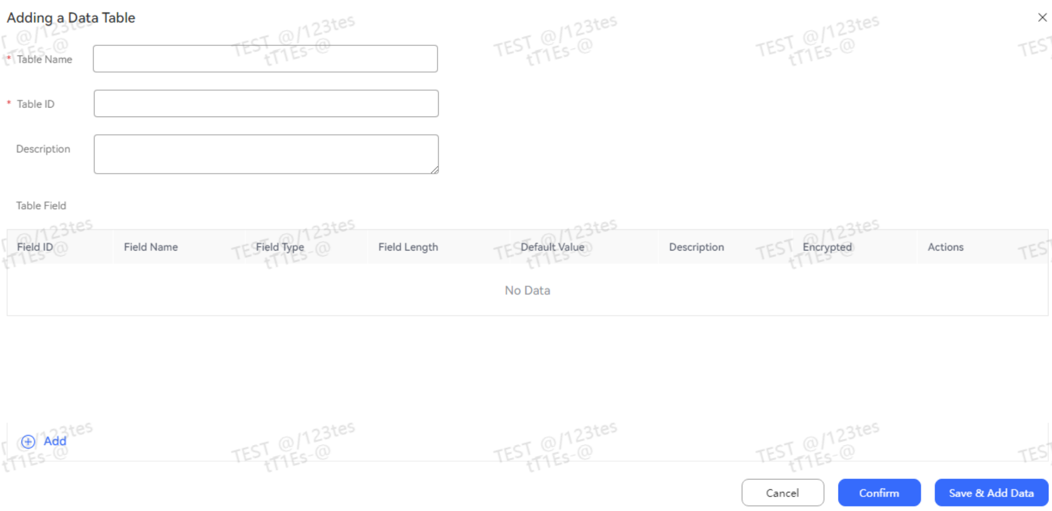
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Data Table** and click New. The **Adding a Data Table** dialog box is displayed.

Step 3 Enter basic data table information.

Figure 2-109 Adding a Data Table



- **Table Name**: Enter a globally unique table name. The value can contain a maximum of 64 characters.
- **Table ID**: Enter a globally unique table ID. The value can contain a maximum of 32 characters, including letters, digits, and underscores (_), and cannot start with a digit.
- **Description**: Enter a table description. The value can contain a maximum of 255 characters.

Step 4 Click 

. The **Adding a Table Field** dialog box is displayed.

Step 5 Enter basic table field information.

Figure 2-110 Adding a Table Field

- **Field ID**: Enter a unique field ID in the data table. The value can contain a maximum of 32 characters, including letters, digits, and underscores (_), and cannot start with a digit.
- **Field Name**: Enter a unique field name in the data table. The value can contain a maximum of 64 characters.
- **Field Type**: Select a field type. The options are **Character**, **Integer**, and **LogTime**.
- **Field Length**: Enter a field length. The total length of all fields cannot exceed 10,000 characters. This parameter needs to be set only when **Field Type** is set to **Character** or **Integer**.

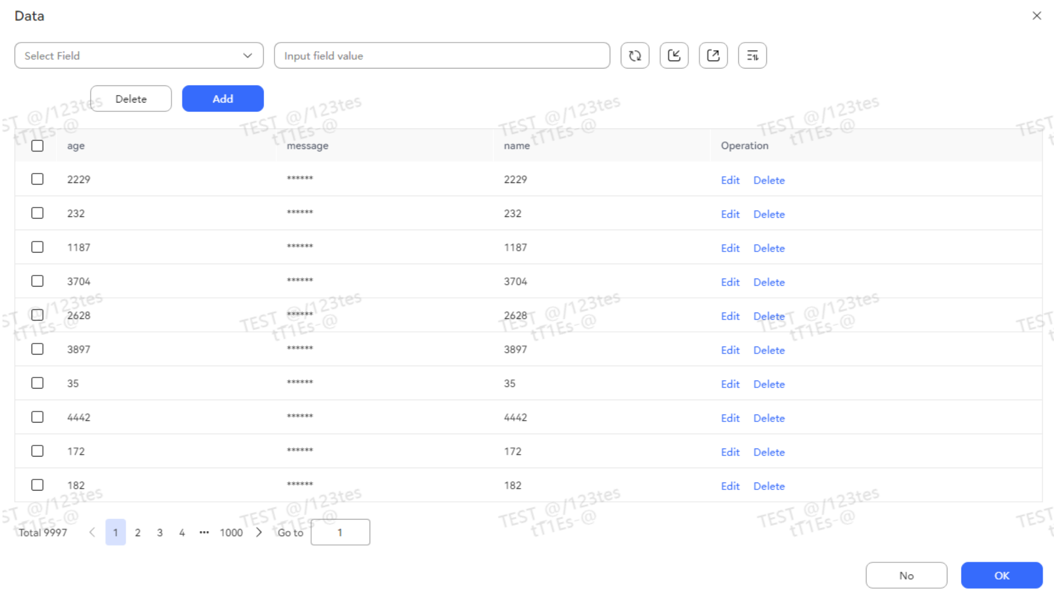
- **Default Value**
  - When **Field Type** is set to **Character**, enter a maximum of 255 characters as the default value.
  - When **Field Type** is set to **Integer**, enter an integer as the default value.
  - When **Field Type** is set to **LogTime**, select a date as the default value.
- **Description**: Enter a field description. The value can contain a maximum of 255 characters.
- **Encrypted**: Determine whether a field needs to be encrypted for storage.

Step 6 In the **Adding a Table Field** dialog box, click **Confirm** to save the table field.

Step 7 In the **Adding a Data Table** dialog box, click **Confirm** to save the data table.

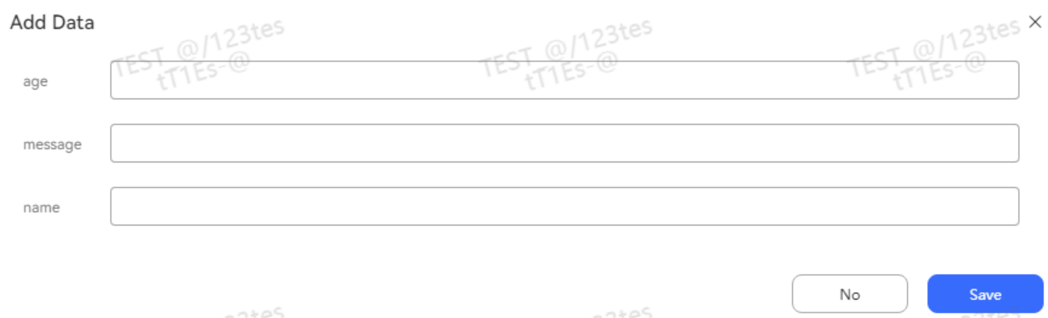
Step 8 Click **Data** to add table data.

Figure 2-111 Data



Step 9 Click **Add** to add data.

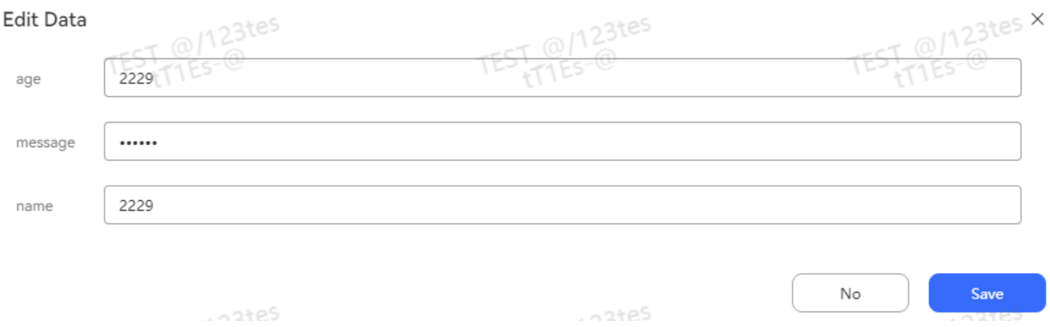
Figure 2-112 Add Data



Step 10 In the **Add Data** dialog box, click **Save** to save the data.

Step 11 Click **Edit** to edit data.

Figure 2-113 Edit Data



Step 12 Click **Delete**. In the **Confirm deletion** dialog box, click 

. The data is deleted successfully.

----End

2.6.2.4.5 Adding Domains

A domain is considered as an independent task-oriented robot, which recognizes and replies to a group of intentions.

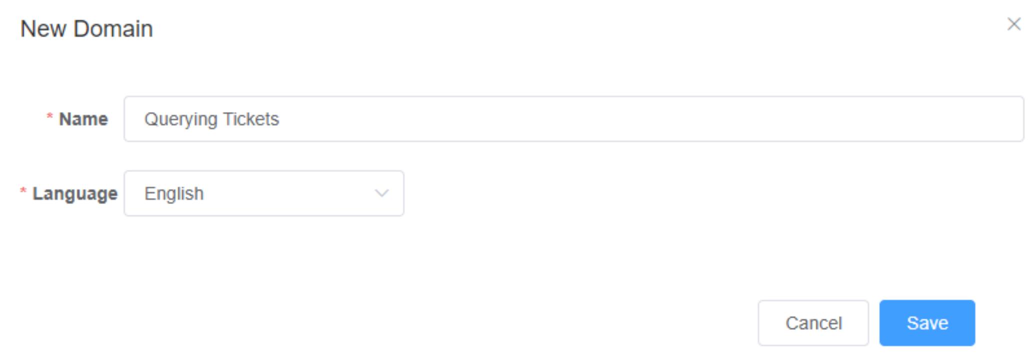
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Knowledge Management** > **Domain Management**, and click **Create**.

Step 3 Set **Name** and **Language**, and click **Save**.

Figure 2-114 New Domain



Step 4 Save the settings and click **Active** in the **Status** column to activate the domain.

----End

NOTE

How to divide domains?

A domain is considered as a robot that handles a business. Therefore, domains are usually divided based on business scenarios. For example, the telecom field can have call fee query, service provisioning, and other robots.

2.6.2.4.6 Adding Entities

Entities are variables or parameters, which can be used to configure multiple dialogs of a task-oriented robot to recognize specific customer purposes. They can also be used to temporarily store parameter values in interfaces for future calculation. For example, when a customer needs to purchase a flight ticket, you need to know the departure city, destination city, departure time, and flight company for the flight. The departure city, arrival city, departure time, and flight company can be considered as entities.

Context

Entities can impose specification constraints on the values filled in a slot, similar to defining data types for variables. Some entities are preset, such as **system.date**, **system.time**, **system.number**, and **system.phonekeyboard**. You can view entities on **SYSTEM ENTITY** and **ENVIRONMENT ENTITY** (by choosing **Template Management > Entity Management**). You can also click **Test Entity** under **My Entity** to check whether the variables that you need can be recognized. If the preset entities do not meet your requirements, customize your entities. Customer entities are classified into the following types:

- General entity: entity corresponding to a single variable. For example, a departure city, a destination city, and a flight company are general entities. For customized general entities, only enumerated values and their synonyms can be set. Complex functions such as fuzzy match cannot be implemented.
- Composite entity: combination of multiple entities. For example, an identity entity, a city entity, a region entity, and a street entity form a mailing address entity together. Composite entities are usually used to define complex and structured texts.

- Rule entity: entity that defines a fixed format (prefix and suffix), and part-of-speech rules. When a type of entity has fixed features in sentence expressions, for example, all entities have the same prefix or suffix, you can define a rule entity to expand the capture range of this entity.

During the application of an entity, the system matches the entity values with customer statements. If the matching is successful, the system considers that the entities are contained in the customer statements and uses the entity values for subsequent processing.

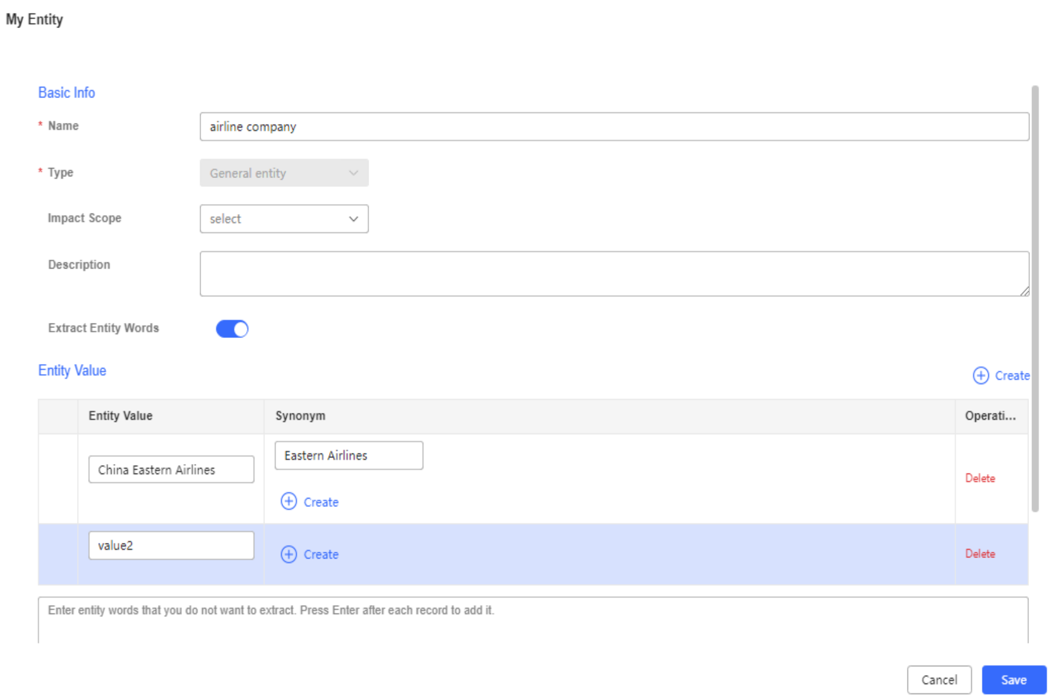
Configuring a General Entity

To add a flight company entity, perform the following steps:

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

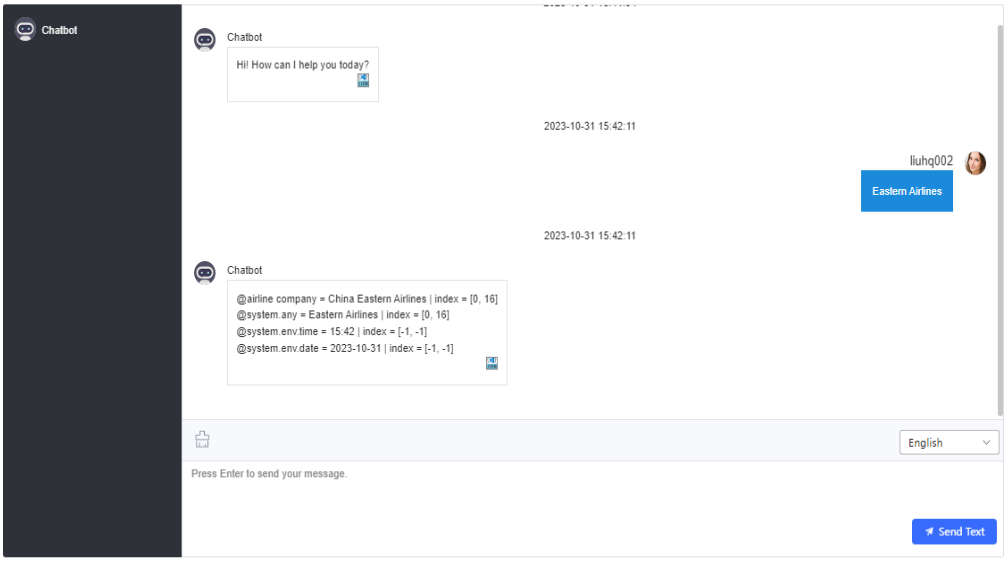
Step 2 Choose **Knowledge Management** > **Entity Management**. Click **Create**, and choose **General entity**.

Step 3 Set **Name**, click **Create** to add entity values and their synonyms, and click **Save**.



Step 4 Click **Test Entity** in the upper right corner, and enter an entity value or synonym in the text box. If the AI robot returns **@Flight Company=Emirates**, the configuration takes effect.

Test Entity



----End

Configuring a Composite Entity

You need to add a location entity that indicates the direction and distance, for example, 100 meters eastwards.

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

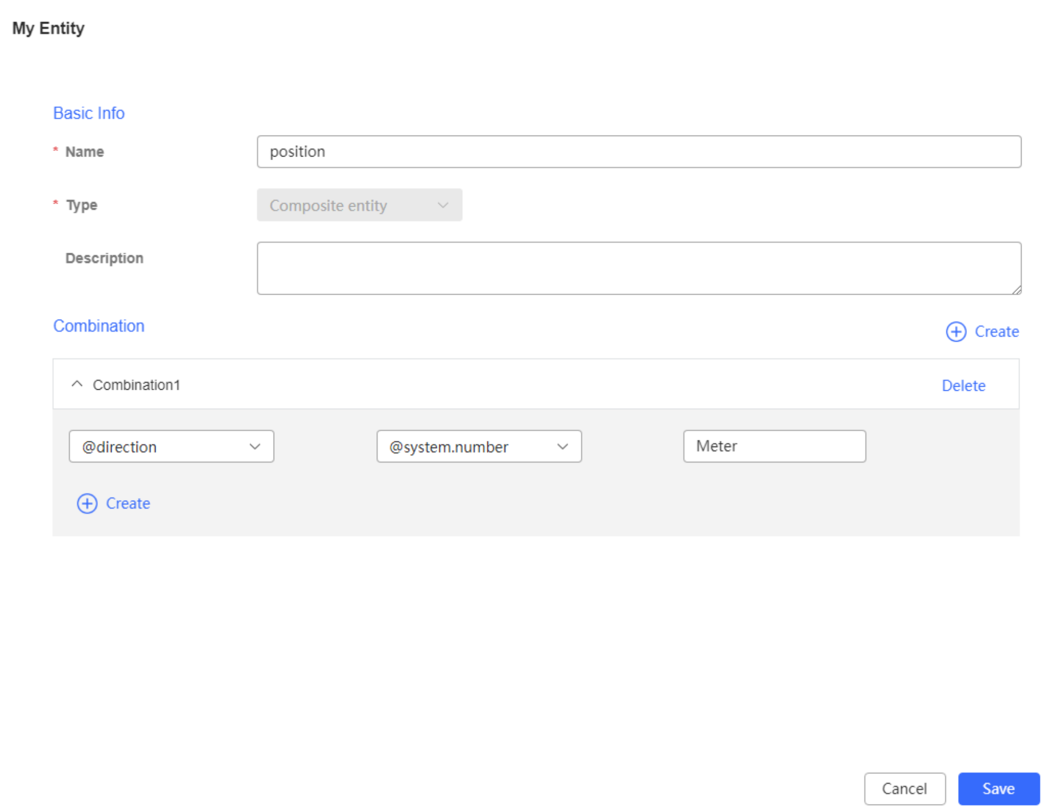
Step 2 Choose **Knowledge Management** > **Entity Management**. Add a general entity that indicates a direction by referring to **Configuring a General Entity**. A direction entity includes four elements: **East**, **West**, **South**, and **North**.

Step 3 Click **Create**, and choose **Composite entity**.

Step 4 Set **Name**, and click Create.

Step 5 Configure a composite entity.

1. Select the entity added in **2** from the drop-down list.
2. Click Create to add the second drop-down list, and select **@system.number** (indicating a number) from the drop-down list.
3. Click Create to add the third drop-down list, hover the pointer over the drop-down list, click next to the drop-down list to switch from the entity selection mode to the text input mode, and enter **Meter**.



Step 6 Click **Save**.

----End

Configuring a Rule Entity

You need to add a rule entity to identify a company name entity of *XXX* Co., Ltd.

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Knowledge Management** > **Entity Management**. Click **Create**, and choose **Rule entity**.

Step 3 Set **Name**.

Step 4 Set parameters as follows:

A rule supports the following filtering of a character string:

- If both **Part-of-speech** and **Suffix** are set, the character string that meets the part-of-speech requirement is obtained after the suffix is matched. The length of the character string cannot exceed the value of **Maximum length**.

  In addition to common adjectives, nouns, numbers, and quantifiers, special nouns are further classified into the following types.

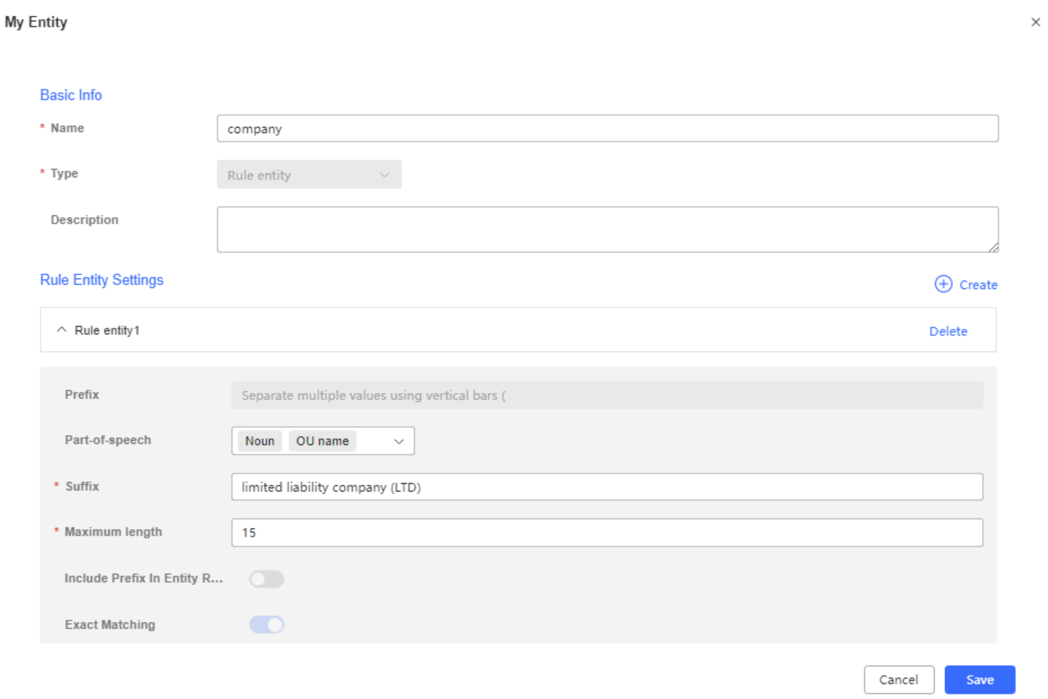
  – Gerund: If you use phrases that can be used as verbs to compose the name of an entity, for example, *XX* Daily Wholesale Co., Ltd., you can set **Part-of-speech** to **Gerund** to better match the entity.

  – Localizer: Without the prefix and suffix, the remaining characters indicate a localizer such as front, back, upper, and lower.

   – OU name: Without the prefix and suffix, the remaining characters indicate an OU group.
   – Place name: Without the prefix and suffix, the remaining characters indicate a city and province.
- If **Part-of-speech** is not set, characters between the prefix and suffix are used. The length cannot exceed the value of **Maximum length**.

  Exact Matching determines whether the prefix and suffix are used for matching.

  Include Prefix In Entity Result and **Include Suffix In Entity Result** determine whether information corresponding to the prefix and suffix is used as the entity content. For example, in this example, **Include Suffix in Entity Result** needs to be enabled. The matched entity is *XX* **Co., Ltd**.



Step 5 Click **Save**.

----End

2.6.2.4.7 Adding Sensitive Words

Sensitive words are configured to check customer input. If the customer input contains a sensitive word, the robot receives a sensitive word triggering event for further processing.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Knowledge Management** > **Entity Management** and click the **Sensitive Word** tab.

Step 3 Click  in the category area on the left to add a category for sensitive words, for example, **Forbidden Words**, and click **Save**.

Step 4 Select the new category on the left and click **Create** on the right to add sensitive words. Press **Enter** to add multiple records.

----End

2.6.2.4.8 Adding Knowledge Gray Rules

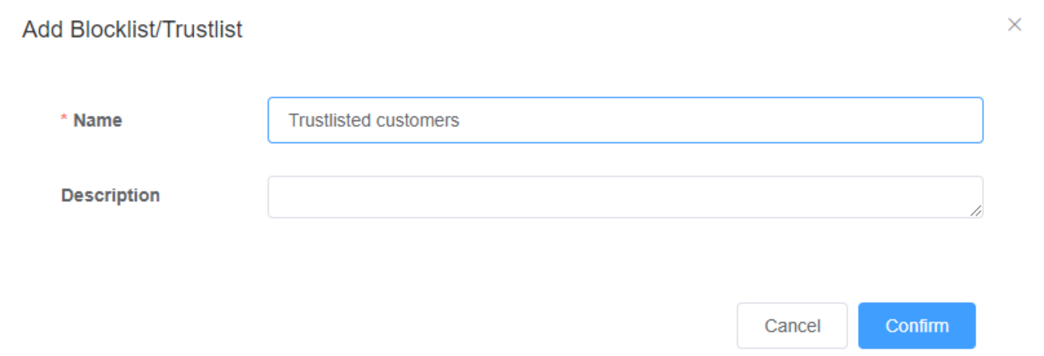
The system supports the configuration of knowledge gray rules to restrict users who use intentions. You can configure a group of usernames. After an intention is associated with a knowledge gray rule, the intention can be accessed only by users configured in the gray rule.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **System Management** > **Knowledge Gray Rule**. Click **Create**.

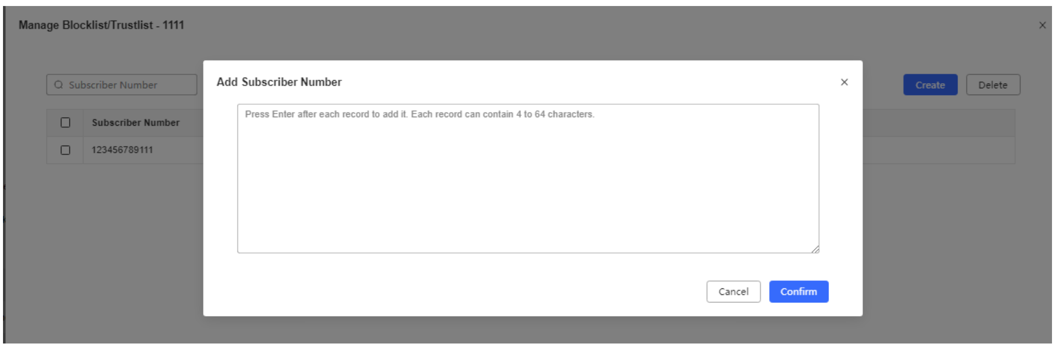
Step 3 Set **Name** and click **Confirm**.



Step 4 Click the number in the **Quantity** column. In the **Manage Blocklist/Trustlist** dialog box, click 

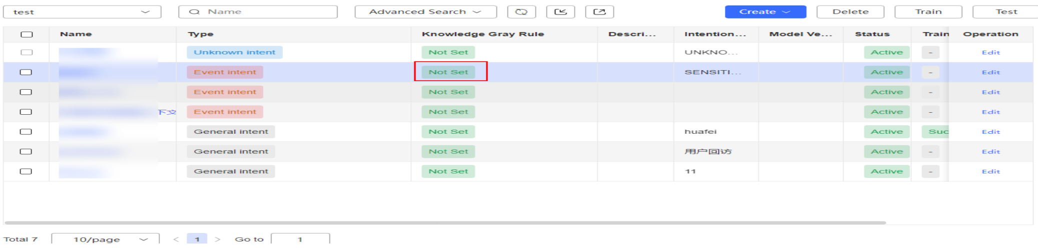
to add a customer name. To enter multiple customer names, press **Enter** after each record to add them. Click 

.



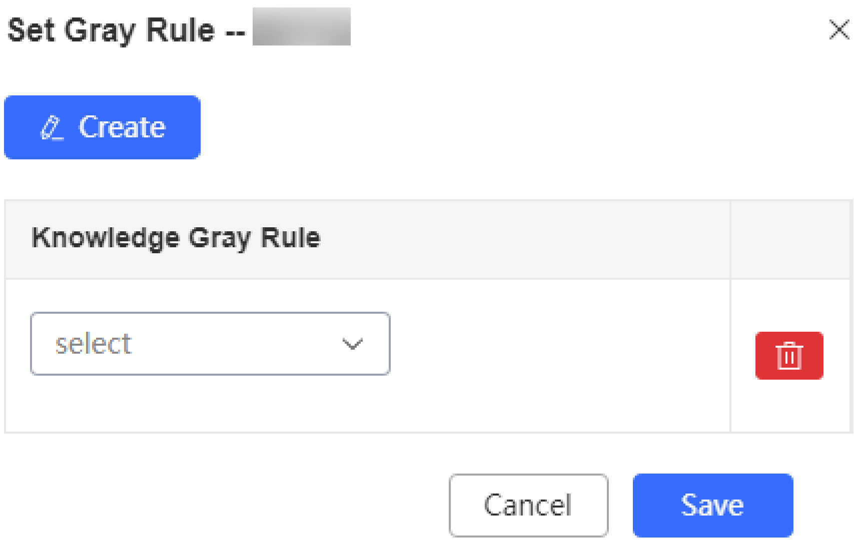
Step 5 Choose **Knowledge Management** > **Intention Management** and click **Not Set** corresponding to the intention to be associated.

Figure 2-115 Setting gray rules



Step 6 Click **Create**, select knowledge rules, and click 

.



----End

2.6.2.4.9 Managing Models

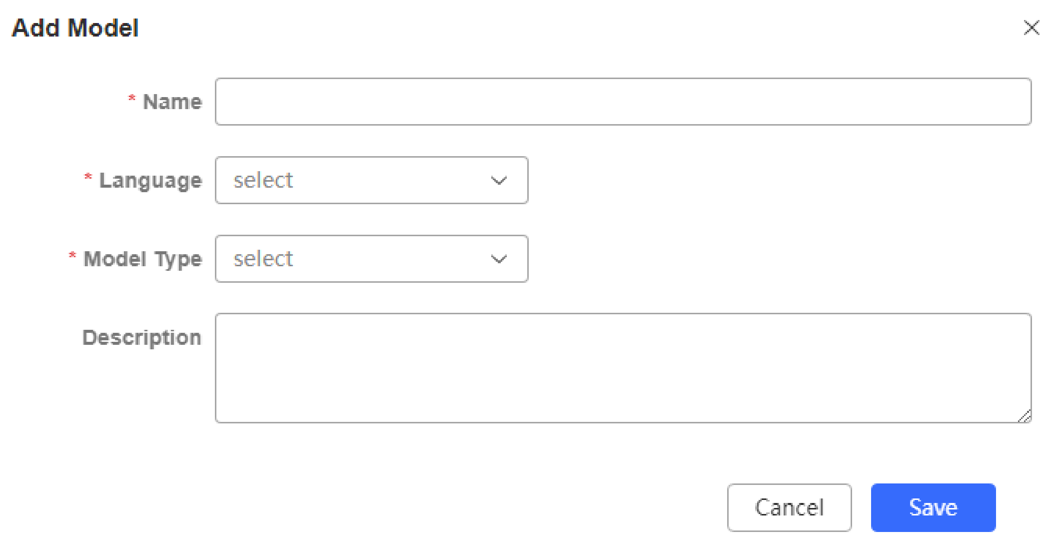
A tenant administrator can manage models.

Step 1 Sign in to the AICC as a tenant administrator.

Step 2 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **System Management** > **Model Management**.

Step 3 Click **Create** and set **Name**, **Language**, **Model Type**, and **Description**.

Figure 2-116 Add Model



Step 4 Click **Save**.

----End

2.6.2.4.10 Managing Robot Test Cases

You can maintain commonly used sentences in test cases, and periodically execute the test cases to verify that a robot can respond properly.

Prerequisites

You have configured the dialog flow and robot by referring to **2.6.2.2 Configuring an Appointment Chatbot (Task-oriented Robot)**.

NOTE

What are the benefits of managing test cases?

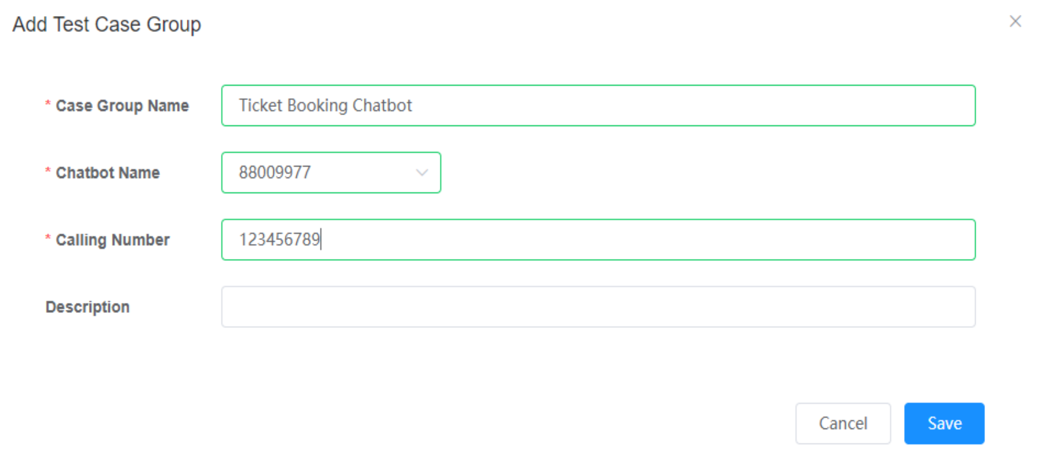
You can test conversations in batches with automated texts to verify that the robot's responses meet expectations, and to reduce the workload of verifying that the corpus is correct.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Training Check** > **Knowledge Test**. Click **Create**.

Step 3 Enter a test case group name, for example, **Ticket Booking Chatbot**, select a robot, and set the calling number.



Step 4 Click **Save**.

Step 5 Click the link in the **Test Cases** column corresponding to the new test case group. The **Manage Test Case** page is displayed.

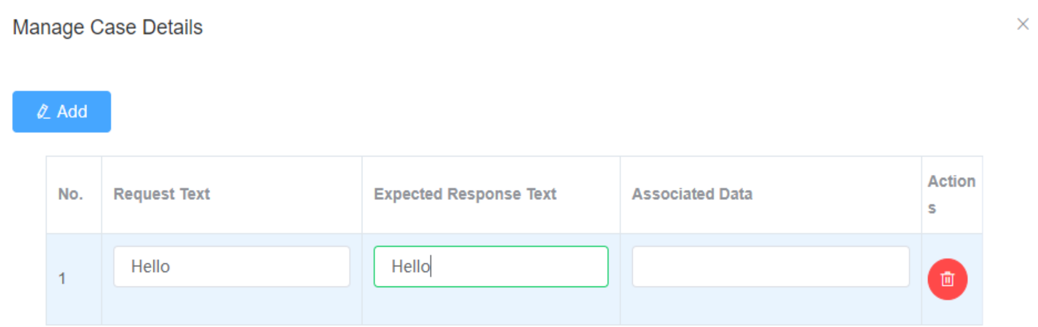
Step 6 Click **Create** and enter the case name.

Step 7 Click **Manage Case Details**. The details page is displayed.

Step 8 Click **Add** and set the parameters.

NOTE

If a large number of questions need to be tested, click **Download Template** to obtain a batch template, enter test case information in the template, and click **Import** to add test cases in batches.



Step 9 Click **Confirm**. On the **Add Test Case** page, click **Save**.

Step 10 On the **Manage Test Case** page, select the desired test case and click **Execute Test**.

The system then automatically executes the test case in the activated domain and generates the test result.

----End

For a failed case, you can click **Call Details** to view the actual response text or click the flow link in the **Flow Track** column to view the session track.

2.6.2.4.11 Reviewing a Historical Message

The OIAP records historical sessions to the table of a corresponding time period at an interval (24 hours by default) specified by **History Dialog Table Division Interval**. You can query the session records in a specified time period, and process historical messages.

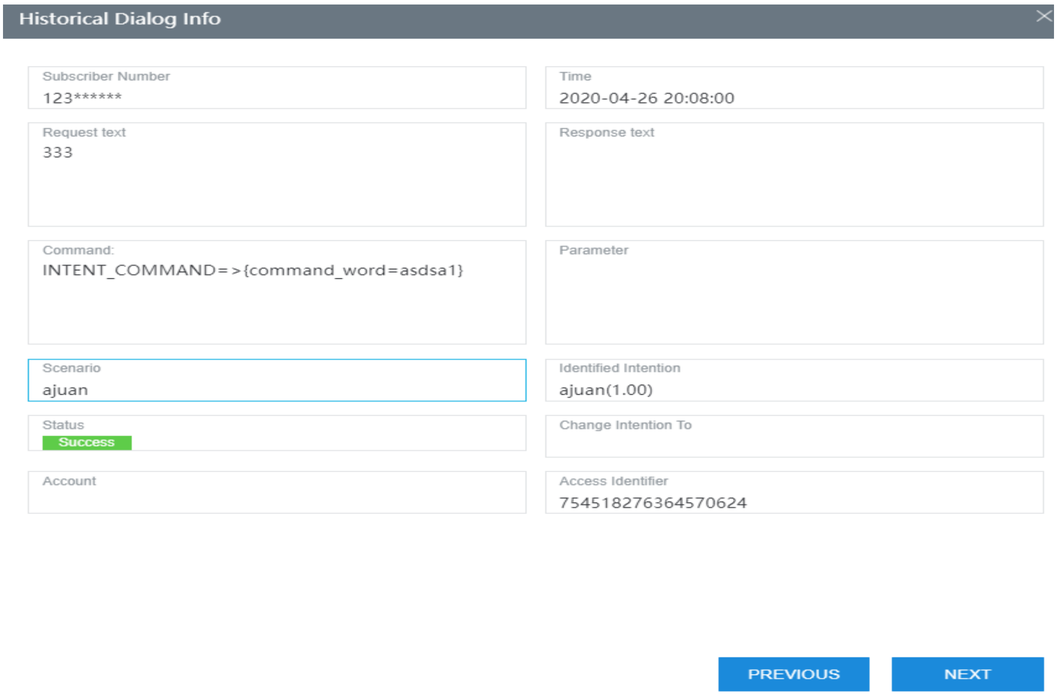
On the **Historical Message Review** page, intention matching is recorded. If an error occurs in intention matching, check the contents recognized by automatic speech recognition (ASR), and the command words matched by the intention.

Step 1 Choose **Training Check** > **Historical Message Review**.

Step 2 Select a time period, and click **Query**. Generally, select the first record, which indicates the latest one.

In the search criteria, you can also query a session based on **Status** (whether the intention is successfully matched), **Start Time**, **End Time**, **Access Identifier**, and **Subscriber Number**.

Step 3 Click **Subscriber Number**, and view the action that matches the current intention, as shown in the following figure.



In the preceding instance where **Access Code** is *110112*, if a customer enters (or says) *4 Persons*, **Identified Intention** is completely matched, and the intention returns *4* in **Response text** and *NUMBER* as the command word.

Step 4 Perform the following operations for an intention that is not identified or correctly matched:

Add unidentified texts (or events), or incorrectly identified texts (or events) as corpora to the existing intentions.

Create unidentified texts (or events), or incorrectly identified texts (or events) as corpora to the new intentions.

The following describes how to add them to an existing intention:

1. Click **Request text**.
2. Select **Add To Existing Intention**.
3. Select a domain or enter a domain name, and click **Query**.
4. Click **+** next to the intention to which a corpus needs to be added.
5. On the page that is displayed, select **Corpus**, and check whether the new corpus is listed.
6. Click **SAVE**.
7. Go to the **Domain** page, and click **Train** for the configuration to take effect.

----End

2.6.2.4.12 Processing a Question Clustering Task

Perform a question clustering analysis periodically on sessions in a specified time period, and collect statistics on subscriber questions and their occurrence frequencies in the time period for corpus analysis.

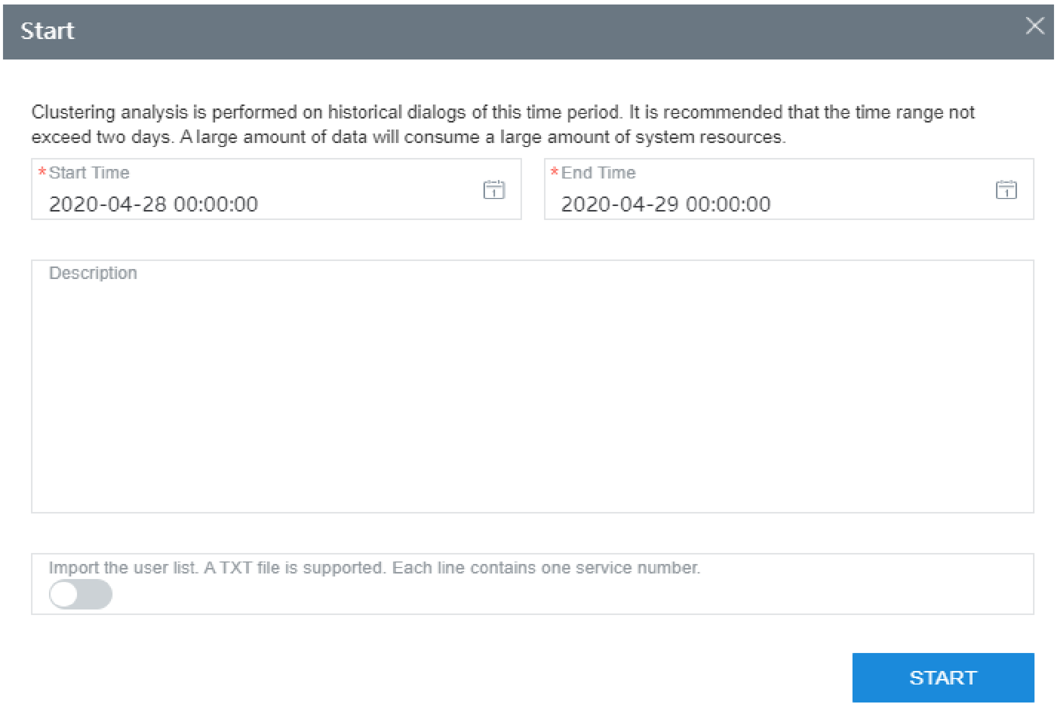
Step 1 Choose **Training Check** > **Question Clustering Task**.

Step 2 Click **Start**, set **Start Time** and **End Time**, and click **START**.

NOTICE

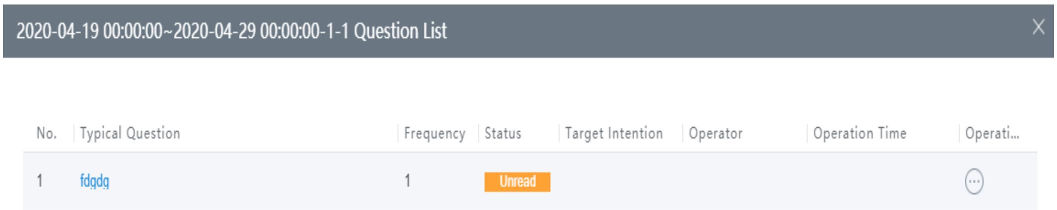
Ensure that the selected time period contains session records that can be used for analysis.

After the subscriber list is imported, the clustering task analyzes only the session records corresponding to the number.



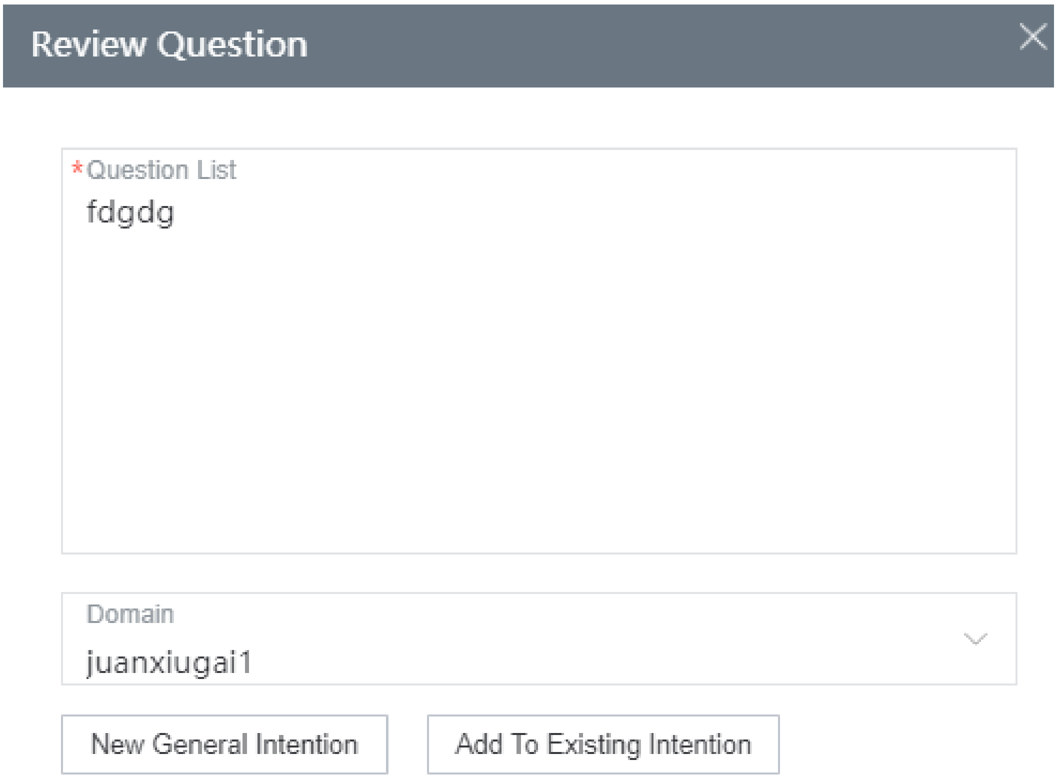
Step 3 Set the time period to be queried in the search criteria, and click **Query**.

Step 4 Click the task link, and view the analysis.



You can click **Frequency** to sort the questions by the number of times they occur.

Step 5 Click the question link, and check whether to add the question to the intention as a corpus.



You can click **New General Intention** or **Add to Existing Intention** to add the question as a corpus.

Step 6 Click  next to the question, and set **Status**. For example, set this parameter to **Marked**.

Step 7 Return to the question list, and click  next to the main task. If **Status** is set to **Marked**, the task is completed.

----End

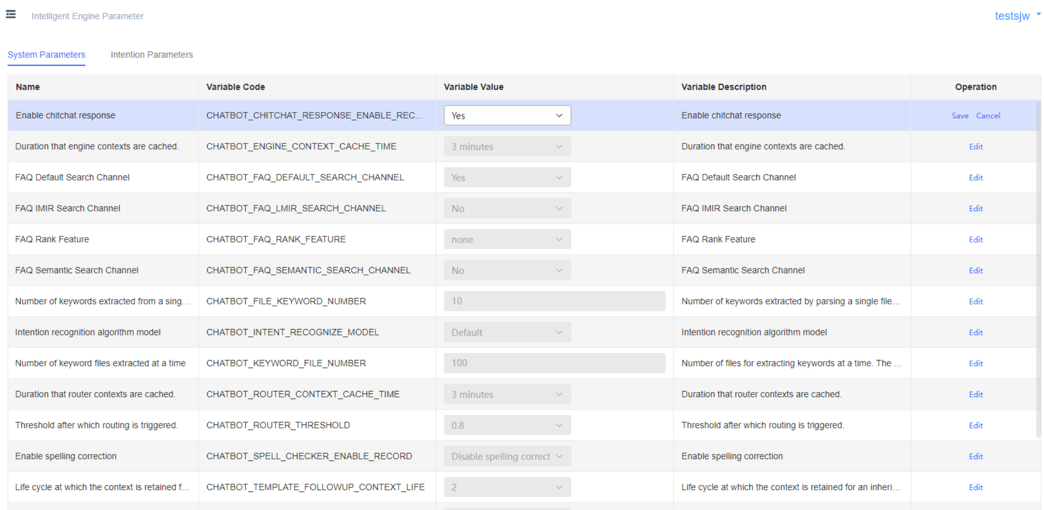
2.6.2.4.13 Setting Intelligent Engine Parameters

Configuration personnel can modify system parameters and intention parameters of the current tenant as required. However, the modification of these parameters will affect services. Therefore, ensure that you understand the parameter functions before performing operations.

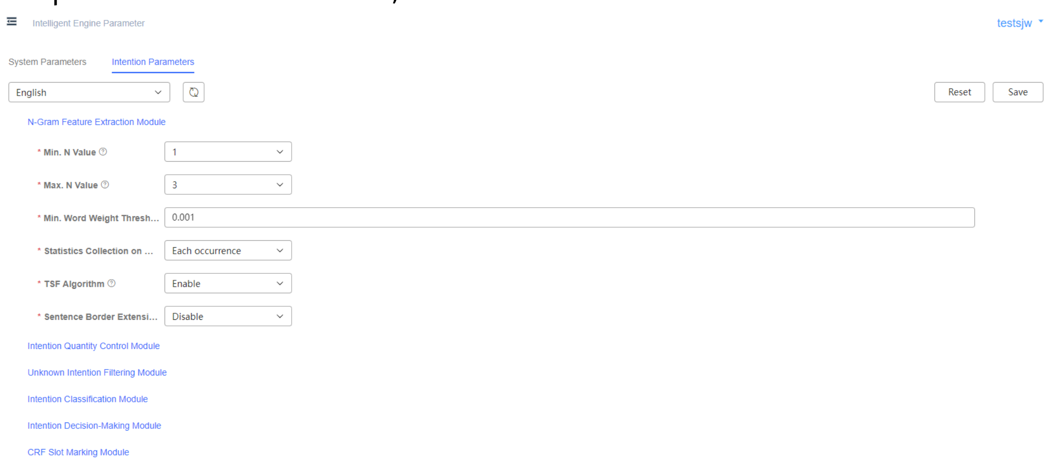
Procedure

Step 1 Choose **Configuration Center > Flow Configuration >** > **Intelligent IVR**. The Intelligent IVR Management page is displayed.

Step 2 Choose **System Management** > **Intelligent Engine Parameter**. On the **System Parameters** tab page, click **Edit** in the row that contains the parameter to be modified, select a variable value, and click **Save**.



Step 3 On the **Intention Parameters** page, select the language to be modified, modify the parameters to be modified, and click **Save**.



----End

2.6.2.4.14 Managing the Call History

Tenant administrators can query and manage historical customer service call records.

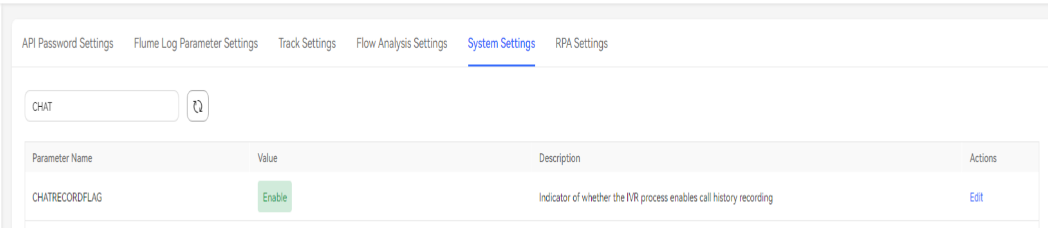
Querying the Call History

An agent can view historical calls and their details.

Prerequisites

You have contacted the tenant space administrator to choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** > **System Settings** and set **CHATRECORDFLAG** to **Enable**.

Figure 2-117 Setting CHATRECORDFLAG



Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Call History** tab.

Step 3 Set at least one of the time range and calling number as the search criterion.

Step 4 Click **Search** to search for all records that meet the criterion.

Step 5 Click **Call Details** to view the details of a single call record.

NOTE

After the tenant space administrator enables the intelligent IVR recording parameter **FLOWRECORDFLAG** in the system settings, **sys_err** may be displayed in the call record details after a user hangs up, which does not affect services.

----End

Querying the Call Statistics Dashboard

An operator can view robot call statistics, including the number of inbound calls, number of calls disconnected without consulting the robot, number of calls transferred to agents without consulting the robot, number of calls that consult the robot without transferring to agents, number of calls transferred to agents after consulting the robot, net self-service resolution rate of the robot, number of dialog rounds, average number of dialog rounds, total number of interface invocations, number of successful interface invocations, and interface invocation success rate.

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Call Statistics Dashboard** tab.

Step 3 Set the search criteria.

- If you select **By hour**, the date and access code are mandatory.
- If you select **By day**, the access code is mandatory.

Step 4 Click **Search**.

NOTE

By hour: The hourly statistics of the access code on the specified day are queried.

By day: The daily statistics in the last 30 days are queried.

----End

Querying the Service Capability Dashboard

An operator can view robot service capability statistics, including the total number of replies, number of successful replies, number of unknown replies, success reply rate, total amount of feedback, amount of satisfied feedback, and satisfaction rate.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Service Capability Dashboard** tab.

Step 3 Set the search criteria.

- If you select **By hour**, the date and access code are mandatory.
- If you select **By day**, the access code is mandatory.

Step 4 Click **Search**.

Figure 2-118 By hour

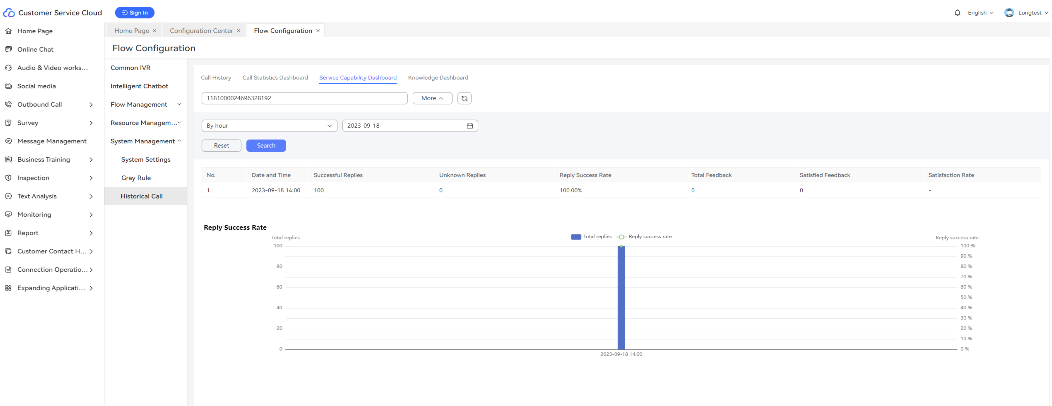
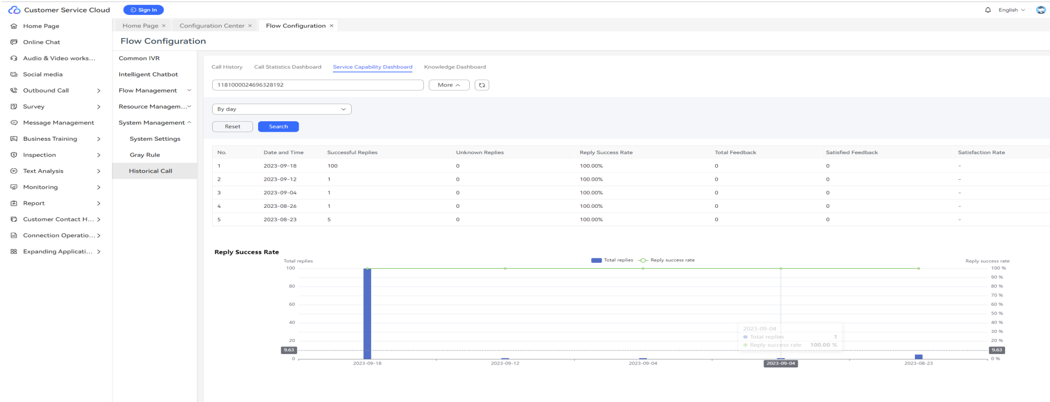


Figure 2-119 By day



NOTE

By hour: The hourly statistics of the access code on the specified day are queried.

By day: The daily statistics in the last 30 days are queried.

----End

Querying the Knowledge Dashboard

An operator can view the robot knowledge statistics, including the valid knowledge statistics and hit knowledge distribution.

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Knowledge Dashboard** tab.

Step 3 Set the search criteria.

- If you select **By day**, the date is mandatory.
- If you select **Last 30 days**, data in the last 30 days is queried.

Step 4 Click **Search**.

Figure 2-120 By day

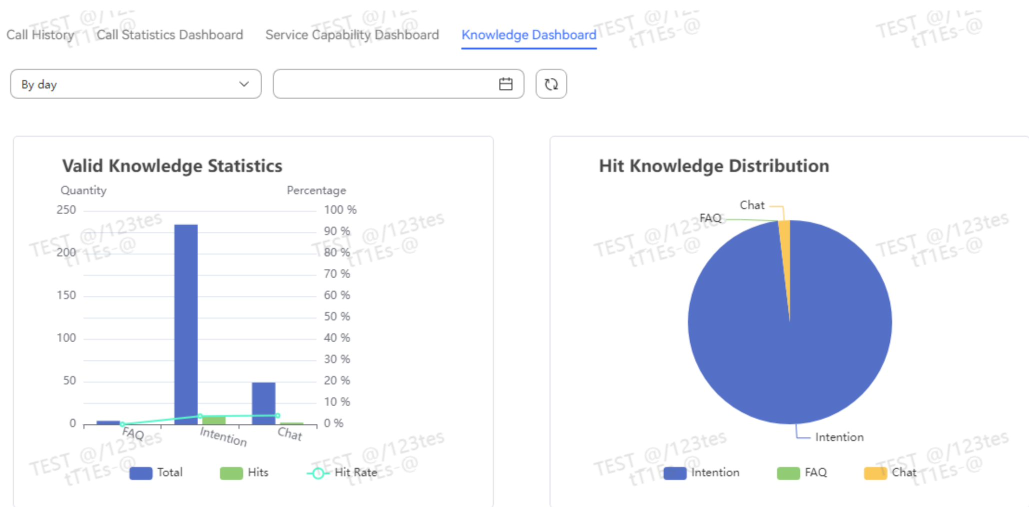
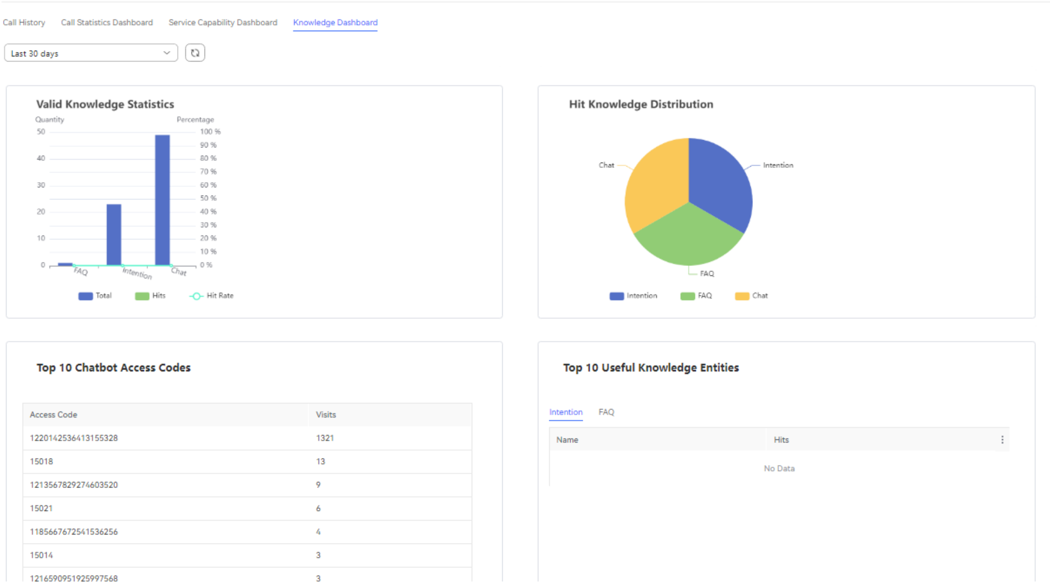


Figure 2-121 Last 30 days



NOTE

By day: The statistics of the specified day are queried.

Last 30 days: The total statistics of the last 30 days are queried.

----End

2.6.2.4.15 Viewing Flow Analysis

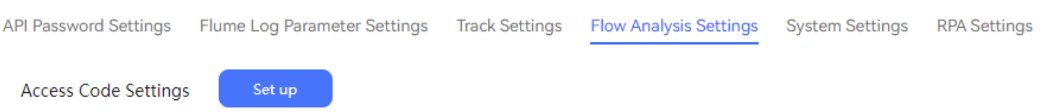
You can collect statistics on the IVR key usage through flow analysis, which provides data reference for subsequent IVR hot key analysis and menu analysis.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **System Settings**, click the **Flow Analysis Settings** tab, and add the robot access code to be analyzed.

Figure 2-122 Access Code Settings



Step 3 Run the robot. The branch execution statistics of the flow are collected by hour.

----End

2.6.2.4.16 Checking Flows

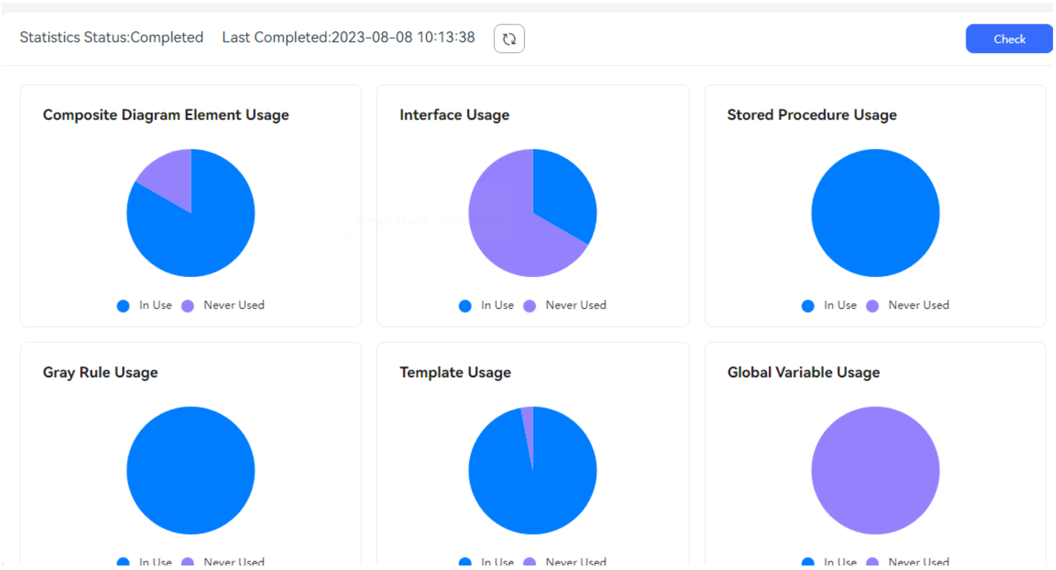
You can check the usage of composite diagram elements, business interfaces, stored procedures, gray rules, resource templates, global variables, and flows variables in all flows.

Procedure

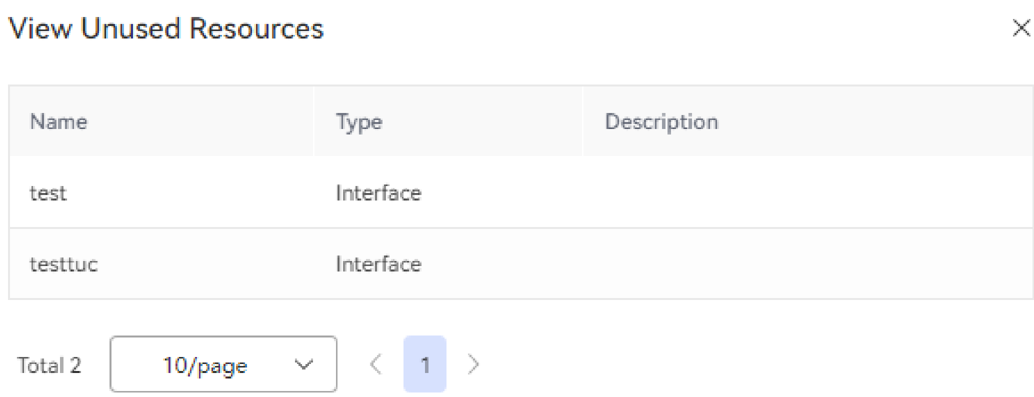
Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Flow** > **Flow Check** and click Check to obtain the latest statistics.

Figure 2-123 Flow Check



Step 3 Click the **Never Used** sector or legend in the pie chart to view details about unused resources.



View Unused Resources

Name	Type	Description
test	Interface	
testtuc	Interface	

Total 2 10/page 1

----End

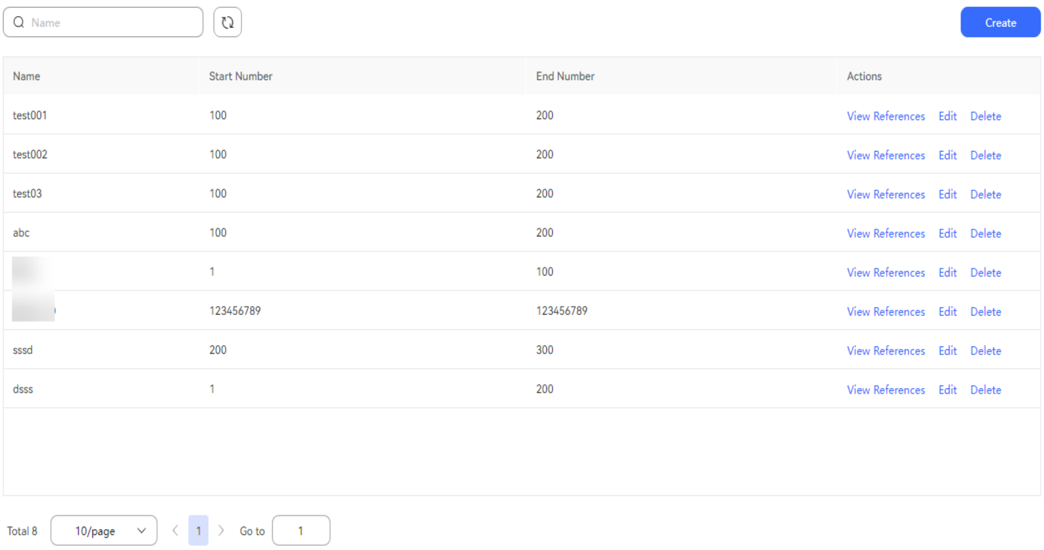
2.6.2.4.17 Adding Gray Rules

A gray rule defines the adaptation rules for customer numbers in a number segment by configuring the start number and end number. After a gray rule is configured, it takes effect only after it is associated with a published IVR flow. When a voice call is transferred to an IVR flow, calls that meet the gray rules will be automatically transferred to the corresponding gray release flow.

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System**.

Step 2 Choose **Gray Rule**. The rule configuration page is displayed.

Figure 2-124 Gray rule list



Step 3 Click 

. The dialog box for adding a rule is displayed.

Figure 2-125 Adding a gray rule

- **Rule Name**: name of a rule. The value can contain a maximum of 128 characters and cannot contain special characters.
- **Begin Number** and **End Number**: strings of a maximum of 32 digits. The number of digits in the start number must be the same as that in the end

number, and the end number must be greater than or equal to the start number.

Step 4 Click **Complete** to save the rule configuration.

Step 5 (Optional) In the gray rule list, click a rule record to expand the rule. You can view the flow information bound to the current gray rule. You can perform the following operations on gray rules:

- Click **Edit** corresponding to a gray rule to modify the rule information.
- Click **Delete** corresponding to a gray rule to delete the rule.
- Click **View References** corresponding to a gray rule to view the flows bound to the rule.

NOTE

Gray rules that have been used in flows cannot be deleted.

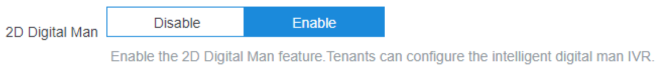
----End

2.6.2.4.18 Configuring 2D Virtual Humans

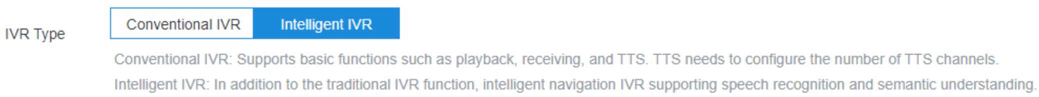
A tenant administrator can configure virtual humans to select one when configuring the **Avatar Reply** diagram element in an IVR flow later.

Prerequisites

- The **2D Digital Man** feature has been enabled.



- The **Intelligent IVR** feature has been enabled.

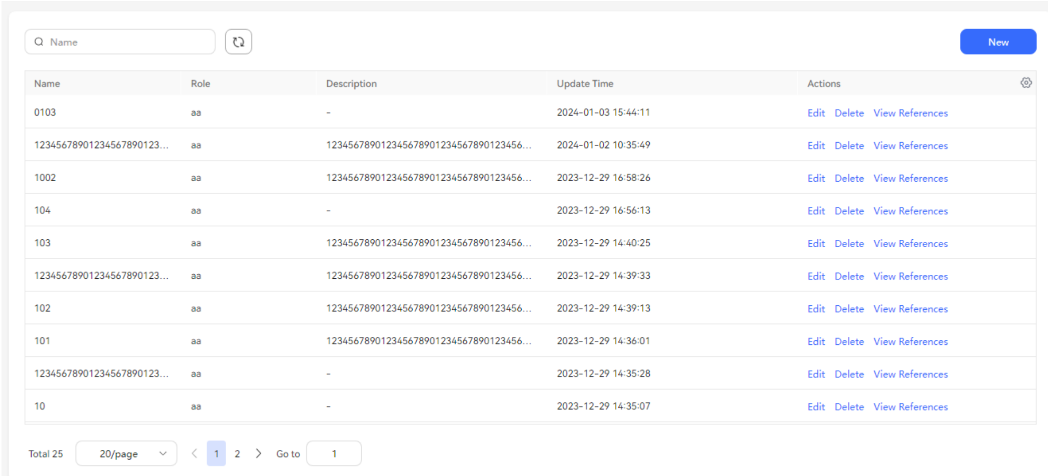


Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource**.

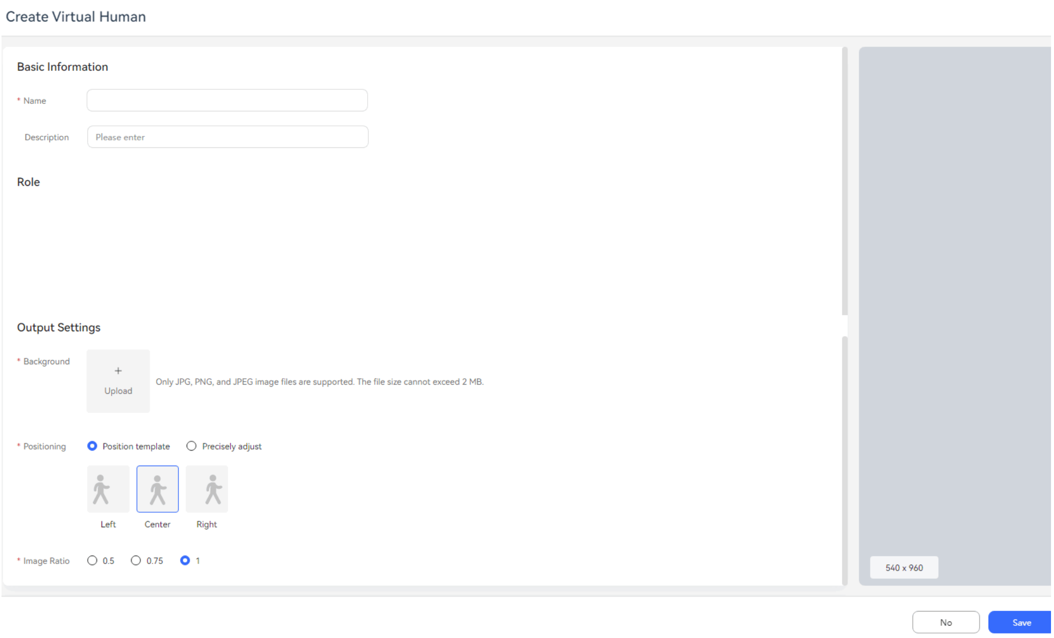
Step 2 Choose **Virtual Human**. The **Virtual Human** page is displayed.

Figure 2-126 Virtual Human



Step 3 Click  . The **Create Virtual Human** page is displayed.

Figure 2-127 Create Virtual Human



- **Name**: Enter a name. The value can contain a maximum of 64 characters and cannot contain special characters.
- **Description**: Enter a description. The value can contain a maximum of 255 characters and cannot contain special characters.
- **Role**: Select a role for the virtual human. To add role data, contact the system administrator.
- **Background**: Upload a background image corresponding to the role resolution.
- **Positioning**: Select a positioning setting mode.

a. **Position template**: If this option is selected, you need to select a template.

b. **Precisely adjust**: You can drag the virtual human to accurately adjust the positioning. Hover the pointer over the virtual human. When  is displayed, hold down the left mouse button, keep the pointer in the image, and drag the virtual human to adjust the positioning.

- **Image Ratio**: Set the ratio of the virtual human image to the original image.

Step 4 Click **Save** to save the configuration.

Step 5 (Optional) In the 2D virtual human list, you can perform the following operations on a 2D virtual human:

- Click **Edit** to edit the 2D virtual human.
- Click **Delete** to delete the 2D virtual human.

----End

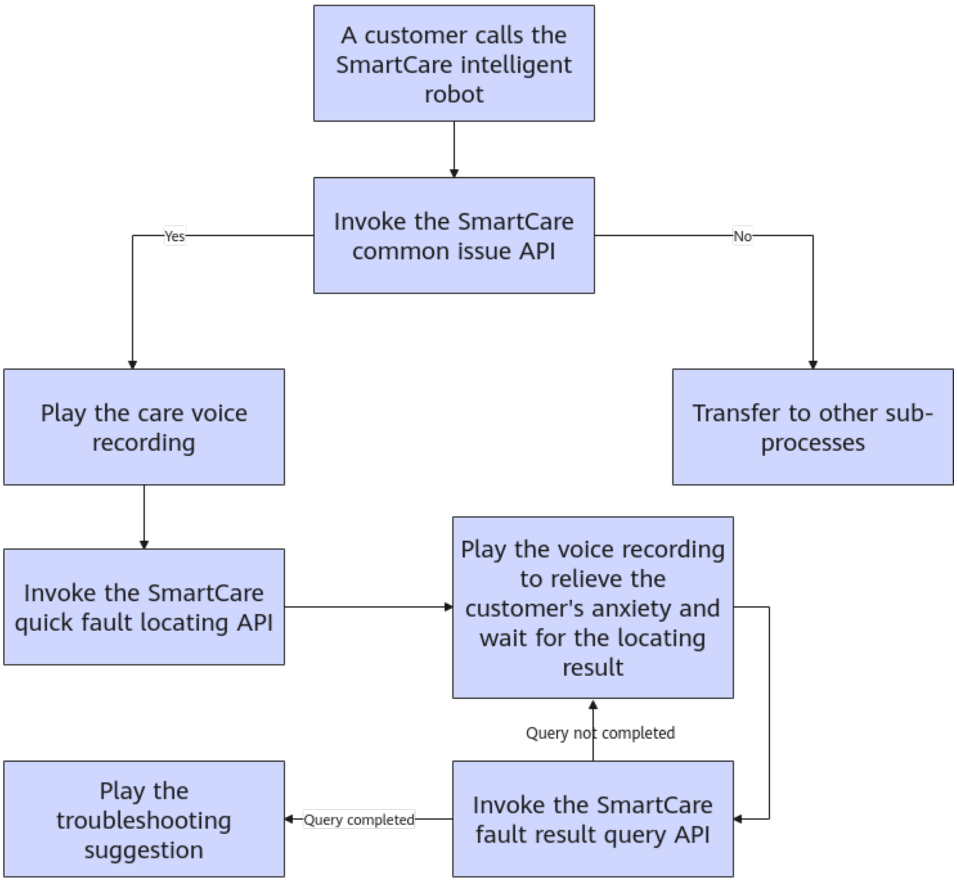
2.6.2.4.19 Configuring the SmartCare Intelligent Robot

Scenario Description

When a network fault occurs in some regions or cells of a carrier's system, customers may need to call the carrier's service hotline for consultation or complaint. The AICC and SmartCare integration aims to improve user experience and help voice agents and case agents process their own services, thereby reducing the user complaint rate and improving the user satisfaction with carrier services.

Business Process

Figure 2-128 SmartCare intelligent robot scenario

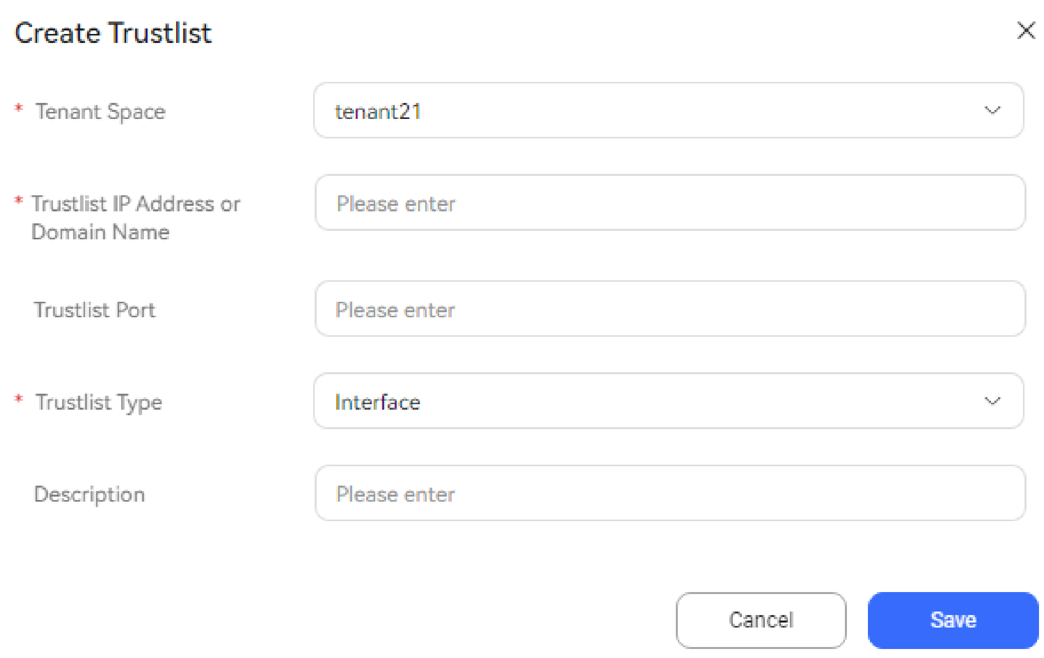


Configuring an Intelligent IVR Flow

Procedure

Step 1 Sign in to the AICC as a system administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **Trustlist**.

Step 2 Click **Create**. On the page that is displayed, add the IP address and port number for invoking the SmartCare API to the whitelist of the corresponding tenant space.

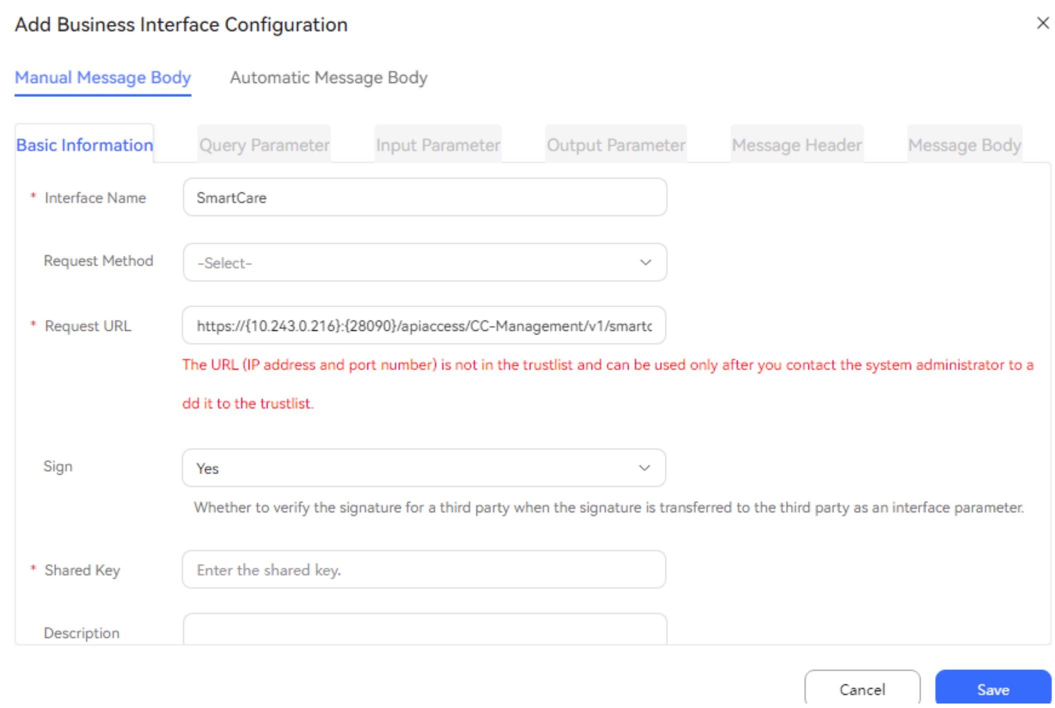


Step 3 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 4 Choose **Resource** > **Business Interface** and click **Create**. The **Add Business Interface Configuration** page is displayed.

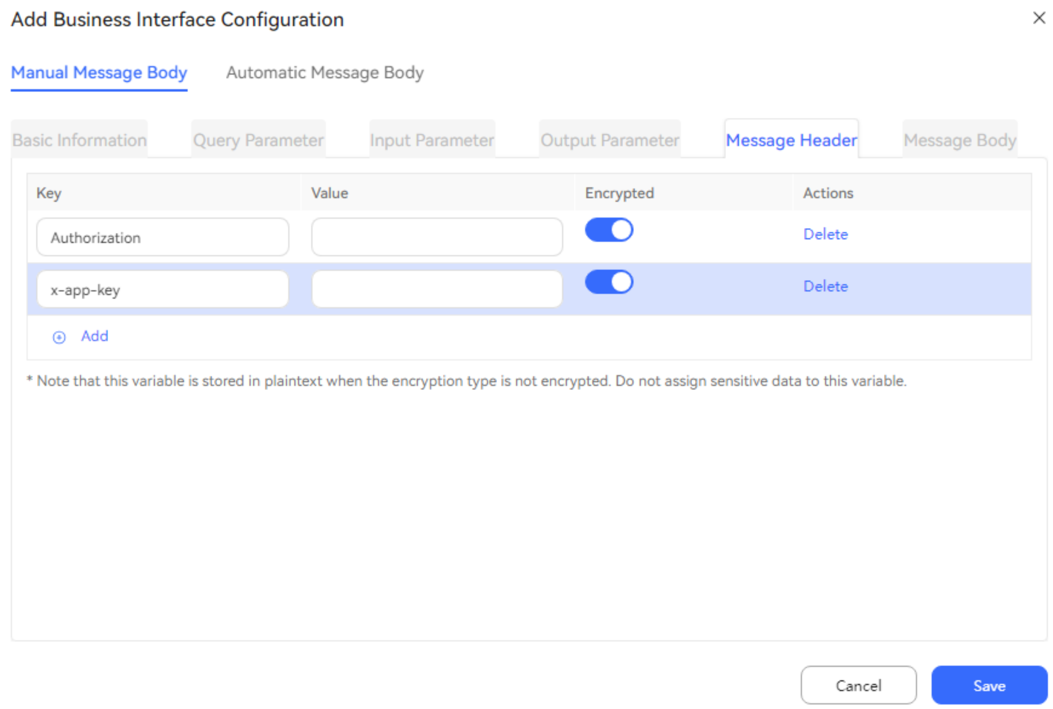
1. Configure the SmartCare API for querying users with common issues.

   a. Basic information: request URL: https://*{IP}*:*{PORT}*/apiaccess/CC-Management/v1/smartcare/queryfaultyuser



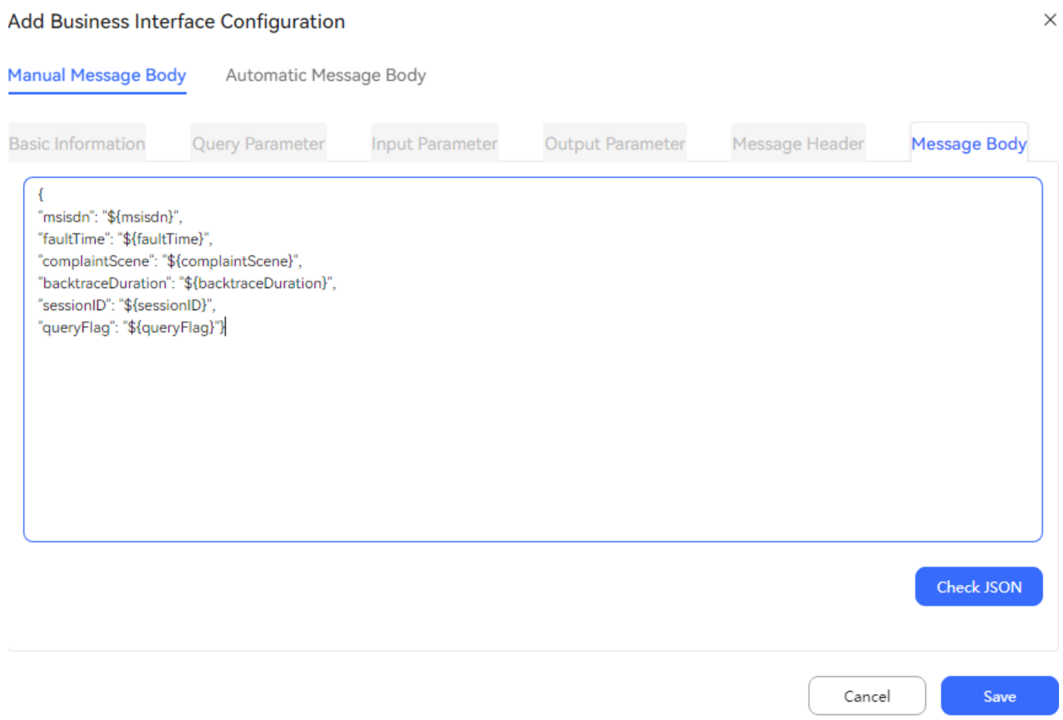
   b. Message header example:

```
x-app-key:9******************************3
Authorization:Bearer e******************************e
Content-Type:application/json
```

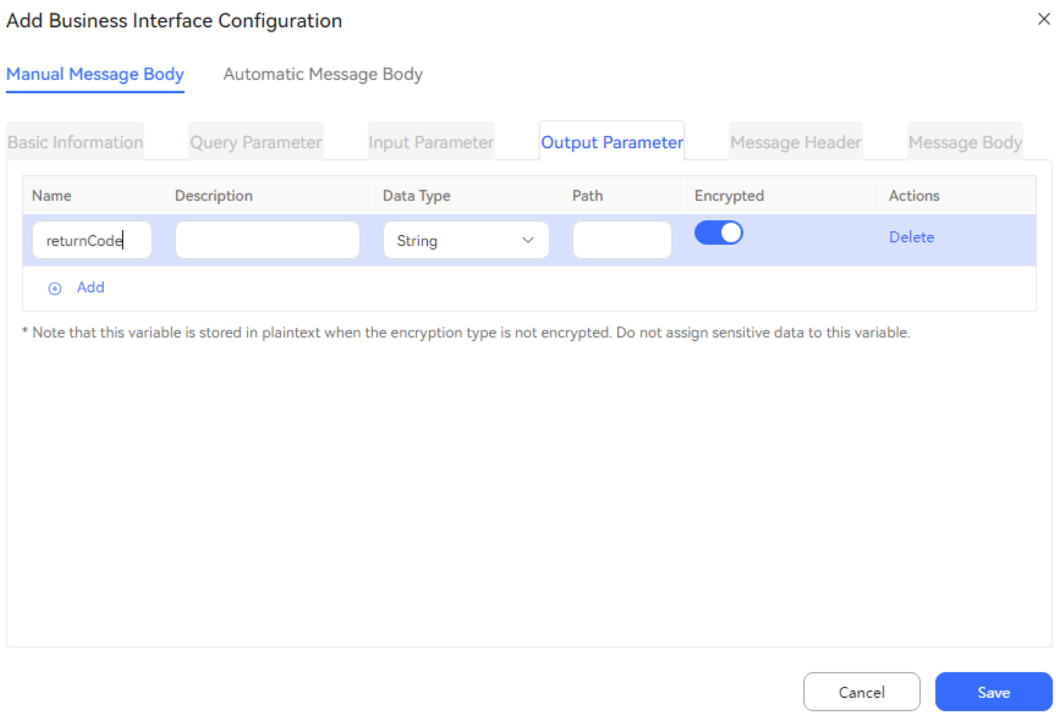


c. Message body example:

```
{
"msisdn": "${msisdn}",
"faultTime": "${faultTime}",
"complaintScene": "${complaintScene}",
"backtraceDuration": "${backtraceDuration}",
"sessionID": "${sessionID}",
"queryFlag": "${queryFlag}"
}
```

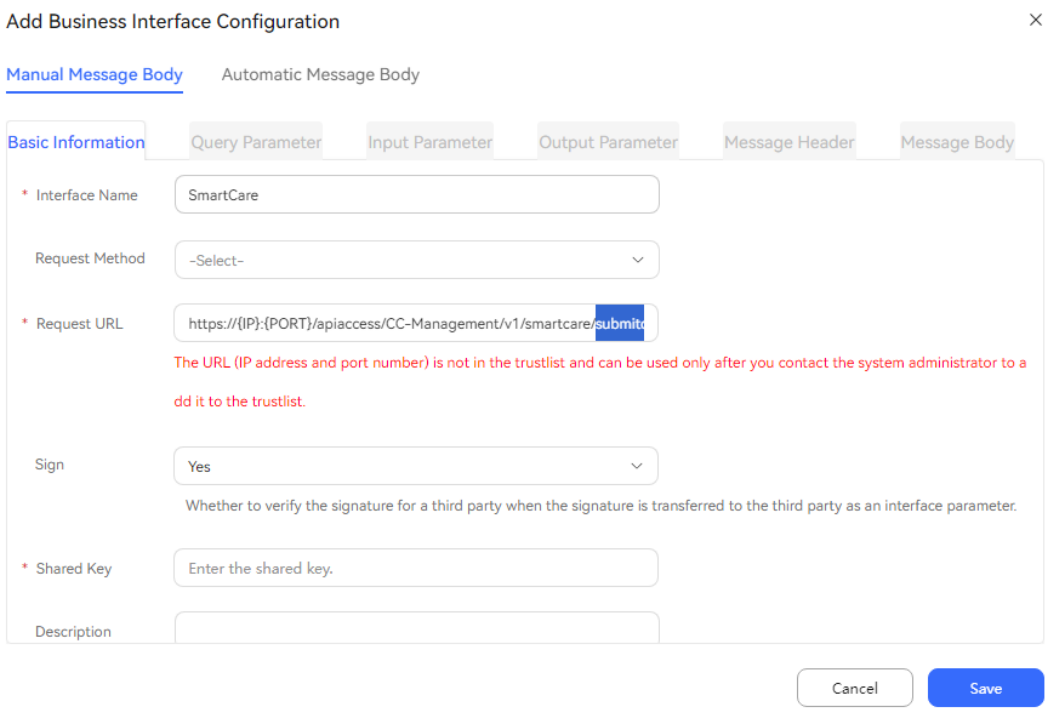


d. Output parameter:

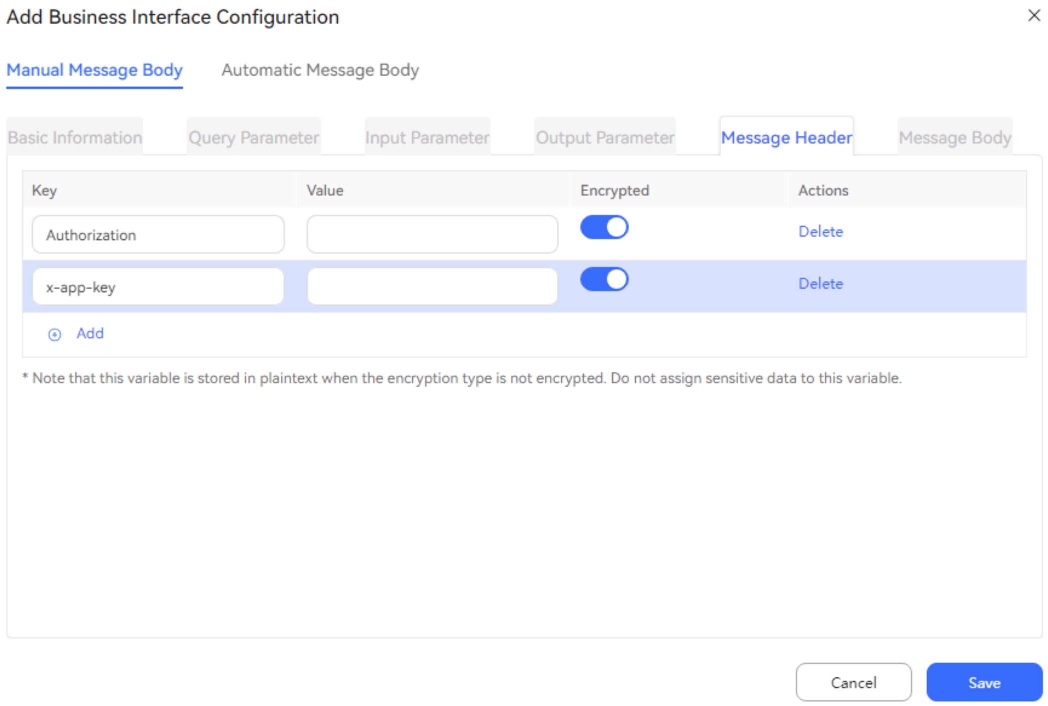


2. Configure the SmartCare quick fault demarcation API.

a. Basic information: request URL: https://*{IP}*:*{PORT}*/apiaccess/CC-Management/v1/smartcare/submitquickdelimit

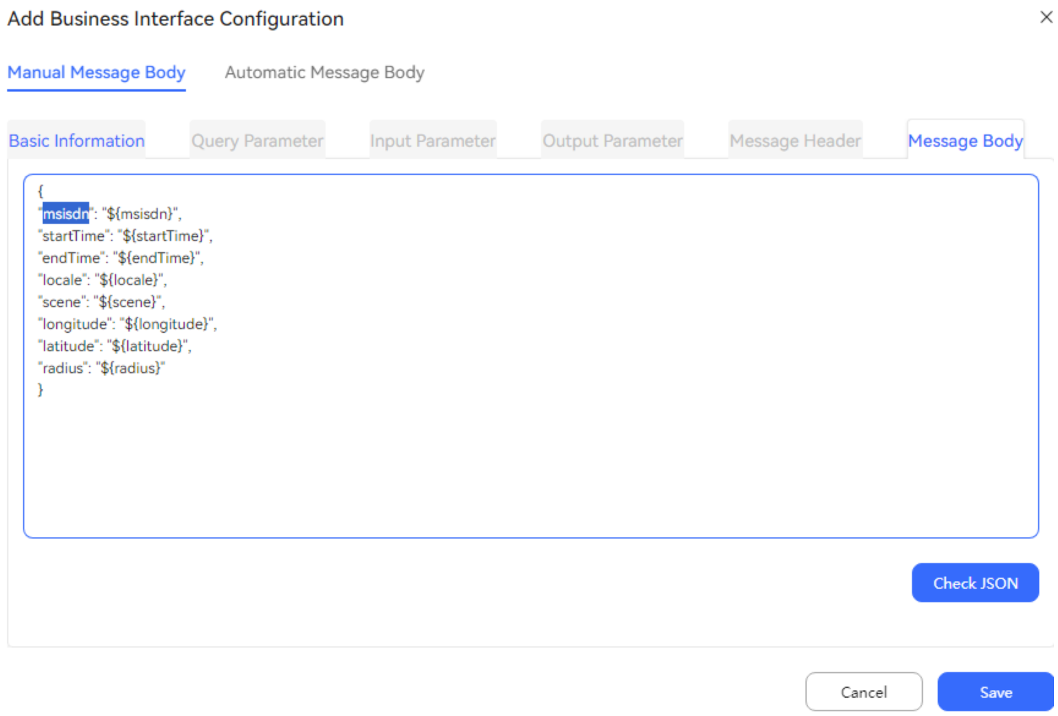


b. Message header: **Authorization** and **x-api-key**

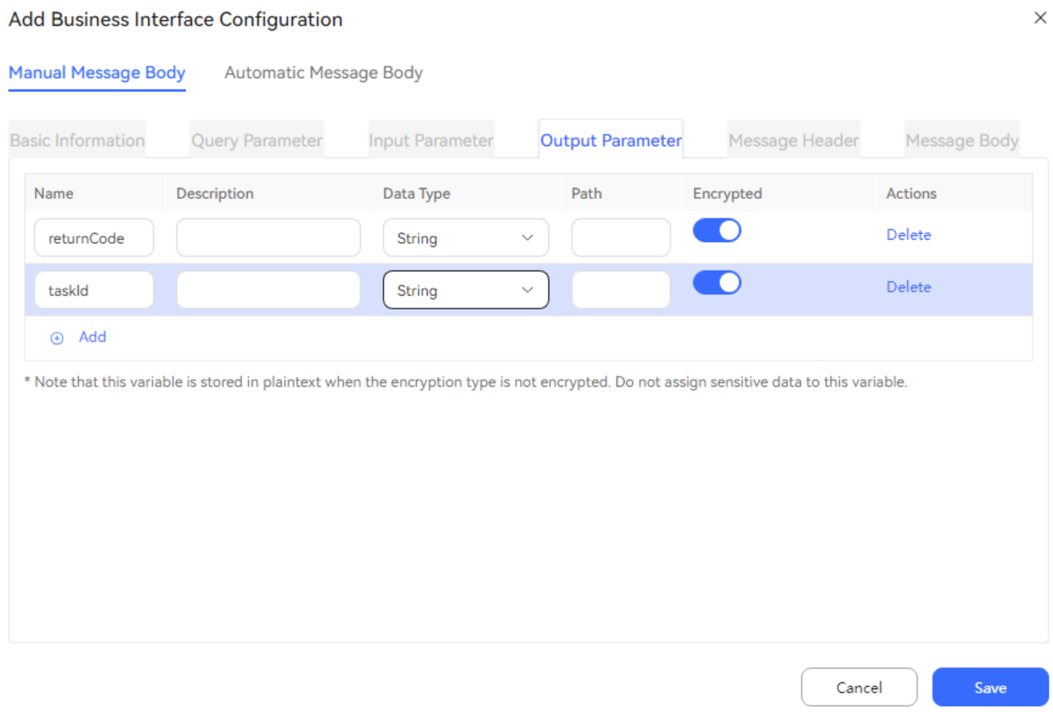


c. Message body example:

```
{
"msisdn": "${msisdn}",
"startTime": "${startTime}",
"endTime": "${endTime}",
"locale": "${locale}",
"scene": "${scene}",
"longitude": "${longitude}",
"latitude": "${latitude}",
"radius": "${radius}"
}
```

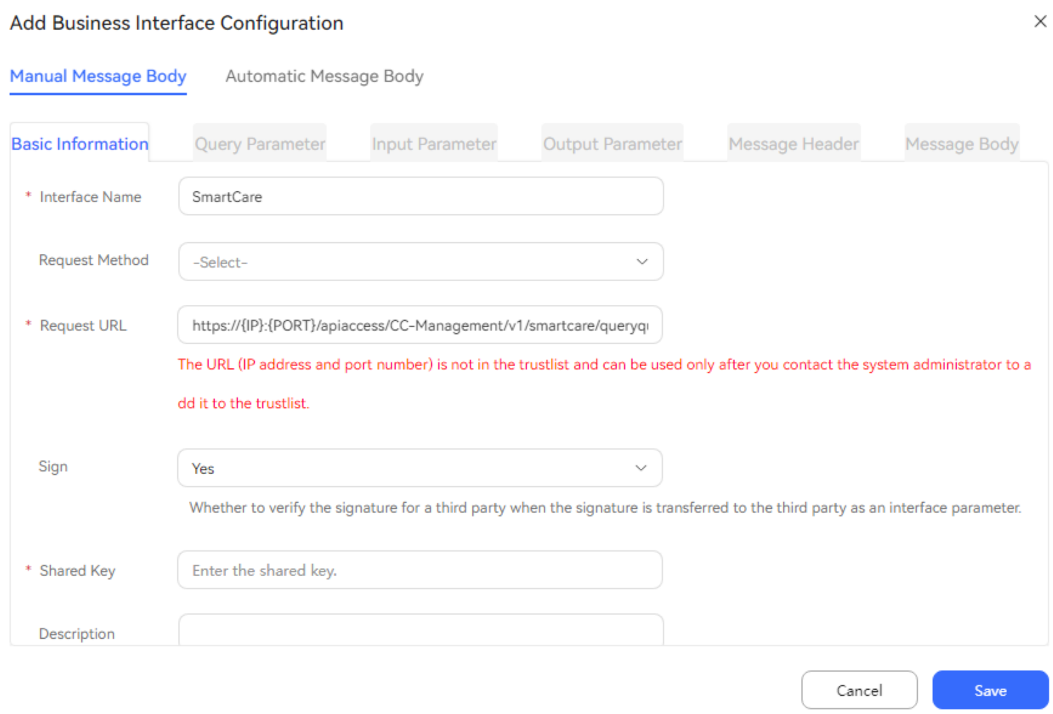


d. Output parameter: **taskId** of the demarcation task

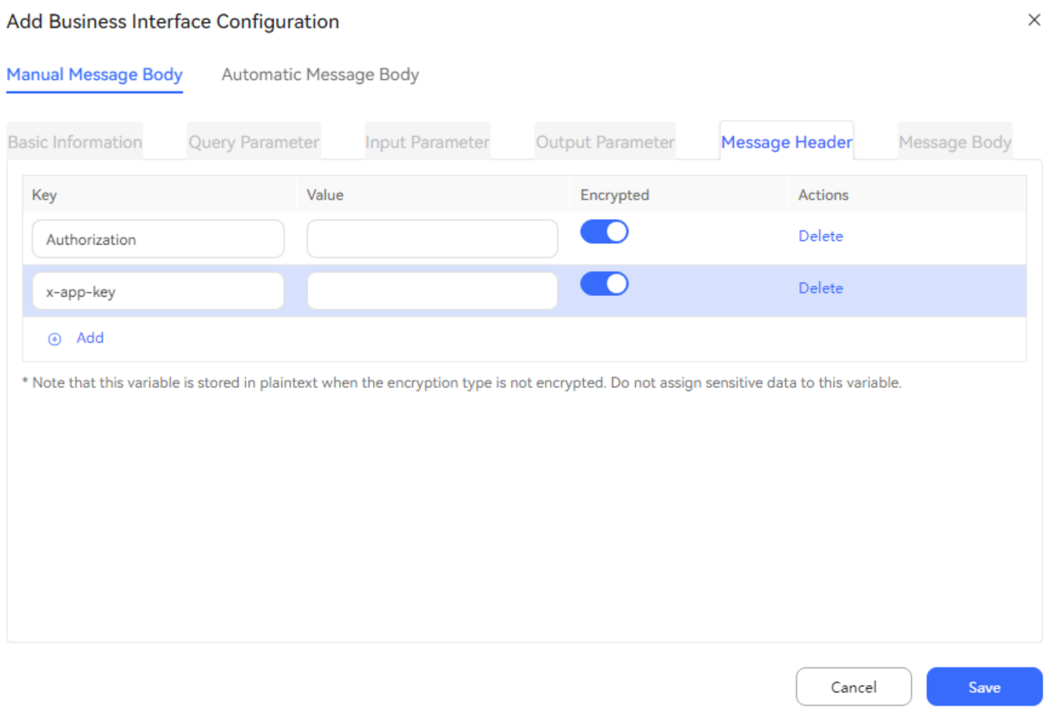


3. Configure the SmartCare API for quick demarcation result query.

a. Basic information: request URL: https://*{IP}*:*{PORT}*/apiaccess/CC-Management/v1/smartcare/queryquickresult

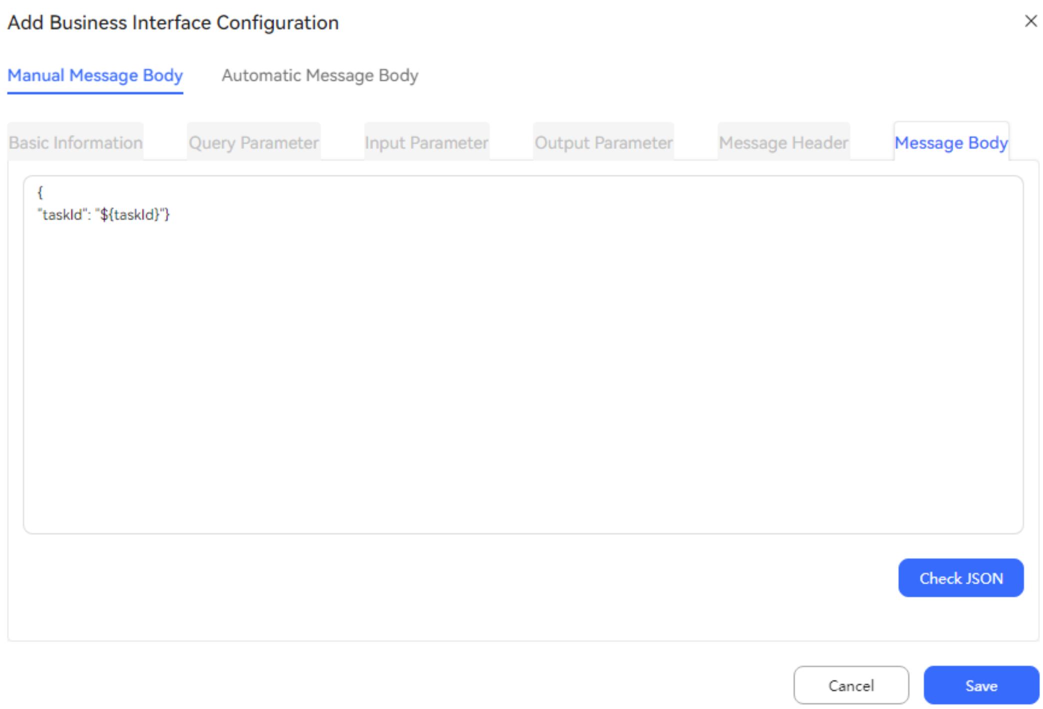


b. Message header: **Authorization** and **x-api-key**

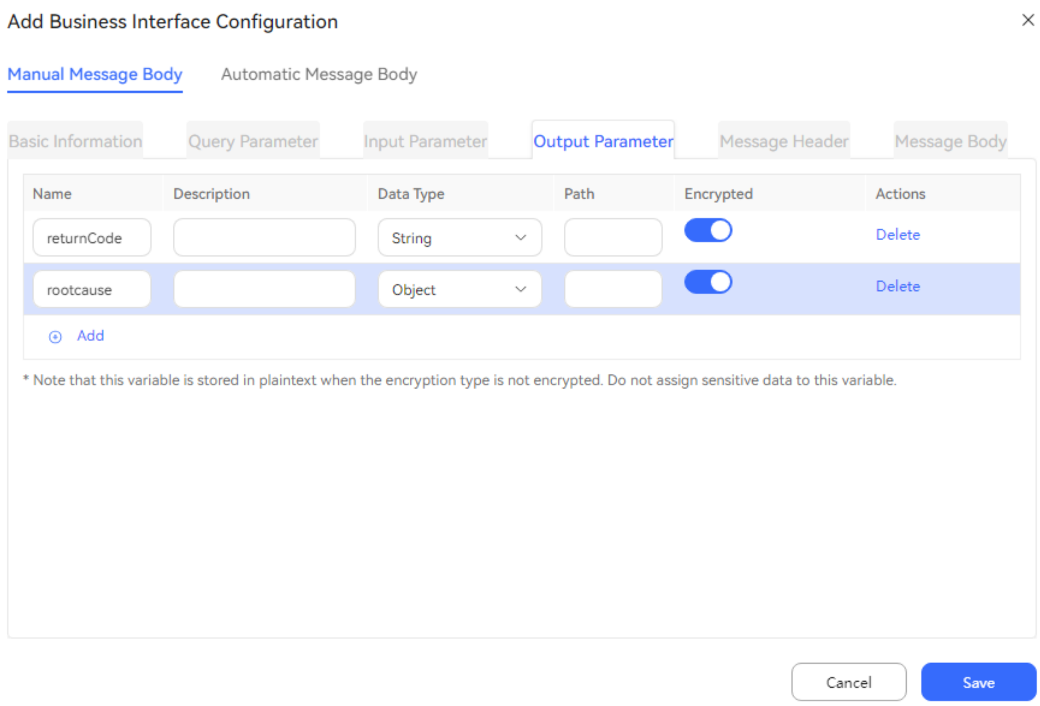


c. Message body:

```
{
"taskId": "${taskId}"
}
```

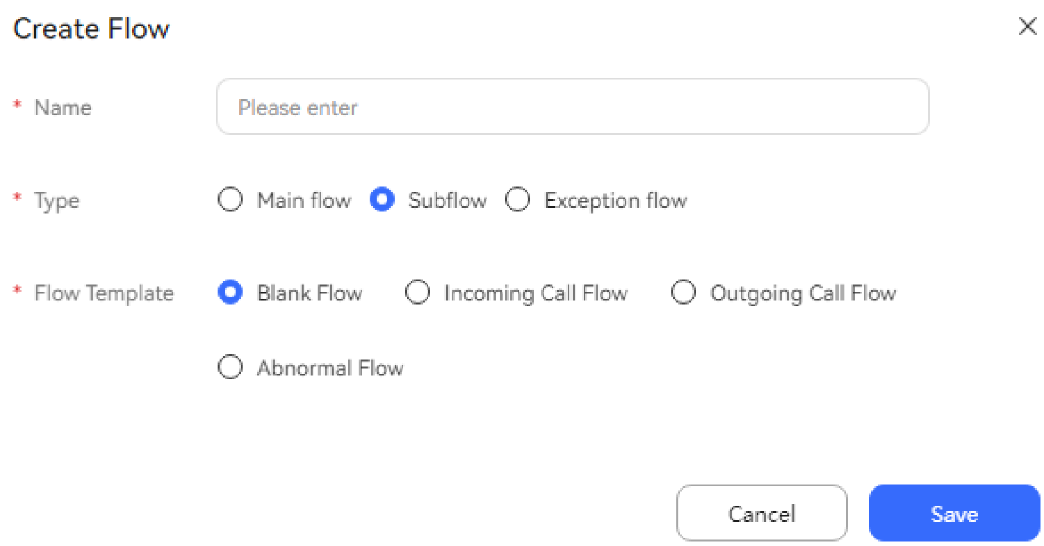


d. Output parameter: **rootcause** returned by the API

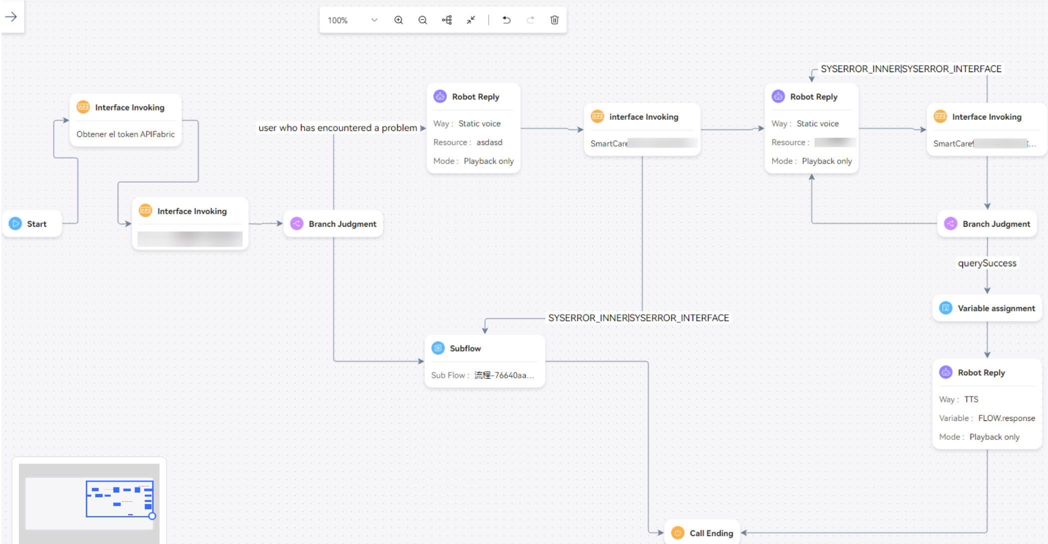


Step 5 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration** and click **Create**. The **Create Flow** page is displayed.

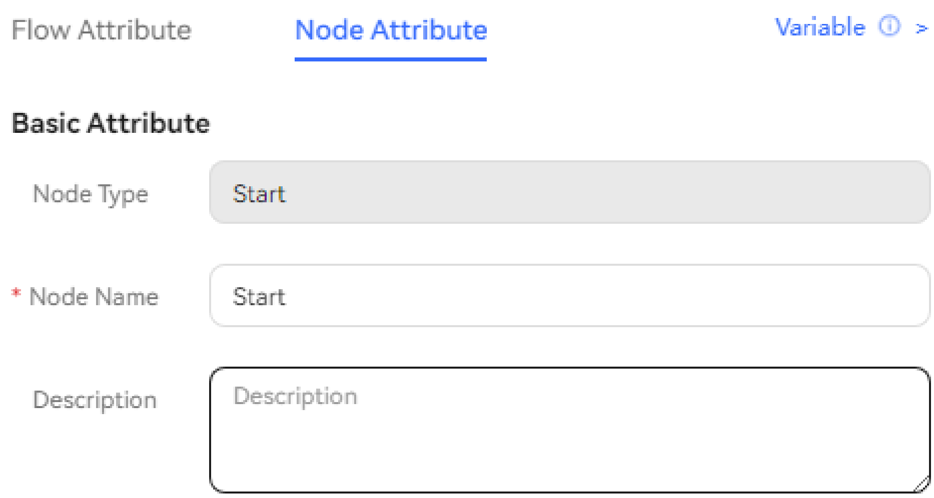
1. Create a flow.



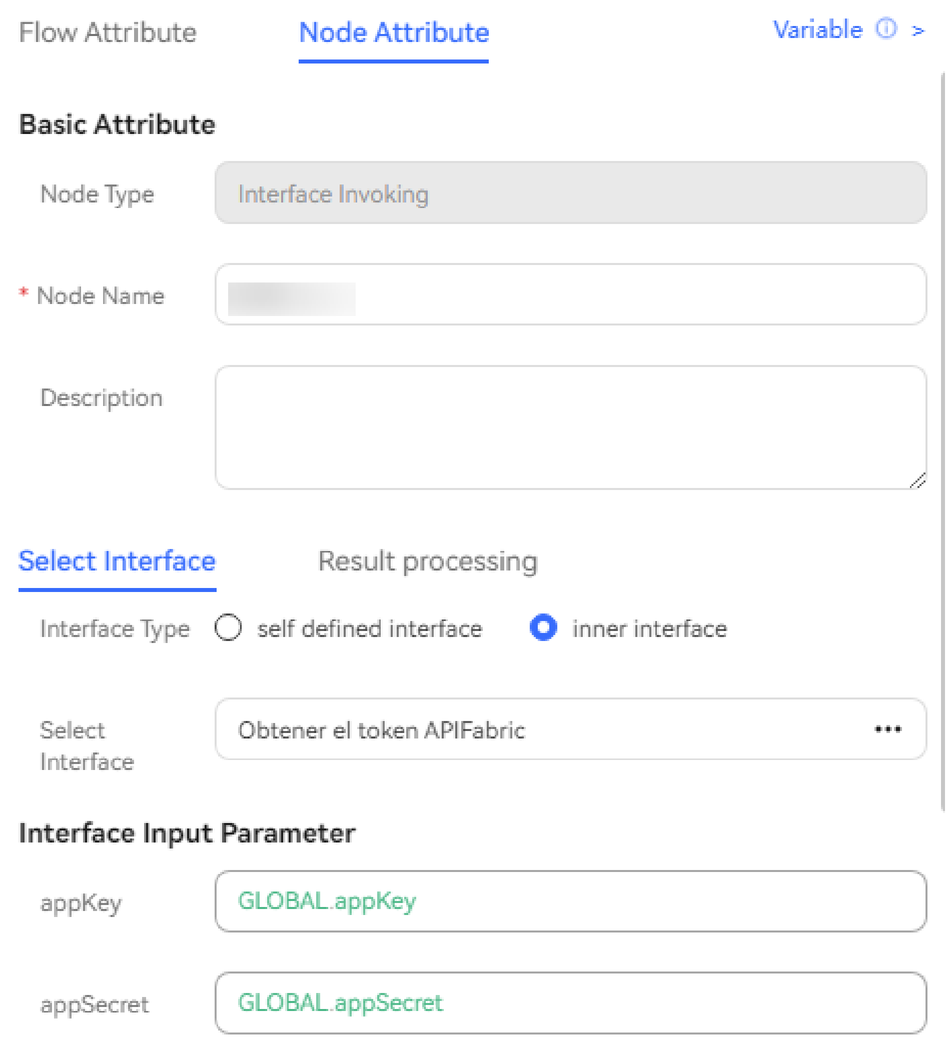
2. Edit the IVR flow.
   a. IVR flow configuration overview:

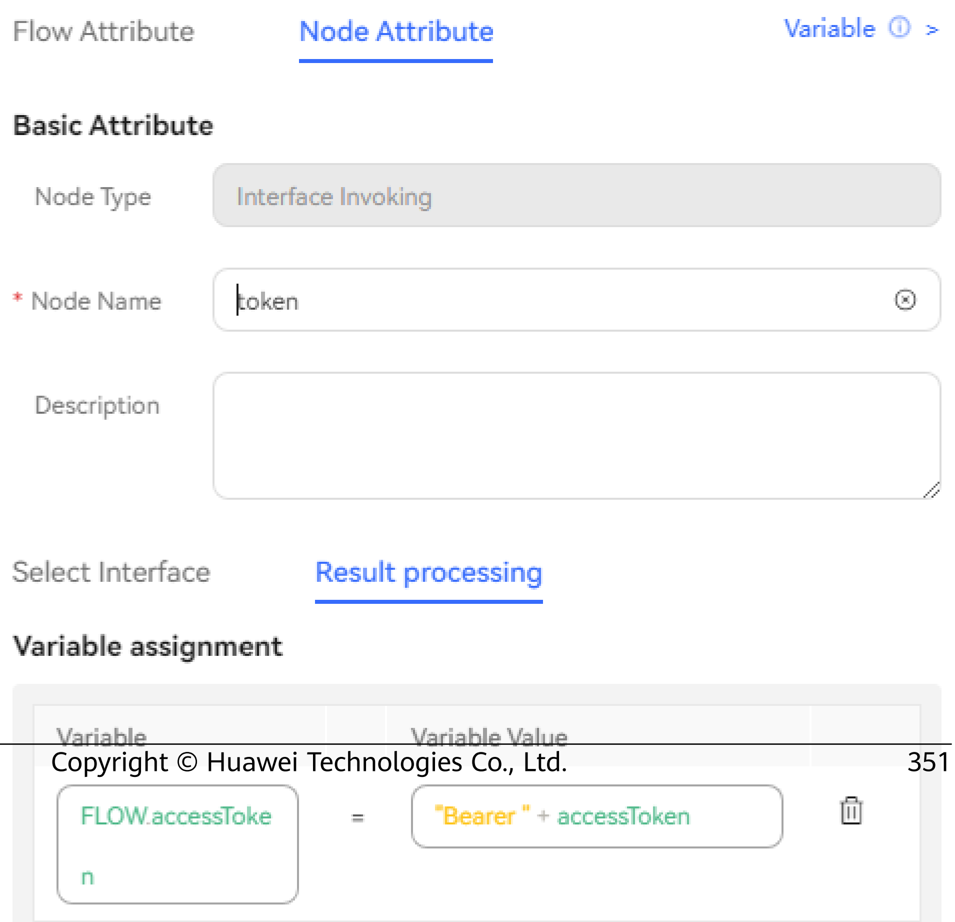


b. Configure the start diagram element, as shown in the following figure.

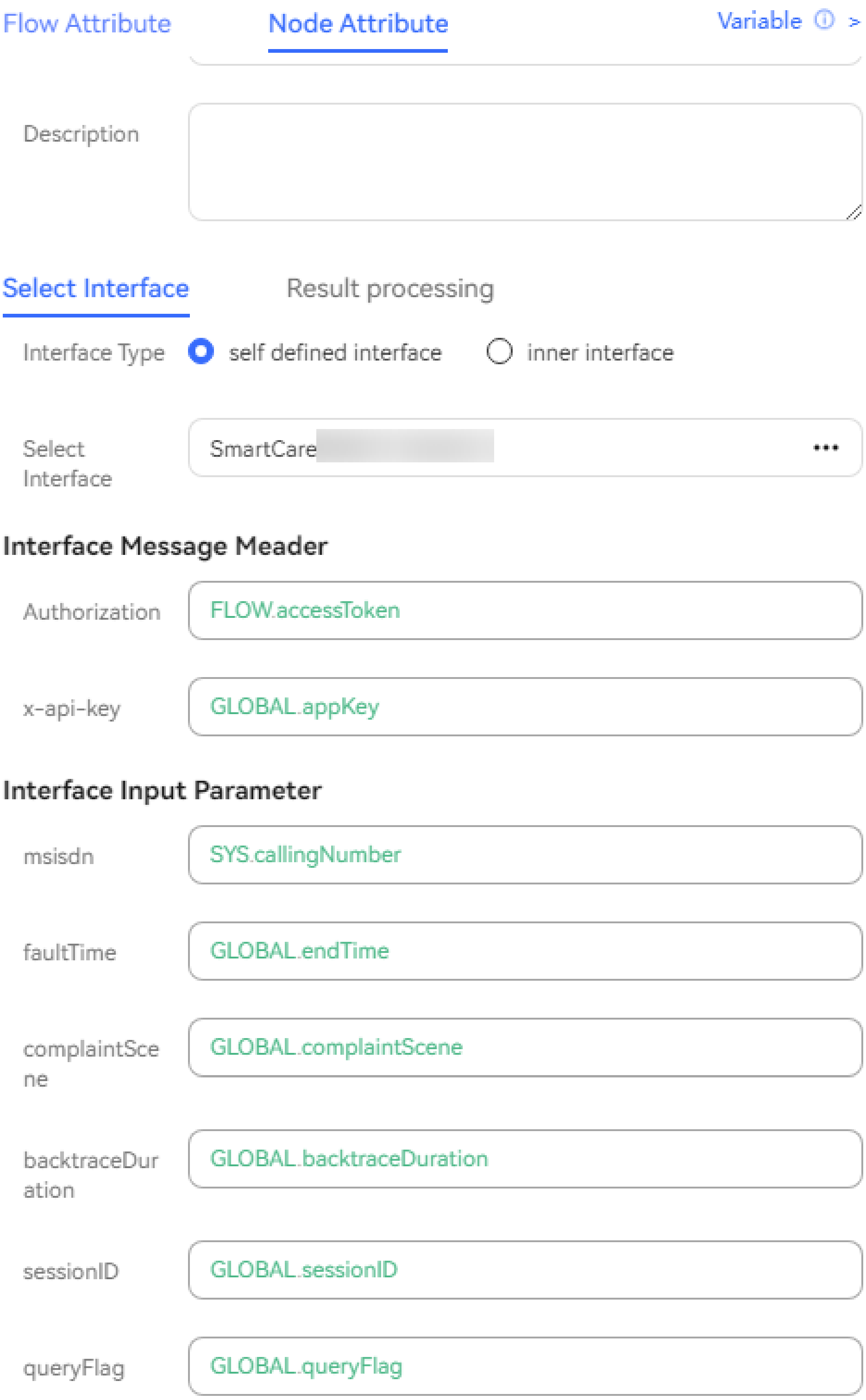


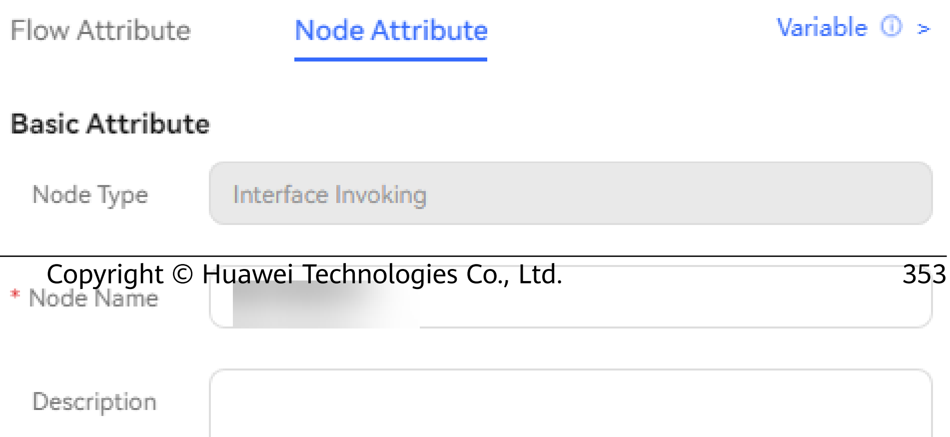
c. Configure the token query API diagram element, as shown in the following figure.


Flow Attribute
Node Attribute
Variable >
Basic Attribute
Node Type
Interface Invoking
* Node Name
Description
Select Interface
Result processing
Interface Type
self defined interface
inner interface
Select Interface
Obtener el token APIFabric
Interface Input Parameter
appKey
GLOBAL.appKey
appSecret
GLOBAL.appSecret

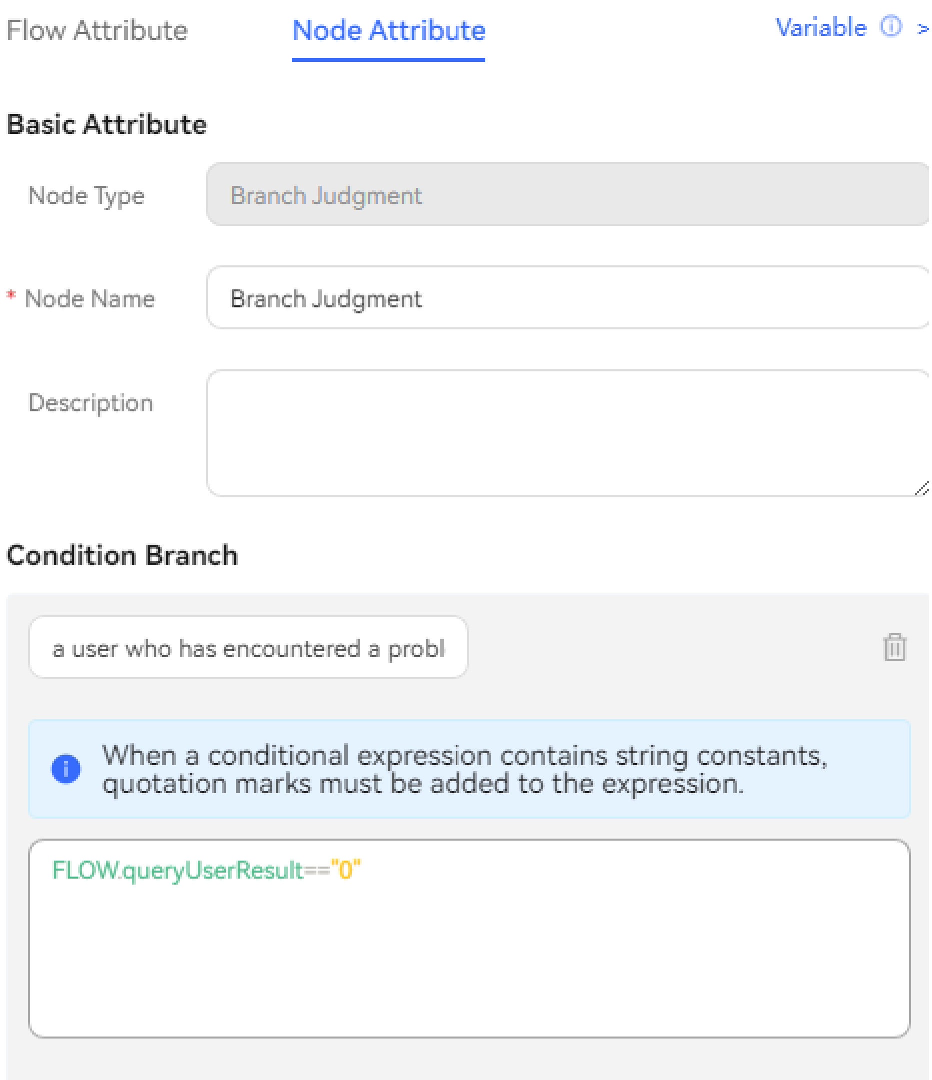

Flow Attribute
Node Attribute
Variable >
Basic Attribute
Node Type
Interface Invoking
* Node Name
token
Description
Select Interface
Result processing
Variable assignment
Variable
Variable Value
FLOW.accessToken
=
"Bearer " + accessToken

d. Configure the diagram element of the SmartCare API for querying users with common issues. (By default, the fault time is the current system timestamp, and the MSISDN is the calling number.)

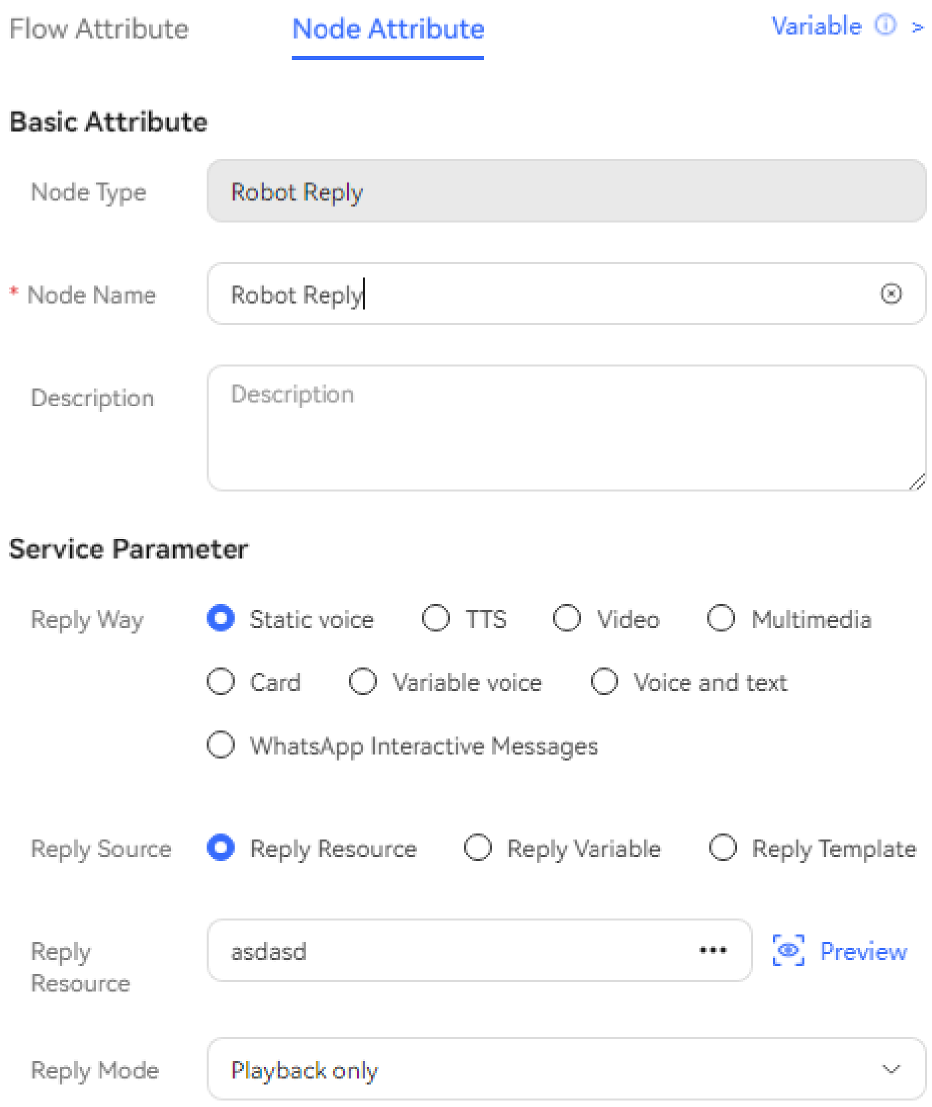

Flow Attribute
Node Attribute
Variable ⓘ >
Description
Select Interface
Result processing
Interface Type
self defined interface
inner interface
Select Interface
SmartCare
Interface Message Meader
Authorization
FLOW.accessToken
x-api-key
GLOBAL.appKey
Interface Input Parameter
msisdn
SYS.callingNumber
faultTime
GLOBAL.endTime
complaintScene
GLOBAL.complaintScene
backtraceDuration
GLOBAL.backtraceDuration
sessionID
GLOBAL.sessionID
queryFlag
GLOBAL.queryFlag


Flow Attribute
Node Attribute
Variable ⓘ >
Basic Attribute
Node Type
Interface Invoking
* Node Name
Description

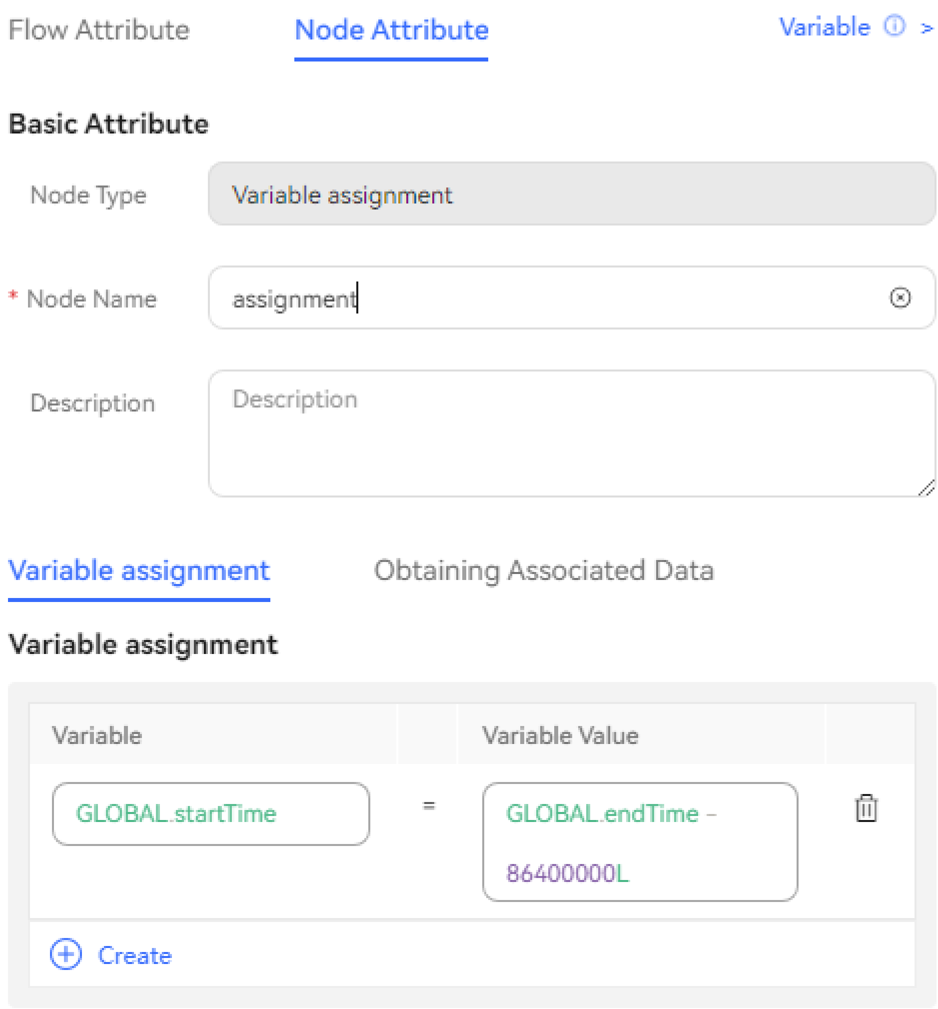
e. Configure the branch judgment diagram element, as shown in the following figure.



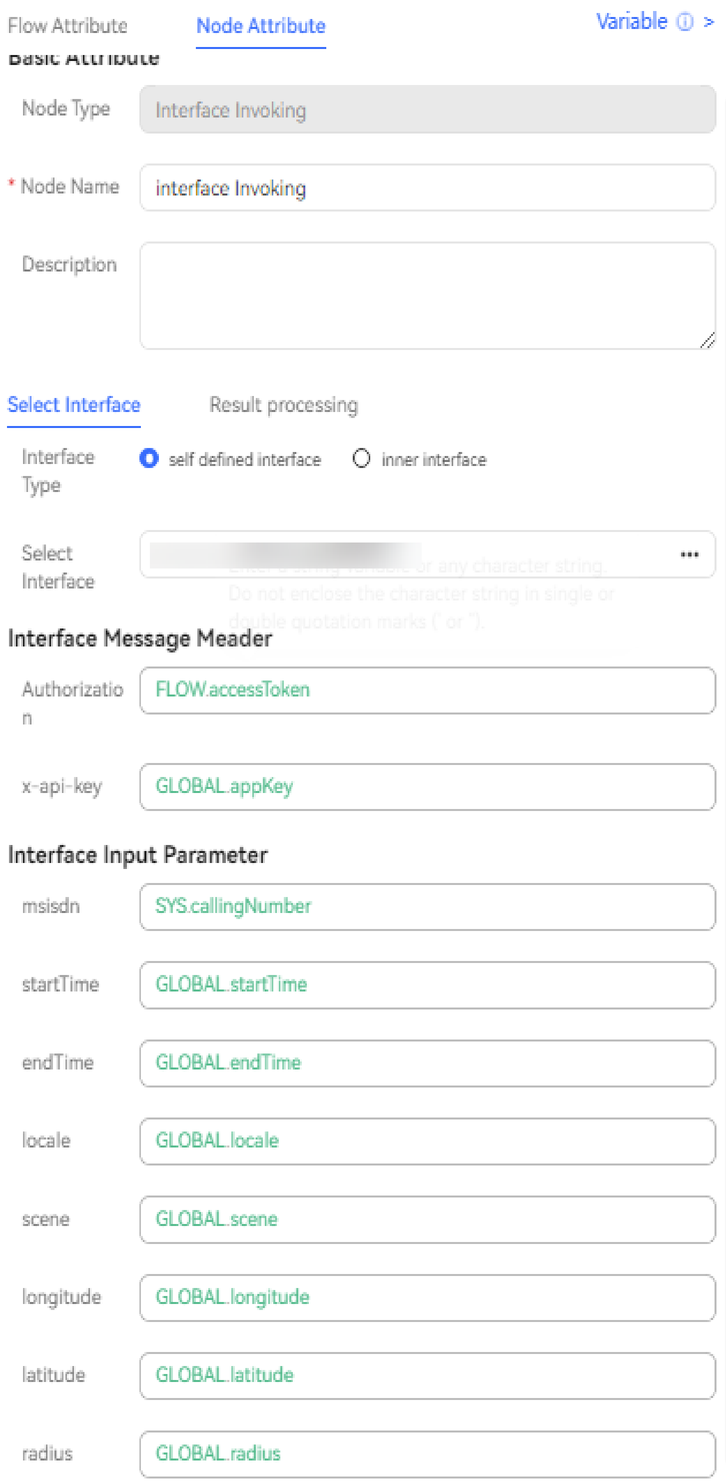
f. Configure the robot reply diagram element, as shown in the following figure.

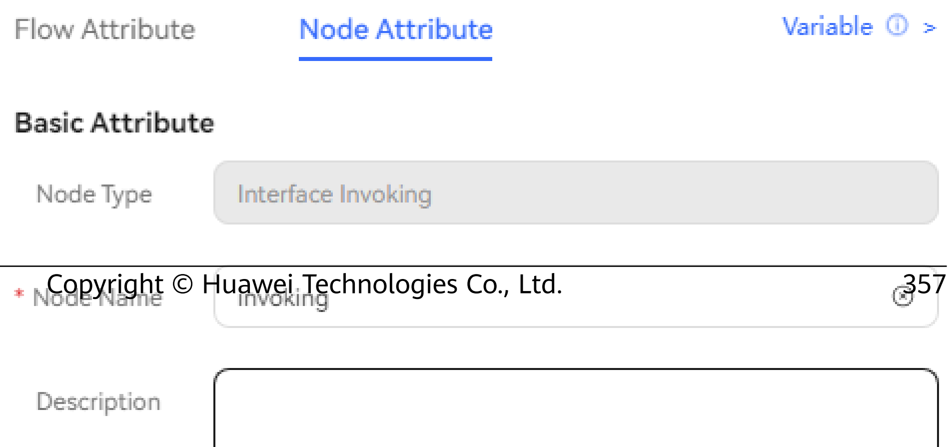


g. As shown in the following figure, you can use the **Variable assignment** diagram element to set the fault start time for query. (The start time is the system time minus one day.)

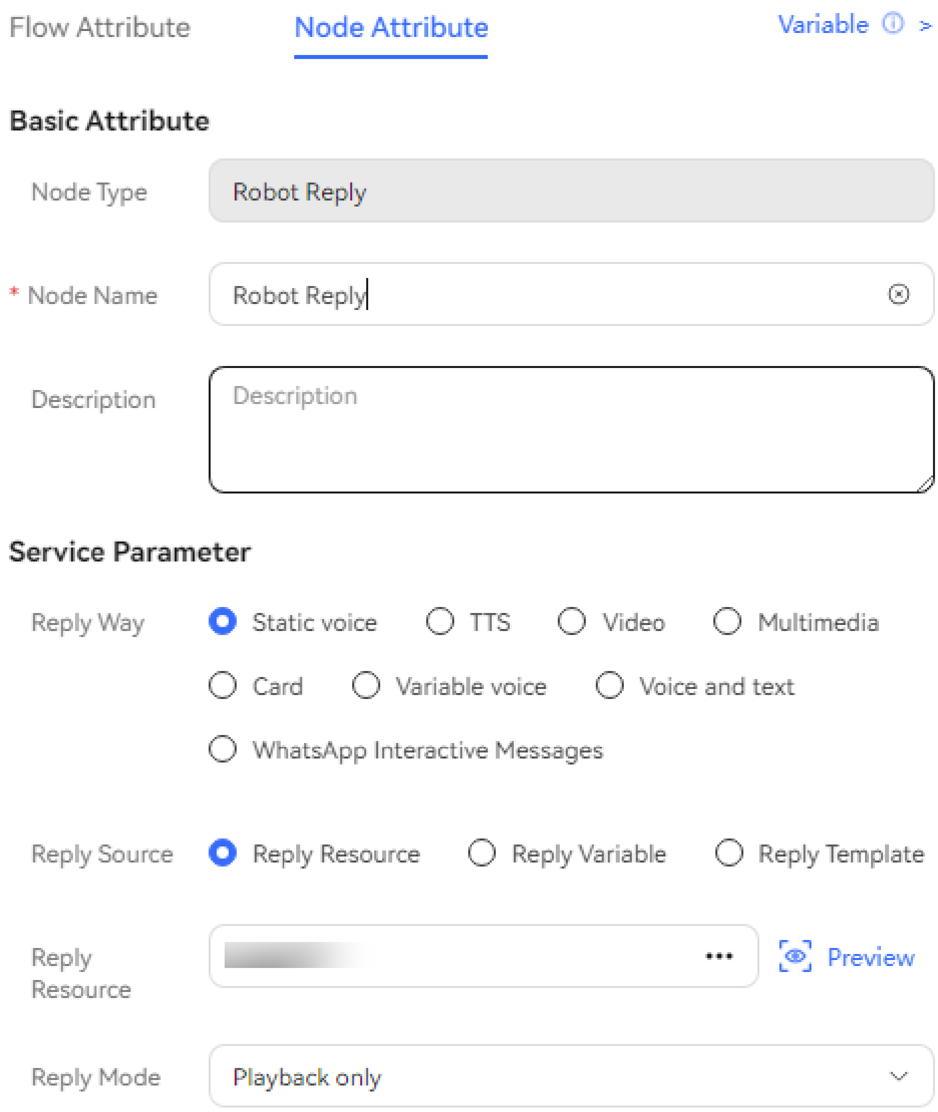


h. Configure the SmartCare quick fault demarcation API, as shown in the following figure.

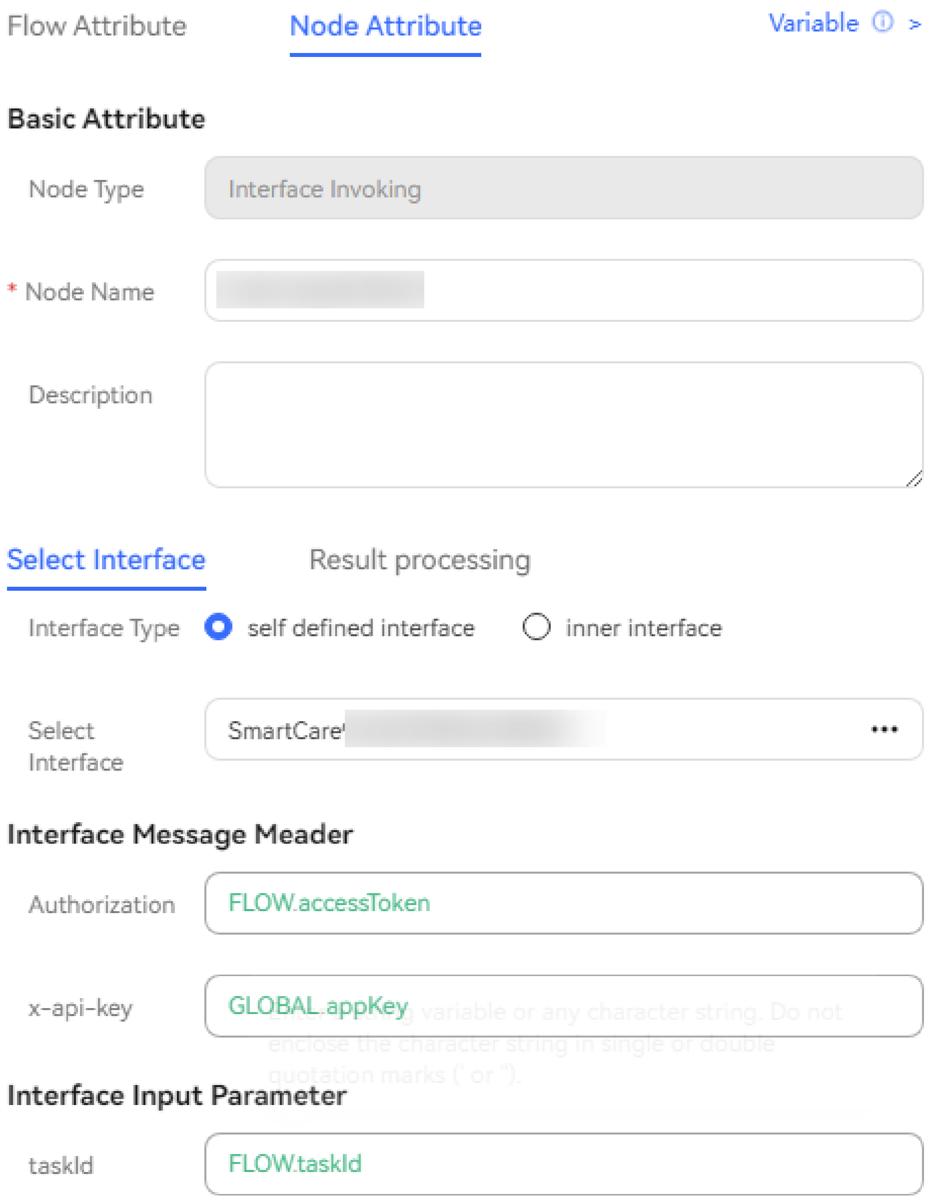

Flow Attribute
Node Attribute
Variable >
Basic Attribute
Node Type
Interface Invoking
* Node Name
interface Invoking
Description
Select Interface
Result processing
Interface Type
self defined interface
inner interface
Select Interface
Interface Message Meader
Authorization
FLOW.accessToken
x-api-key
GLOBAL.appKey
Interface Input Parameter
msisdn
SYS.callingNumber
startTime
GLOBAL.startTime
endTime
GLOBAL.endTime
locale
GLOBAL.locale
scene
GLOBAL.scene
longitude
GLOBAL.longitude
latitude
GLOBAL.latitude
radius
GLOBAL.radius

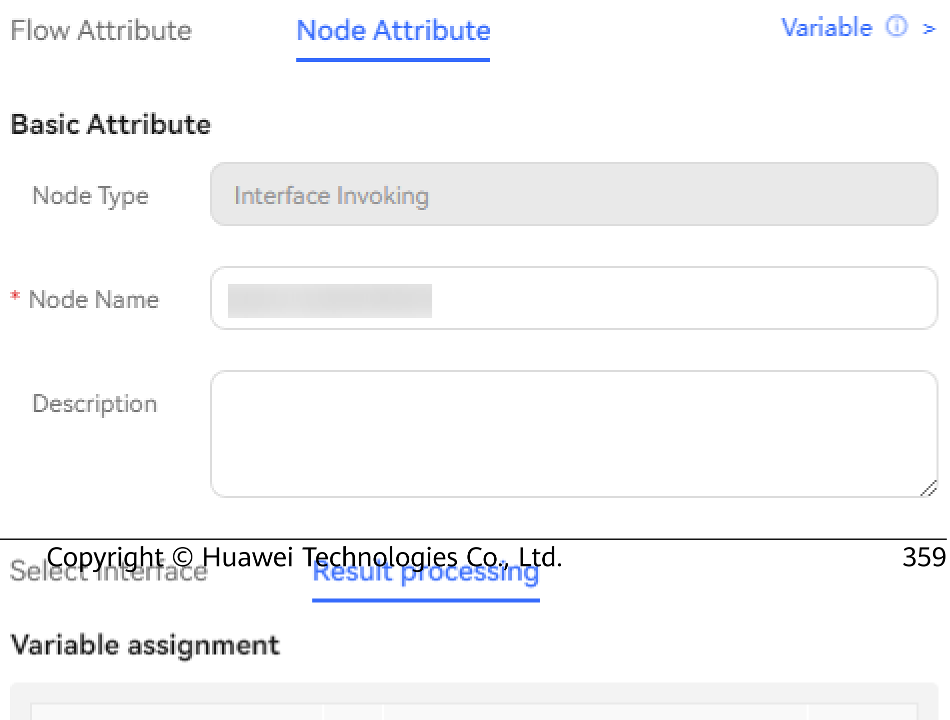

Flow Attribute
Node Attribute
Variable >
Basic Attribute
Node Type
Interface Invoking
* Node Name
Invoking
Description

i. Configure the robot reply diagram element, as shown in the following figure.

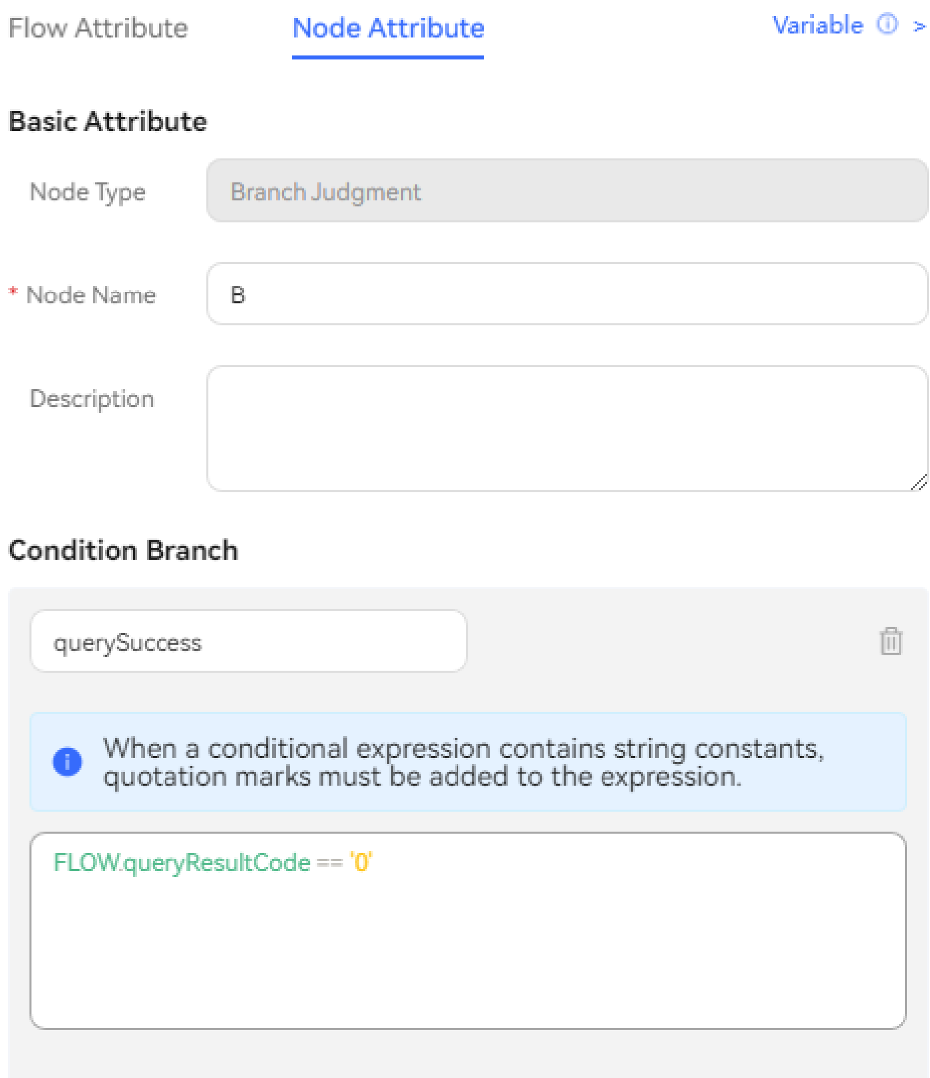


j. Configure the SmartCare API for quick demarcation result query, as shown in the following figure.

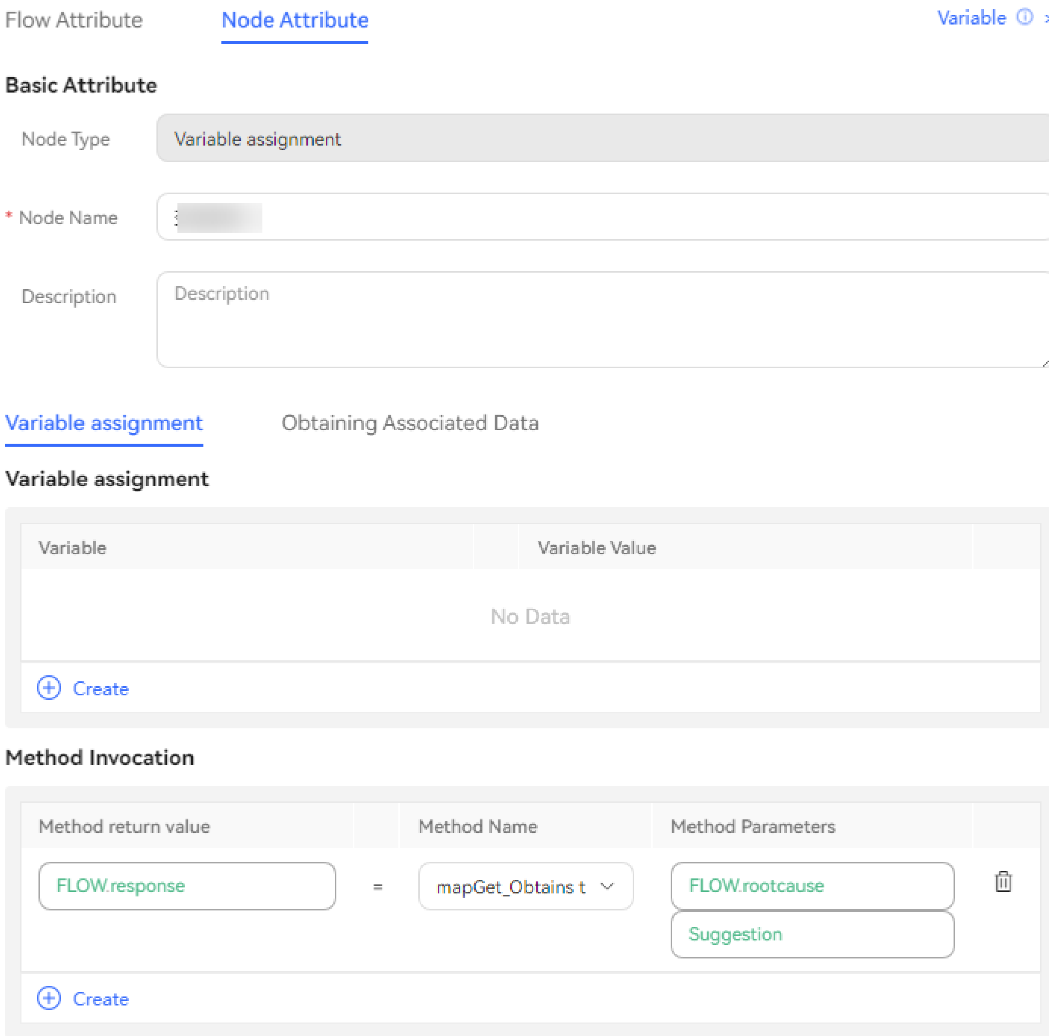

Flow Attribute
Node Attribute
Variable
>
Basic Attribute
Node Type
Interface Invoking
* Node Name
Description
Select Interface
Result processing
Interface Type
self defined interface
inner interface
Select Interface
SmartCare
Interface Message Meader
Authorization
FLOW.accessToken
x-api-key
GLOBAL.appKey
Interface Input Parameter
taskId
FLOW.taskId


Flow Attribute
Node Attribute
Variable
>
Basic Attribute
Node Type
Interface Invoking
* Node Name
Description
Select Interface
Result processing
Variable assignment

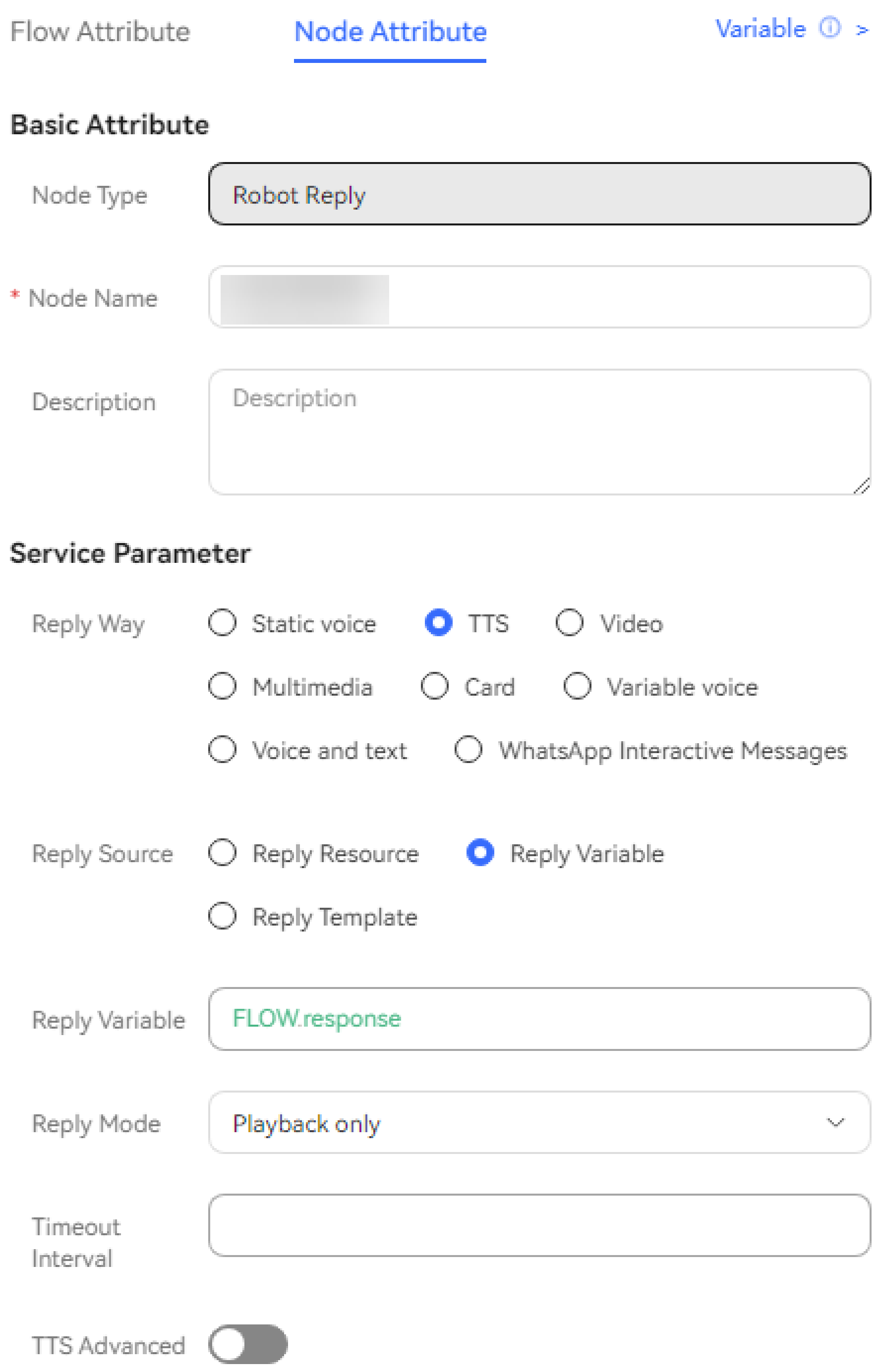
k. Configure the branch judgment diagram element, as shown in the following figure.



l. Configure the variable assignment diagram element, as shown in the following figure.



m. Configure voice playback for troubleshooting suggestion result processing, as shown in the following figure.

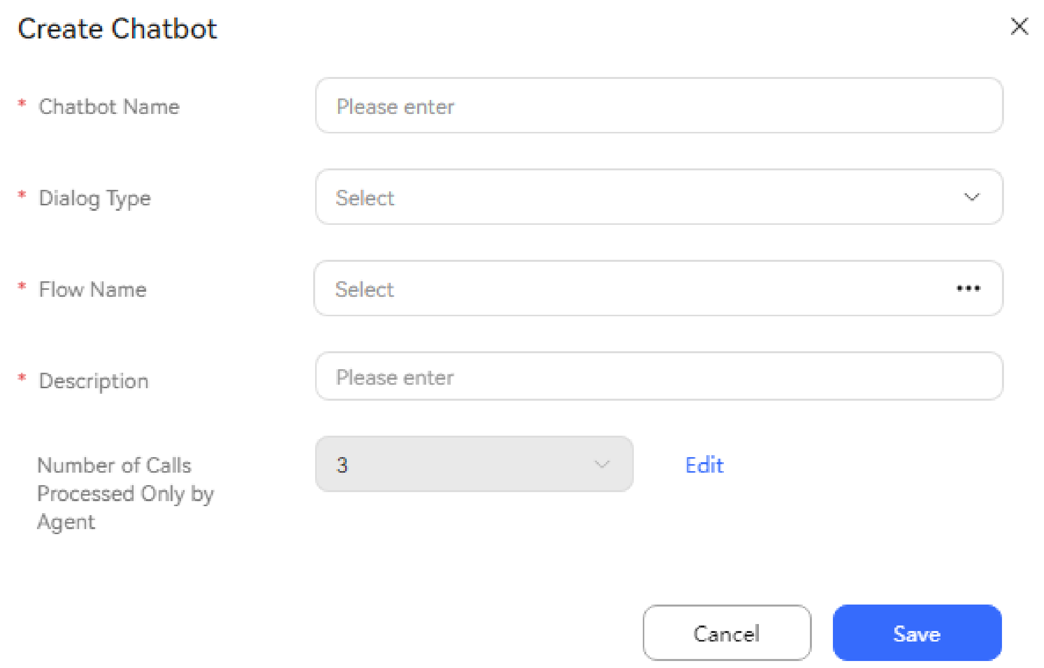


----End

Testing the Intelligent Robot

Procedure

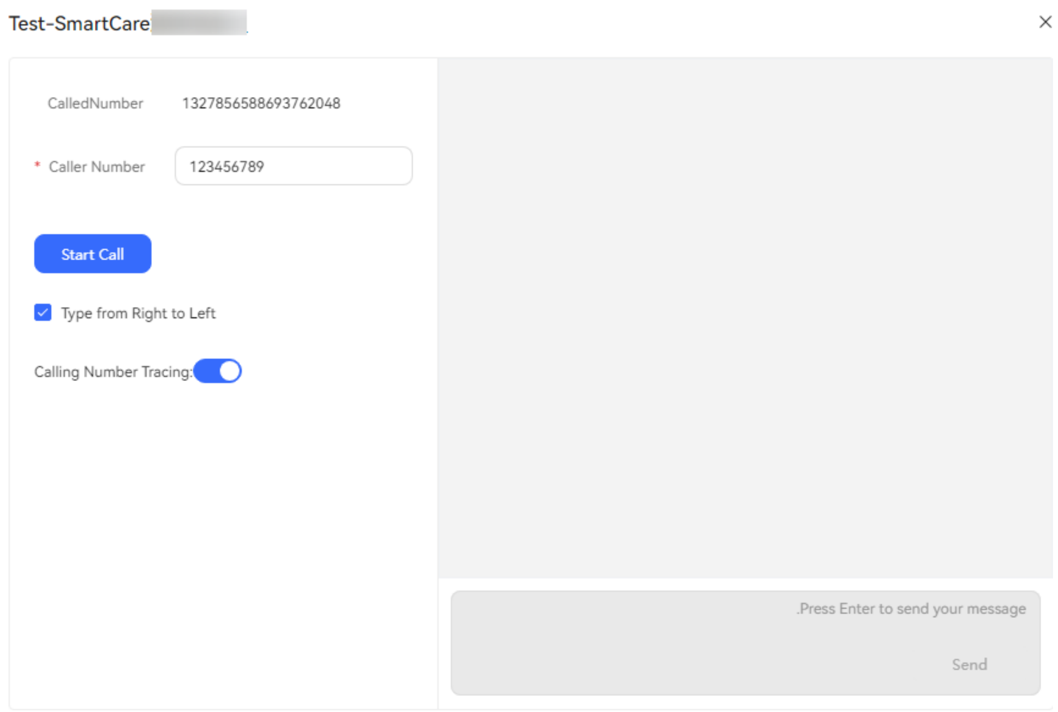
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot**, and click **Create**.



- **Chatbot Name**: Enter a user-defined name, for example, **SmartCare intelligent robot**.
- **Dialog Type**: Select a robot.
- **Flow Name**: Select the flow created in step **Step 5**.

Step 2 Click **Save**. The intelligent robot is created successfully.

Step 3 Click **Test Call** to start the call verification process.



----End

2.6.2.5 Reference

This section describes the references, including the diagram element reference, parameter reference, and TUC interface reference, in an intelligent IVR flow.

2.6.2.5.1 Diagram Elements

The ODFS provides diagram elements for configuring a flow. You can drag a diagram element to the canvas on the right or click a diagram element to use it on the canvas.

NOTE

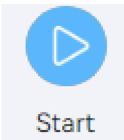
What are the tips for drawing a flowchart?

- When dragging a diagram element, observe the line between the new diagram element and the existing one on the canvas, and align the diagram elements based on the tips.
- Drag a diagram element to the canvas, and then click to drag it.
- In a diagram element, a cache object cannot be duplicate. The cache variable name must be unique. Otherwise, the latest cache variable name is used.

Start

This diagram element is used to mark the beginning of a flow.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

Using the Diagram Element

You do not need to add this diagram element. By default, it is available in a new flow. A flow can have only one **Start** diagram element.

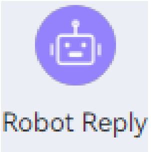
Typical Application Scenario

None

Robot Reply

This diagram element is used to respond to customers in the IVN. It is used to play voices to customers in a flow.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Reply Way**: The options are **Static voice**, **TTS**, **Video**, **Multimedia**, **Card**, **Voice and text**, **Variable voice**, and **WhatsApp Interactive Messages**.

  NOTE

  Currently, variable voices do not support recording in IVR flows.

  – **Static voice**: The voice file on the voice file server is played directly. This type is used in scenarios where the context is unchanged. Make sure that the voice file exists on the UAP file server.
  – **TTS**: The configured text is provided for the TTS for conversion and playback. Variables can be added to the reply text, and the TTS dynamically plays a voice based on the return values of the variables.
  – **Video**: name of a video file on the file server.
  – **Multimedia**: The configured multimedia information is provided for the corresponding player through a channel gateway. This option is displayed only in the integration environment.
  – **Card**: The configured card information is provided for a channel gateway for playback. This option is displayed only in the integration environment.
  – **Voice and text**: Voice files and texts are combined and then played.
  – **WhatsApp Interactive Messages** support interaction between robots and WhatsApp.
  – **Variable voice**: Set **Language**, **Type**, and **Reply Variable** to dynamically play a UAP voice package.

    i. **Language**: Multiple languages are available.
    ii. **Type**: Select a voice playback type. The options are **Phone number**, **Number**, **time(hh:mm:ss)**, **Date(yyyymmdd)**, and **Price**.

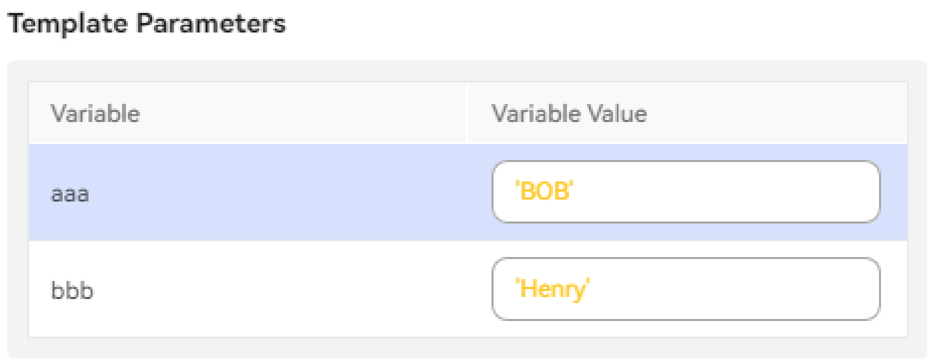
- **Reply Source**: source of the voice content to be played. The options are **Reply Template**, **Reply Variable**, and **Reply Resource**.
- **Reply Template**: This parameter is displayed when **Reply Source** is set to **Reply Template**. Select a content template configured on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Resource Template** page.

  a. If **Reply Way** is set to **Multimedia** and **Reply Template** is set to **Plain Text**, the corresponding parameter values are displayed. To set the plain text content, choose **Configuration Center** > **Resource Management** > **Multimedia Library** > **Plain Text**.
  b. If **Reply Way** is set to **WhatsApp Interactive Messages**, only the WhatsApp interactive message template configured under **Resource** >

Resource Template can be used as the reply template. To set the template content, choose **Configuration Center** > **Resource Management** > **Multimedia Library** > **Card Template** > **WhatsApp Interactive Messages**. Then, the parameter values to be set are displayed on the right.

c. The parameter values in the reply template must be enclosed in quotation marks, as shown in the following figure.

Figure 2-129 Variable value



- **Reply Variable**: This parameter is displayed when **Reply Source** is set to **Reply Variable**. Select a reply variable.

  a. If **Reply Way** is set to **Voice and text**, set this parameter in *{Recording file URL}*~${Text}$~*{Recording file URL}*~${Text}$ format, for example, **/xxx/xx1.wav~abc~/xxx/xx2.wav**. In the format, *{Text}* cannot contain variables. The value can contain a maximum of five voice and text records.

  b. When **Reply Way** is set to **Static voice**, set this parameter in the *{Voice file URL}* format, for example, **/xxx/xx1.wav**.

- **Reply Resource**: This parameter is displayed when **Reply Source** is set to **Reply Resource**. Select a resource configured on the **Configuration Center** > **Resource Management** > **Audio and Video** or **Configuration Center** > **Resource Management** > **Multimedia Library** page.
- **Reply Mode**: This parameter is mandatory. The options are as follows:
  - **Playback only**: Only the voice or video is played, and customer input does not need to be received. Generally, this option is selected for static voice playback.
  - **Interruption recognition**: The customer needs to answer by voice. Generally, this option is selected for replying to text.
  - **Interruption by key presses**: The keys pressed by the customer need to be obtained. If **Reply Mode** of the **Robot Reply** diagram element is set to **Interruption by key presses** and the key interaction result needs to be obtained, the **Robot Reply** diagram element cannot be directly connected to the **Call Ending** diagram element, and the **Key Recognition** and **Semantic Recognition** diagram elements cannot be directly connected before the **Call Ending** diagram element.
  - **Recognition and key presses**: Both voice and key information can be received. The information received first is used for matching.

- **Recognition after playback**: The system starts to identify the voice or video only after the voice or video is played. If a customer speaks during the playback, the system does not receive the voice.
- **Recognition and key presses after playback**: The system starts to identify the voice or video and collect digits only after the voice or video is played. If a customer speaks or presses a key during the playback, no information can be received. If a customer speaks or presses a key after the playback, the information that is received first is used for matching.
- **No interruption after digit collection**: Keys can be pressed when the voice or video is played, but the playback is not interrupted.
- **Custom Variable Value**: whether voice playback can be interrupted. If voice playback can be interrupted, set **Minimum Voice Playing Duration**.

  String **true** -- Voice playback can be interrupted during recognition, and the minimum voice playback duration can be passed.

  String **false** -- Recognition is performed after voice playback.

- **Timeout Interval**: timeout period, in seconds. If this parameter is not set, the default value **15** is used. If the duration exceeds the value of this parameter, the system determines that timeout occurs. The value range of this parameter varies with vendors. Currently, the maximum value is **180**.
  - If **Reply Mode** is set to **Recognition after playback**, the duration starts from the time when the TTS voice playback ends to the time when the recognition stops.
  - If **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, the duration starts from the time when the voice playback ends. For example, if a customer does not speak after the TTS voice playback ends, the robot goes to the next diagram element when the timeout period ends.
  - If **Reply Mode** is set to **Playback only**, the timeout period does not take effect.

NOTE

Pay attention to the setting of the timeout period in the following scenarios: long TTS voice playback, many keys (such as an ID card) to be pressed by a customer, and many opinions to be said by a customer. When **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, if the timeout period is short, the recognition may start before the voice playback ends, or the recognition may end before the customer completes key pressing. If the timeout period is long, there may be a long-time silence after the customer completes key pressing, and a timeout notification is displayed after a long time.

Robot Message Reply Timeout Processing

- **waitFlag**: session identifier. If the value of **timeout** is less than the remaining timeout period of the current session, the value of **waitFlag** is **true**. Otherwise, the value is **false**.
- **waitTimeout**: message timeout period.
- **waitBeginTime**: When the value of **waitFlag** is **true**, the value of **waitBeginTime** is set to the current time.
- When the value of **waitFlag** is **true**, reply timeout is processed. When the value of **waitFlag** is **false**, the original message processing logic is used.
- Processing logic: After a message times out, the CC-Messaging triggers the timeout flow and pushes the robot response to the customer.

- **Extended Parameter**: Enter data required by the IVR, for example, the provider information. The value is sent back to the IVR using the **vendor** parameter of the dialog interface. This interface is available only to the **Robot Reply** diagram element in historical flows. If an old flow uses this parameter, you are advised to enter the value of this parameter in the **ASR Extended Parameter** text box.
- **Number of Collected Digits**: maximum number of collected digits in the IVR system. This parameter is displayed when **Reply Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.
- **Digit collection timeout**: Timeout interval for pressing a key. For example, if this parameter is set to 2 seconds, the flow proceeds when the key pressing interval exceeds 2 seconds, even though the number of collected digits does not reach the specified value.
- **Cancel Key**: whether to use the star key (*) as the cancel key during IVR digit collection. This parameter is displayed when **Reply Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.
- **Confirm Key**: whether to use the pound key (#) as the confirm key during IVR digit collection. This parameter is displayed when **Reply Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.
- **TTS Advanced Settings**: Enable or disable this function. By default, this function is disabled.
- **Voice**: The options are **Male**, **Female**, and **Custom Sound Effect**. The default value is **Female**. This parameter is configurable when **TTS Advanced Settings** is enabled.
- **Voice Speed**: The options are **Slow**, **Medium**, **Fast**, and **Custom Speed**. The default value is **Slow**. This parameter is configurable when **TTS Advanced Settings** is enabled.
- **Default Values for Extended TTS Parameters.**: Enable or disable this function. By default, this function is disabled.
- **TTS Extended Parameter**: Enter the data required by the TTS business on the IVR side, for example, the vendor information. The value is sent back to the IVR using the **ttsMRCPVendor** parameter of the dialog interface.

  Extended parameter of the TTS server. Set this parameter based on the requirements of the TTS server vendor. The values of **speed**, **pitch**, **volume**, and **voice_name** can be **GLOBAL** and **FLOW** variables of the character type or any character string. If the value of a variable is not within the standard range, the default value is used.

  The default values and format requirements are as follows:

  ```
  speed=GLOBAL.ttsSpeed;pitch=GLOBAL.ttspitch;volume=GLOBAL.ttsVolume;voice_name=GLOBAL.voiceName;
  ```

  a. The value of **speed** ranges from –500 to 500. The default value is **0**.
  b. The value of **pitch** ranges from –500 to 500. The default value is **0**.
  c. The value of **volume** ranges from 0 to 100. The default value is **50**.
  d. The default value of **voicename** is **cn_kefuman_common**.

NOTE

- To use the TTS function, you need to contact the system administrator to sign in to the AICC, choose **Configuration Center** > **Chatbot Management** > **Flow Management** > **System** > **TTS/ASR**, and configure a TTS server for your tenant space.
- To set the default values of extended parameters of the TTS server, contact the tenant administrator to sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Variable** > **Built-in Variable**.

- **ASR Advanced Settings**: Enable or disable this function. By default, this function is disabled.
- **Recognition Type**: The option is **Common**. The default value is **Common**. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **Subscriber Silence Timeout Interval**: The default value is **100**, in seconds. The value ranges from 0 to 32000. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **Recognition Timeout Interval**: The default value is **200**, in seconds. The value ranges from 0 to 600. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **Subscriber Pause Timeout Interval**: The default value is **500**, in milliseconds. The value ranges from 300 to 2000. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **ASR Extended Parameter**: Enter the data required by the ASR business on the IVR side, for example, the vendor information. The value is returned to the IVR system using the **vendor** parameter of the dialog interface.

Using the Diagram Element

- Click the diagram element or drag it to the canvas. Before setting response parameters, maintain the resource templates related to voice and video resources, and then select a reply template that you has maintained in the **Service Parameter** area.
- The **Robot Reply** diagram element is used by the robot in the email channel to automatically reply to customers' emails. In this case, configure the diagram element as follows:
  - Set **Reply Way** to **TTS**.
  - Set **Reply Source** to **Reply Variable**.
  - Set **Reply Variable** to a global variable or a flow variable. The value of the variable must be in the following format (use a comma as the separator):
    ```
    Auto reply email template ID,Personal email address
    ```
    The auto reply email template ID can be created in **Configuring Notification Templates as an Administrator**.
  - Set **Reply Mode** as required.

Typical Application Scenario

The following describes how to use the **Robot Reply** diagram element to play a welcome tone to customers.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-130 Adding a flow variable

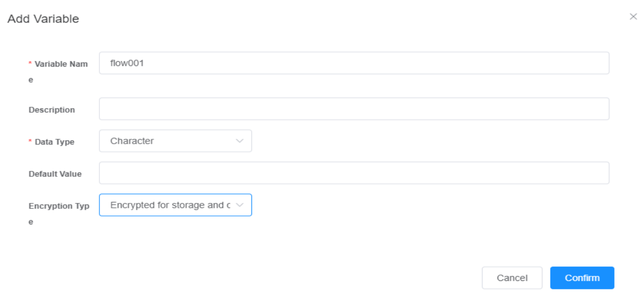
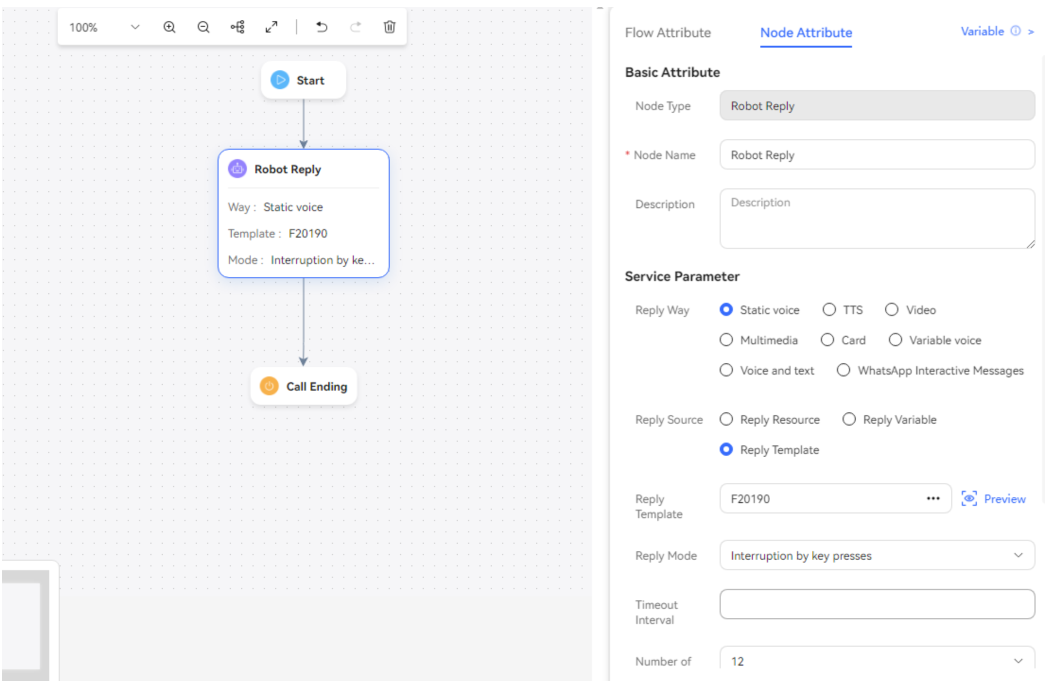


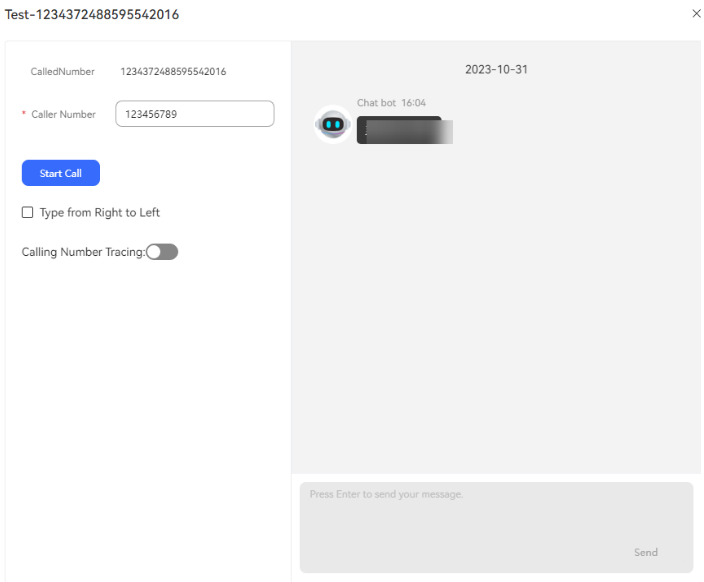
Figure 2-131 Flow orchestration example



3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot** and click **Test Call** in the last column corresponding to the robot. In the **Test** dialog box, click **Start Call** to test the robot. If the robot automatically answers the variable value in the flow orchestration, the configuration is successful.

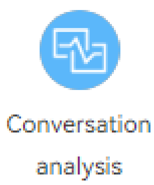


----End

Conversation Analysis

This diagram element is used to invoke a large language model workflow to obtain the semantic recognition, sentiment analysis, and Q&A search results in dialog content.

Diagram Element



Parameter Description

- **Node Name**: diagram element name which can be customized.
- **Description**: details of a node.
- **Function**: check box. The semantic recognition, sentiment analysis, and Q&A search functions are provided.
- **Conversation Content**: request parameter for invoking the selected function. If this parameter is left empty, the **IVRREQUEST.input** parameter is used by default.
- **Timeout Interval**: timeout interval for invoking an API function, in seconds. The value ranges from 1 to 60. The value of this parameter is the smallest one among the value of the current parameter, the API invoking timeout interval, and session timeout interval configured in the system. Default value: **5**
- Extended Data: request parameter for invoking the selection function. This parameter is a reserved extended field like call-associated data.

- **Result processing** - **Variable assignment**: The content returned by the diagram element is stored in the intent variable **TOC.DialogAnalysis**. Variable assignment is supported. The value entered on the right is assigned to the variable entered on the left.

Using the Diagram Element

This diagram element is used together with agent assistant services.

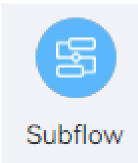
Typical Application Scenario

For details about how to use the conversation analysis diagram element, see the archiving flow of **2.6.5.1.2 LLM-based Agent Assistant**.

Subflow

This diagram element is used to transfer the current flow to the specified node of another flow for execution.

Diagram Element



Parameter Description

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Description**: details of a node.
- **Target Flow**: code of a target flow. You can select an existing flow from the drop-down list, including flows that are not published. This parameter is mandatory.
- **Target Node**: ID of a target node. You can select a node in the selected flow from the drop-down list. If this parameter is left empty, the flow is executed from the **Start** node of the selected flow.

Using the Diagram Element

The **Subflow** diagram element is used to associate the flows that are split from a long and complex flow. It is also used when all or part of the steps in other flows can be reused. Note that it cannot pass parameters. To pass parameters, use a composite diagram element.

Click the diagram element or drag it to the canvas, and select the desired subflow and node.

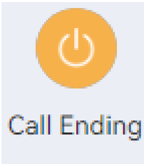
Typical Application Scenario

For details about how to use the **Subflow** diagram element, see **Figure 2-133**. The typical application scenario of the **Call Ending** diagram element involves the **Subflow** diagram element.

Call Ending

This diagram element is used to mark the end of a flow.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **Start Time** and **End Time**: start time and end time during which an interface can be invoked. The configured interface will be invoked to execute related tasks only in the specified time period.

  The time format is HH:MM:SS. For example, if **Start Time** is set to **00:00:00** and **End Time** is set to **23:59:59**, the configured interface is invoked when the **Call Ending** diagram element is reached at any time of a day.
- **Sending Interval**: interval for invoking the interface, in days. The value is an integer and cannot exceed 365. If this parameter is set to **-1**, the interface is not invoked periodically. The invocation is triggered when the **Call Ending** diagram element is reached at any time.

Using the Diagram Element

Click the diagram element or drag it to the canvas.

Typical Application Scenario

If you need to invoke a third-party interface to implement a specific business when using the **Call Ending** diagram element, you can perform the following operations to ensure that the **Call Ending** diagram element can be reached in any case:

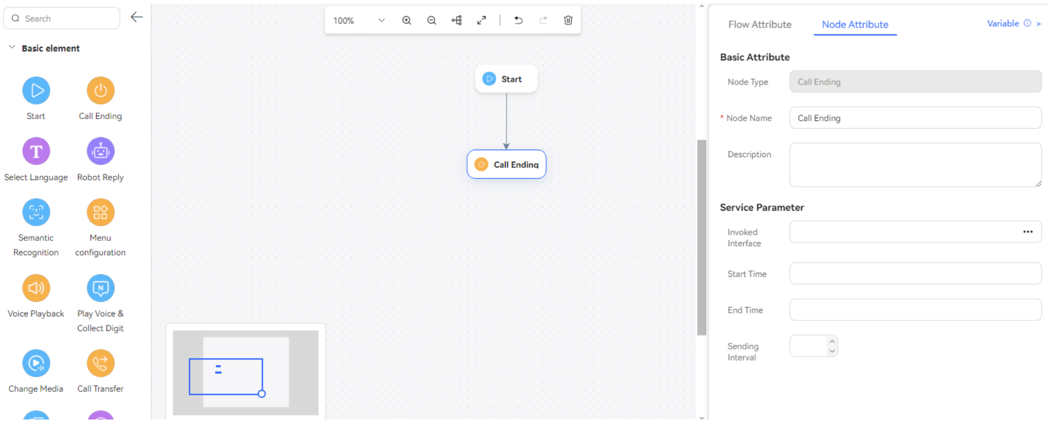
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and add a normal end flow that contains only the **Start** and **Call Ending** diagram elements, as shown in the following

figure. You do not need to configure the invoked interface for the **Call Ending** diagram element.

Figure 2-132 Normal end flow



2. Save and publish the flow.
3. Choose **Flow** > **Orchestration** and add an actual business flow. Do not directly connect a **Call Ending** diagram element as the last diagram element of the flow. Instead, connect a **Subflow** diagram element to transfer the flow to the normal end flow added in **Step 2.1**. In this way, the **Call Ending** diagram element can be reached in any case, including after the flow is transferred.

Figure 2-133 Actual business flow (Subflow diagram element)

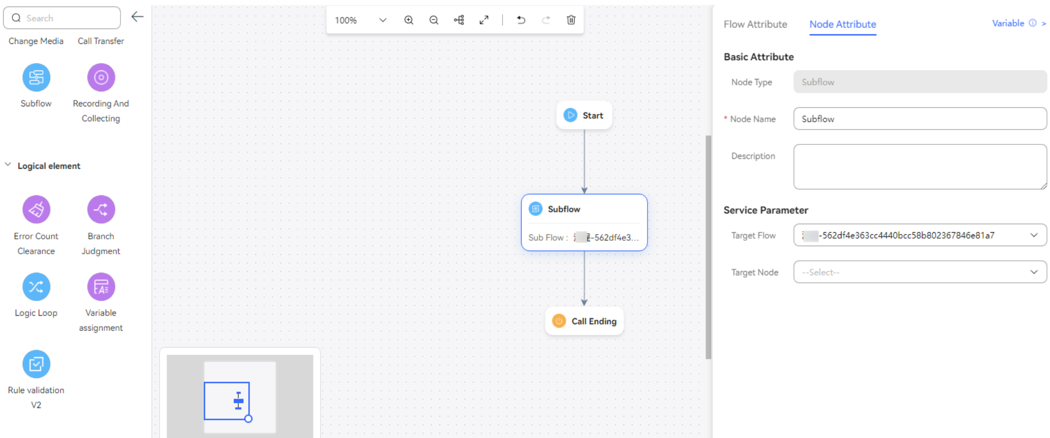
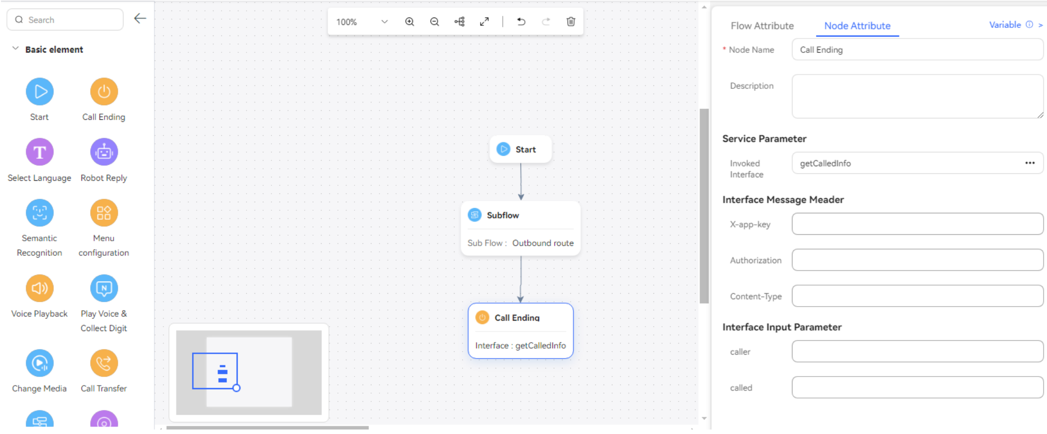


Figure 2-134 Actual business flow (Call Ending diagram element)



4. Save and publish the flow.

   NOTE

   When the flow execution passes through the **Call Transfer** diagram element and the transfer is successful, the third-party interface configured in the **Call Ending** diagram element is not invoked.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

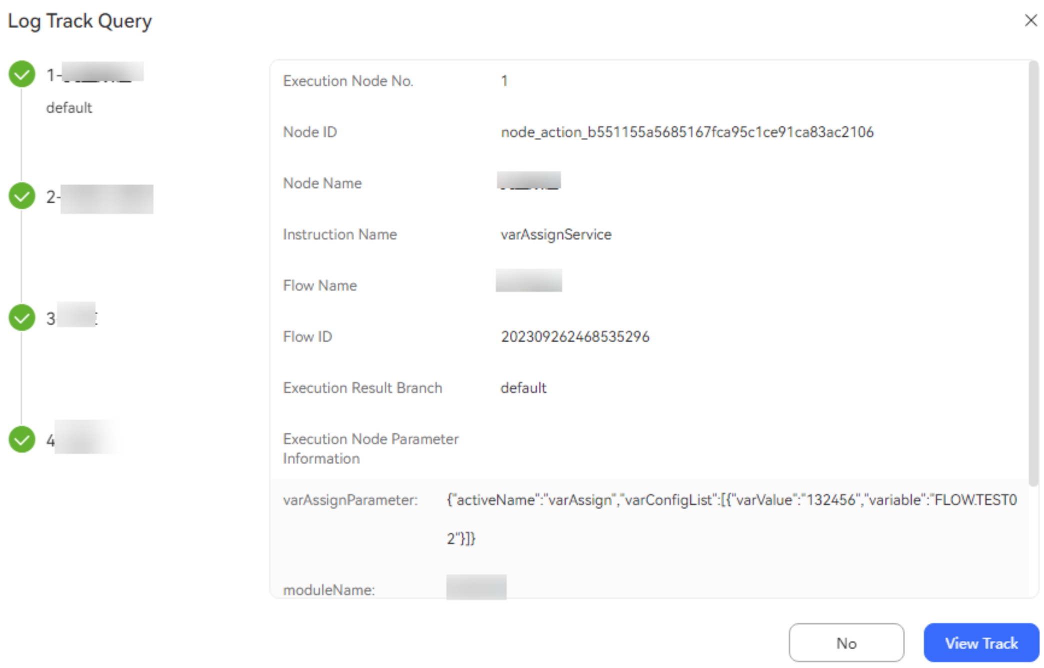
In the test dialog box that is displayed, click **Trace Settings** and enable **Calling Number Tracing**. Click **Start Call** to test the robot.

NOTE

If you do not set **Calling Number** before making a call, the default calling number 123456789 is used.

Step 5 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. The following figure shows that the flow has reached the **Call Ending** diagram element through the **Subflow** diagram element.

Figure 2-135 Flow track log page

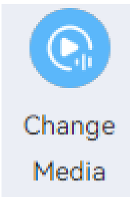


----End

Switching Between Voice and Video Calls

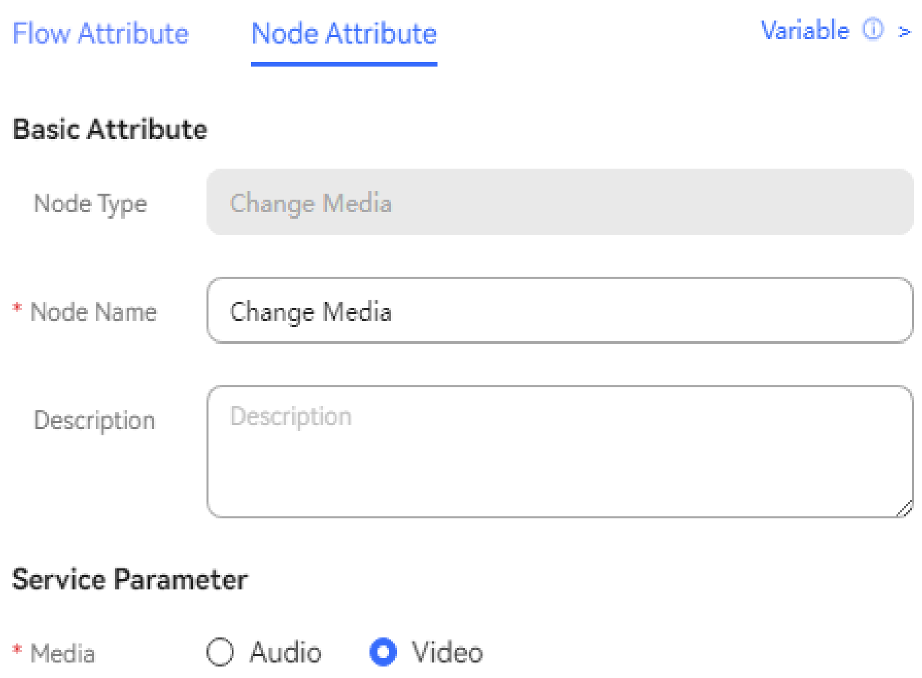
During a customer's call to the IVR, you can switch between voice and video calls.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Change Media** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name.
- **Media**: Select a target media type. The options are **Audio** and **Video**.

Condition Branch Description

Table 2-74 Condition branch description

Condition Branch	Description	Usage
Switching failure	Failure to switch from a voice call to a video call or from a video call to a voice call	Triggered upon a switching failure.

Typical Application Scenario

Voice and video calls need to be switched between each other when businesses are handled for a customer. The corresponding media capabilities are used to intuitively display businesses.

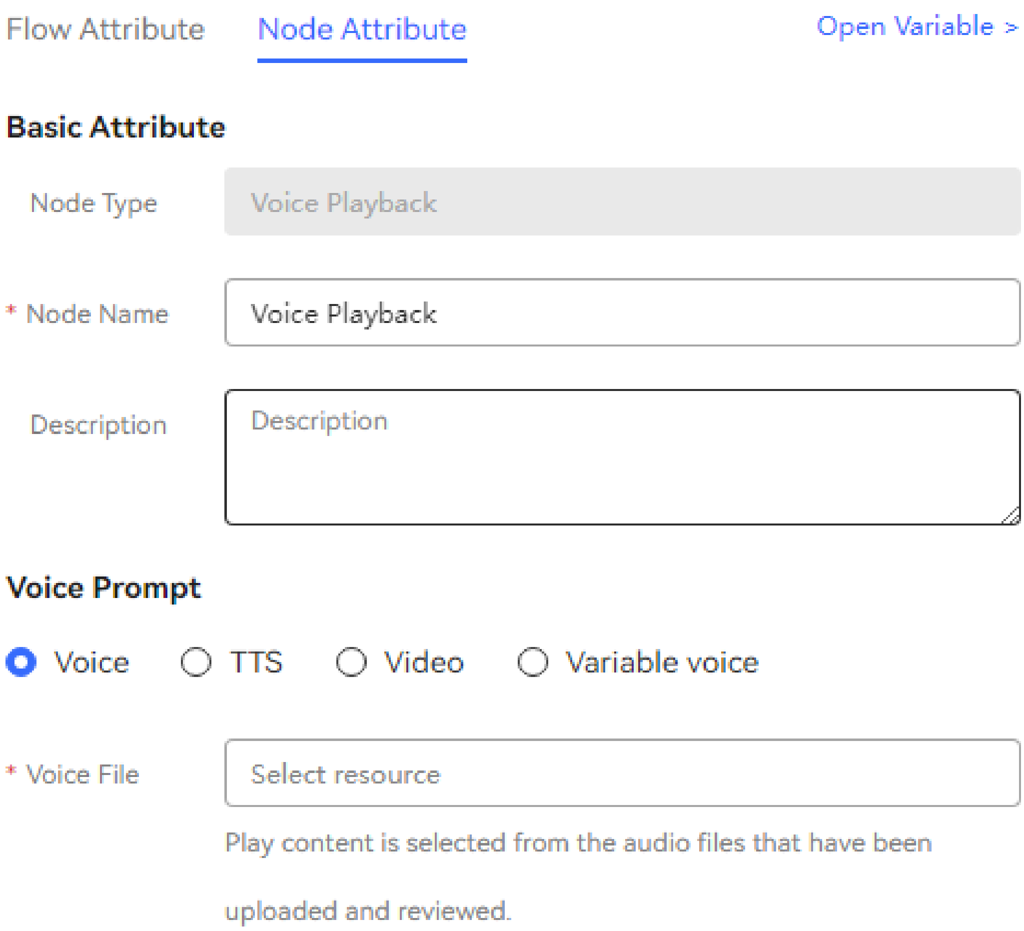
Voice Playback

This diagram element is used to play a voice (for example, welcome voice) or video segment without interacting with the customer. The system supports WAV (8 kHz, 8 bits) voice files, TTS files, and video files.

Diagram Element

Parameter Description

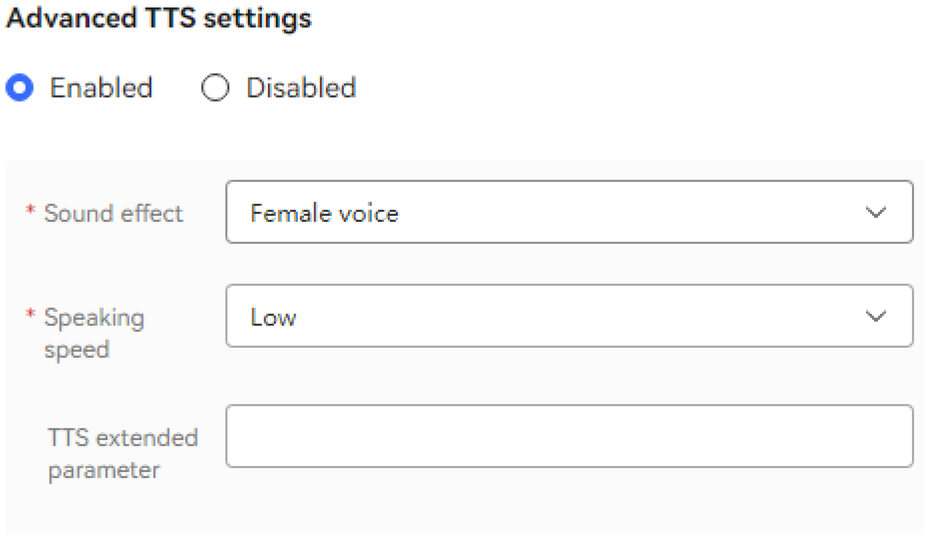
The following figure shows the parameters of the **Voice Playback** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, **Video**, or **Variable voice**. You can click an option button to select a voice type.

– **Voice**: Upload a voice file in WAV format. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
– **TTS**: Generate a voice file in TTS mode. TTS channels must have been configured. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.

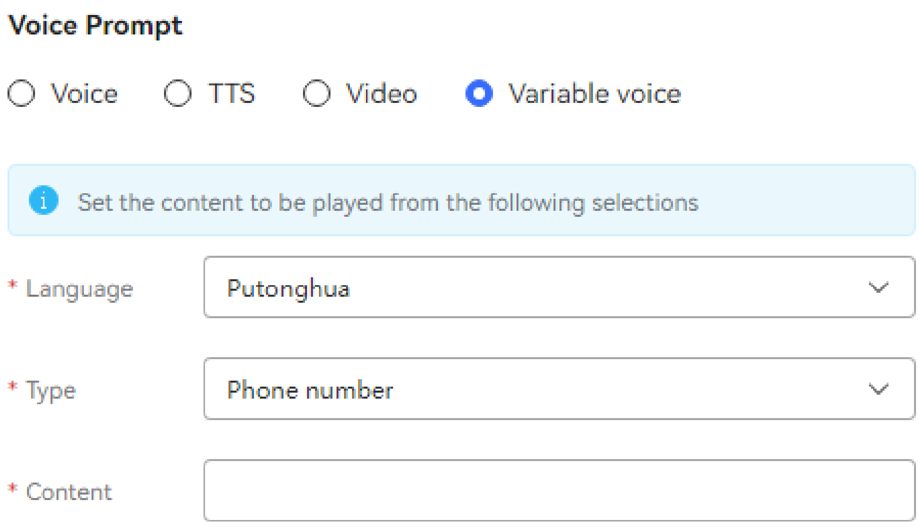


- **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
- **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.
- **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.

NOTE

To use the TTS function, you need to contact the system administrator to sign in to the AICC, choose **Configuration Center** > **Chatbot Management** > **Flow Management** > **System** > **TTS/ASR**, and configure a TTS server for your tenant space.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.
– **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list. You can click and select a required file.
– **Variable voice**: Voices can be customized by setting the language, type, and content.



- **Language**: Select a voice playback language.

  NOTE

  If you select a non-Mandarin or non-English language for the variable voice, contact O&M personnel to customize the syntax package and voice file.

- **Type**: Select a voice playback type. The options are **Phone number**, **Number**, **time(hh:mm:ss)**, **Date(yyyymmdd)**, and **Price**.
- **Content**: Select the content defined by the global variable (**GLOBAL.***) or flow variable (**FLOW.***).

  NOTE

  If **Type** is set to date or time, the format of the selected variable must be consistent with that in the brackets.

- Click **Save** to save all parameters set on the current page.

Condition Branch Description

Table 2-75 Condition branch description

Condition Branch	Description	Usage
Voice playback failure	Failure to play a voice, video, TTS, or variable voice	Triggered upon a playback failure.

Typical Application Scenario

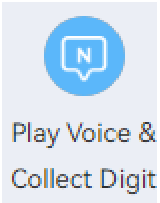
- When a voice call is transferred to an IVR flow, the system plays the welcome voice.

- During execution of an IVR flow or when an IVR flow is about to end, the system plays a voice prompt.

Voice Playback and Digit Collection

This diagram element is used to play a voice or video segment to interact with a customer, for example, to play the voice "Please enter *xx*."

Diagram Element



Parameter Description

The following figure shows the parameters of the **Play Voice & Collect Digit** diagram element.

Figure 2-136 Play Voice & Collect Digit

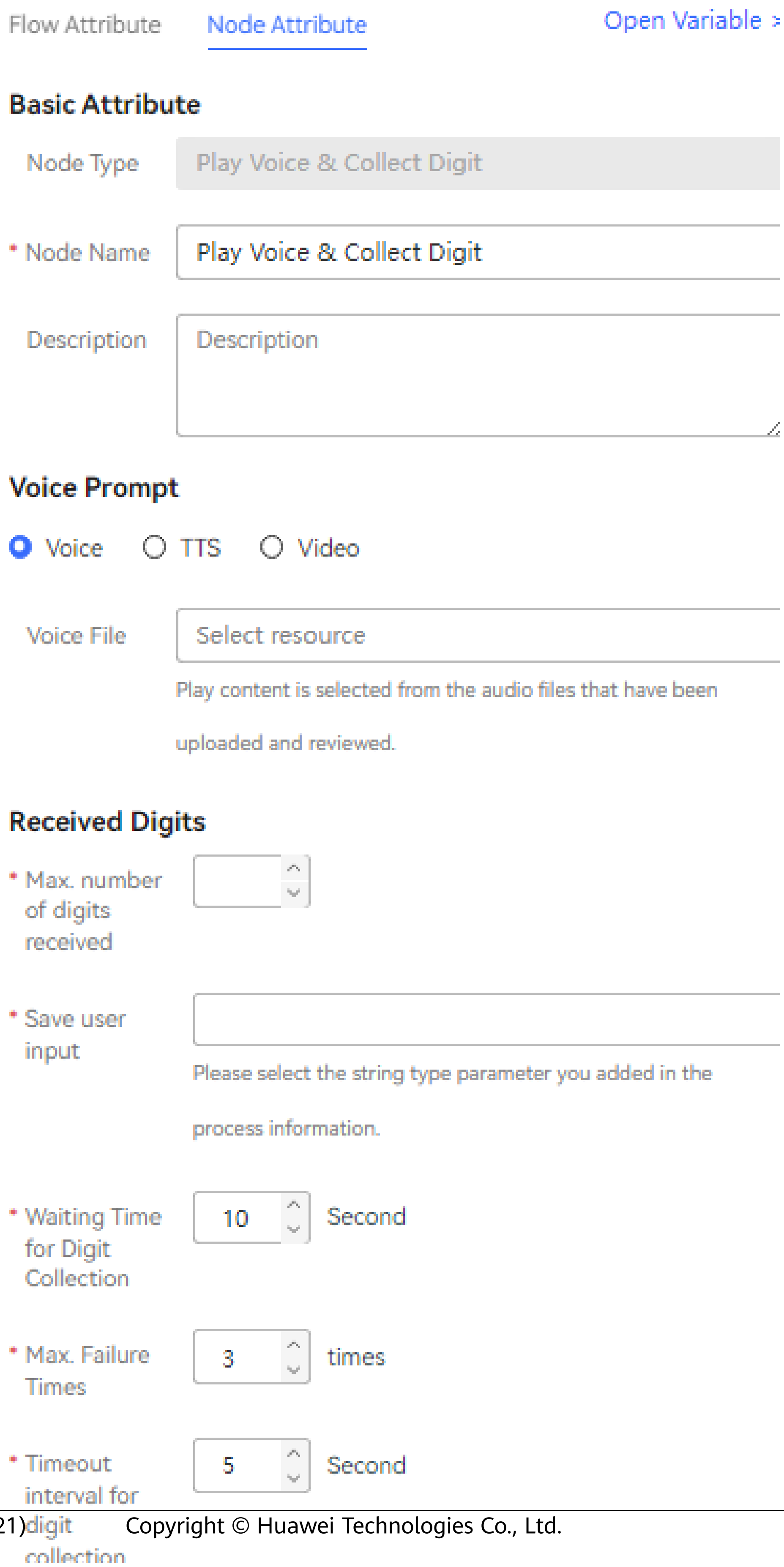
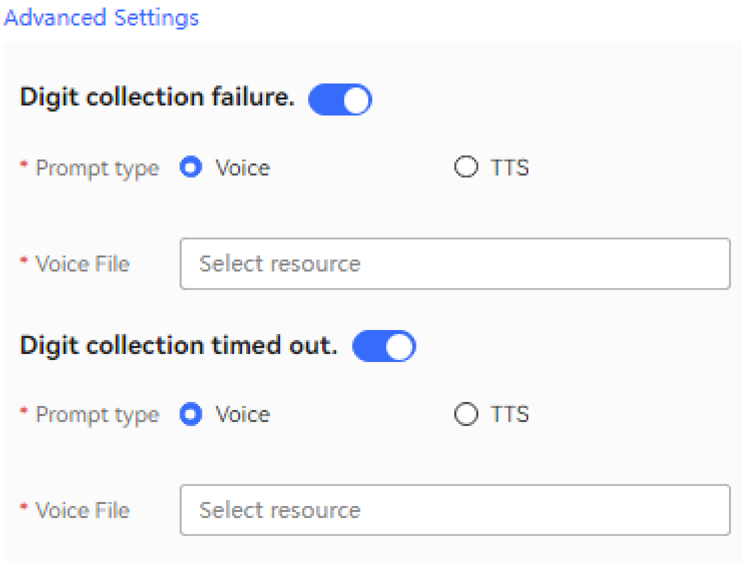
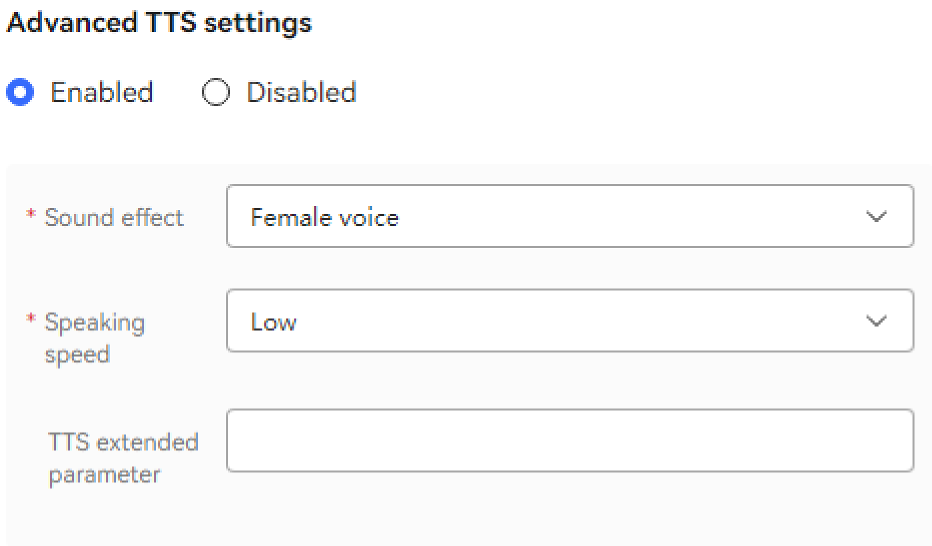


Figure 2-137 Advanced Settings



The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice**: Upload a voice file in WAV format. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files. You can click the text box and select a voice file in the dialog box that is displayed. The options are approved voice files of the current tenant.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.



    - **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
    - **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.
    - **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.
  - **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.
- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list.

  You can click and select a required file.
- **Received Digits**: This area displays parameters used to receive the external input.
  - **Max. number of digits received**: maximum number of input digits that can be received. The default value is **24**. If this parameter is set and the number of digits entered by a customer reaches the maximum value, the system automatically goes to the next step.
  - **Save user input**: parameter for carrying information required by the diagram element. Click the text box. In the displayed dialog box, select a global variable or flow variable as required, for example, **FLOW.IDNumber**. The system saves the information entered by the customer by using a variable of the string type. Therefore, you can select only a variable of the string type.
  - **Waiting Time for Digit Collection**: time to wait for the digit input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
  - **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
  - **Timeout interval for digit collection**: Timeout interval for pressing a key. For example, if this parameter is set to 2 seconds, the flow proceeds when the key pressing interval exceeds 2 seconds, even though the number of collected digits does not reach the specified value.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.
  - **Digit collection failure**: You can click to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.
  - **Digit collection timed out**: You can click to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by

Waiting Time for Digit Collection, the system plays a voice to notify the customer.

NOTE

- By default, **Digit collection failure** and **Digit collection timed out** are disabled in the **Advanced Settings** area. If the capabilities are disabled, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

Condition Branch Description

Table 2-76 Condition branch description

Condition Branch	Description	Usage
Voice playback or digit collection failure	Voice playback or digit collection failure	Triggered upon a voice playback or digit collection failure.

Typical Application Scenario

The system needs to interact with a customer and continue with the subsequent flow based on the input of the customer. For example, the system can handle a business only after a customer enters an identification number.

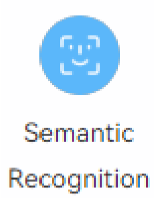
Language Selection

This diagram element is a public diagram element. For details, see **2.6.3.10.7 Language Selection**.

Semantic Recognition

This diagram element is used to submit customer voices to the TUC dialog engine for intention matching.

Diagram Element



Parameter Description

- **Node Name**: name of a node.

- **Description**: details of a node.
- **Context**: used to filter intentions to be matched to improve the matching speed.
- **Semantic identification content**: content to be matched for semantic identification. The value can be a character string or an existing variable of the current node. If it is left empty, the system directly identifies the customer voice.
- **Event**: whether to clear the slot data in the matched intention if the node is not entered for the first time in the flow. Generally, the value is **Clear Current Context Cache** if you need to allow customers to modify information in the halfway.
  - **Clear Session Cache**: used to clear the values of all variables in the current flow instance.
  - **Clear Current Context Cache**: used to clear the variable value of the current intention. Generally, it is used to execute the same semantic recognition for multiple times, and to clear the intention data retained previously.
- **Intention Quantity**: number of intentions. This applies to the scenario where multiple intentions can be returned. The value needs to be a positive integer. If this parameter is left blank, the value is the same as that of **Max. Intentions(1,5)** set on the **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **System Management** > **Intelligent Engine Parameter** > **Intention Parameters** page by default.
- **Confidence Interval**: maximum confidence difference between each intention and the first intention. This applies to the scenario where multiple intentions are returned.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The response parameters or slot parameters of the intention can only be valid on the current node. If you want to use the value in subsequent flow nodes, define a cache variable and assign the value of the response parameter or slot parameter in the intention to the cache variable.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element. For example, the intention matching success and failure can be configured as two branches. Different subsequent flows can be specified for each branch.

Condition Branch Description

Table 2-77 Condition branch description

Condition Branch	Description	Usage
timeout1	First timeout	Triggered when a third-party system (for example, the IVR system) determines that a timeout occurs in receiving the customer feedback and sends a message whose **input** is **timeout** to the OIAP. This branch is generally used on the connection line between the **Semantic Recognition** diagram element and subsequent node, indicating that semantic recognition times out before a response is received from the customer.
timeout2	Second timeout	Triggered when the trigger condition of **timeout1** occurs for the second time during a call. During script flow design, a flow retry is required when the first timeout occurs. If the second timeout occurs, the current step is skipped, and the subsequent steps are performed.
nomatch1	First recognition failure	Triggered in either of the following scenarios: ● The **Semantic Recognition** diagram element does not match a result (that is, the diagram element returns the command word indicating an unknown intention). ● A third-party system (for example, the IVR system) returns a message whose **input** is **nomatch**. In this scenario, the ASR system fails to recognize the intention and sends a failure response to the IVR system.
nomatch2	Second recognition failure	Triggered when the trigger condition of **nomatch1** occurs for the second time during a call.
error3	Third error	Triggered when the trigger condition of **timeout1** or **nomatch1** occurs for the third time during a call. If the number of error times does not need to be accumulated, use the **Error Count Clearance** diagram element to clear the number of error times before using this branch.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Condition Branch	Description	Usage
SYSERROR_INTERFACE	Business interface invocation failure	Triggered if an error occurs when the **Business Interface Invocation** diagram element is used to invoke a third-party interface. This branch is generally used on the connection line between the **Business Interface Invocation** diagram element and subsequent node.
slientInsertReply	Direct reply by a silent agent	Used only when the silent agent system is configured for the **Semantic Recognition** diagram element. After an agent directly replies to a customer, the flow can continue to go to other expected business flows.

Using the Diagram Element

The **Semantic Recognition** diagram element is used when intention matching needs to be performed for customer voices to identify customer requirements.

Click the diagram element or drag it to the canvas. Before using this diagram element, add an intention or Q&A to **TUC management**.

Typical Application Scenario

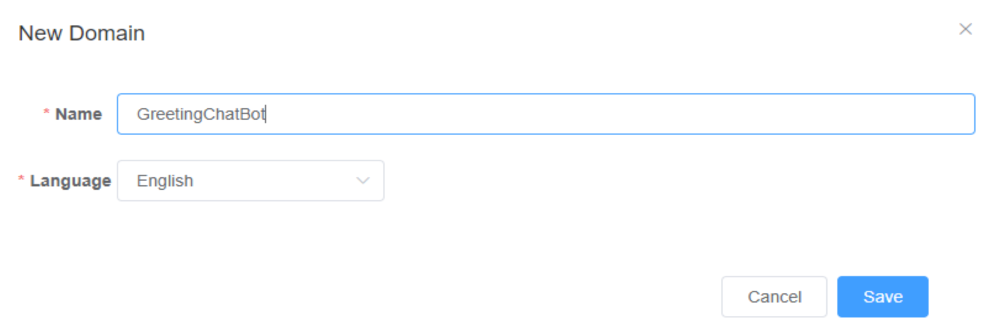
The following describes how to use the **Semantic Recognition** diagram element to interact with a robot.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Configure a domain and an intention.

1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

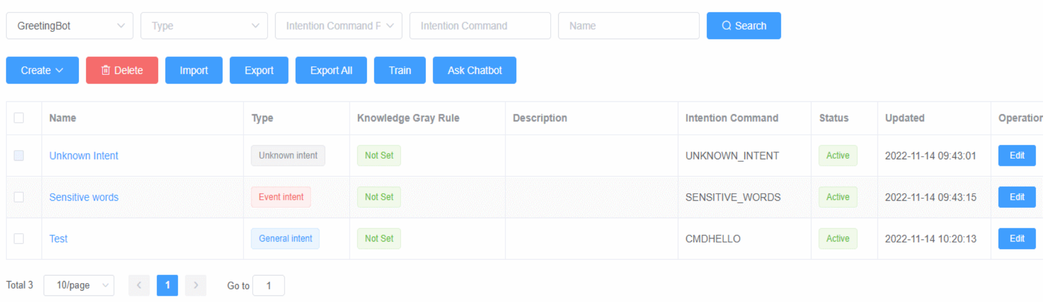
   Figure 2-138 Creating a domain

2. Click the name of the new domain. The **Intention Management** page is displayed.

3. Click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

Figure 2-139 Creating an intention



4. Select the new intention and click **Active** to activate the new intention.

Step 3 Configure an intelligent IVR flow. The flow orchestration scenario is as follows: After a customer is connected to the robot, the customer hears that the robot says "Hello". After the customer says "Hello", the robot recognizes the customer voice and says "Hello" again.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. You need to add the **welcome** variable to play the default value (for example, **Hello**) of the variable to a customer after the customer is connected, and add the **default** variable to send the default reply (for example, **Intention not identified**) when semantics are not identified.

Figure 2-140 Adding a flow variable

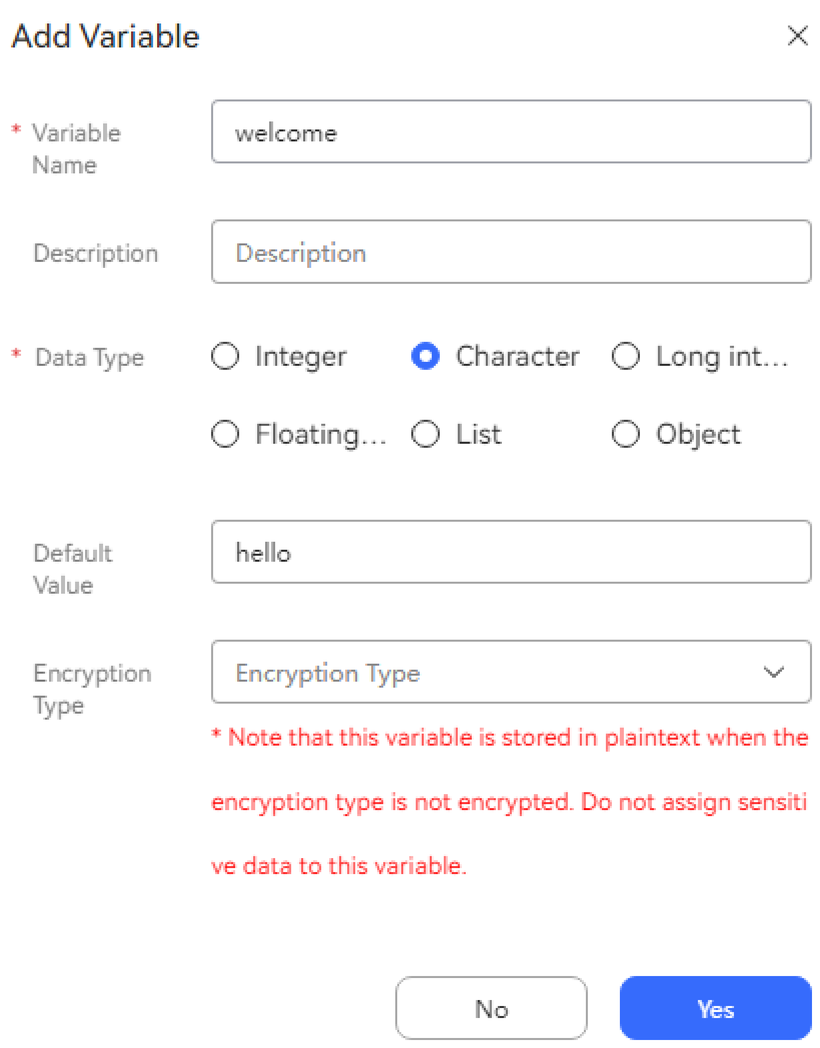
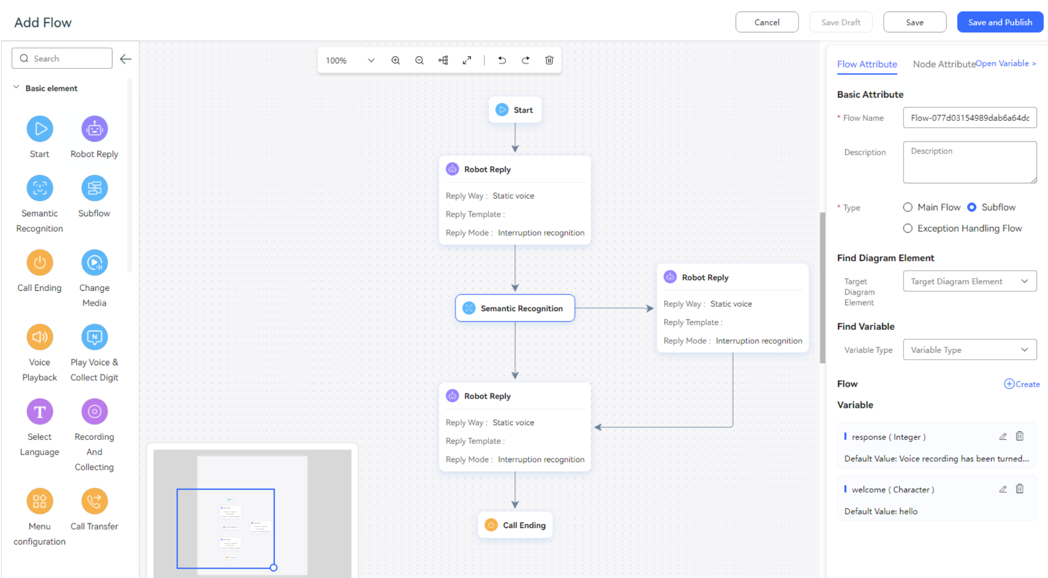


Figure 2-141 Flow orchestration example



- Use the reply variable **FLOW.ChatBotRespContent** for the **Robot Reply** diagram element below the **Semantic Recognition** diagram element to reply "Hello" to the customer after the customer says "Hello".
- Use the reply variable **default** for the **Robot Reply** diagram element on the right of **Semantic Recognition** diagram element to reply "Intention not identified" when no "Hello" said by the customer is matched.

3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **More** and choose **Bind Domain** to bind an active domain.

Step 6 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

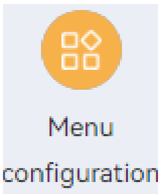
In the test dialog box that is displayed, click **Start Call** to test the robot. Enter "Hello". If the robot replies "Hello", semantic recognition is successful.

----End

Menu Configuration

This diagram element is used to prompt a customer to select a menu to enter the corresponding branch for processing a specific business.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Menu configuration** diagram element.

Figure 2-142 Menu configuration

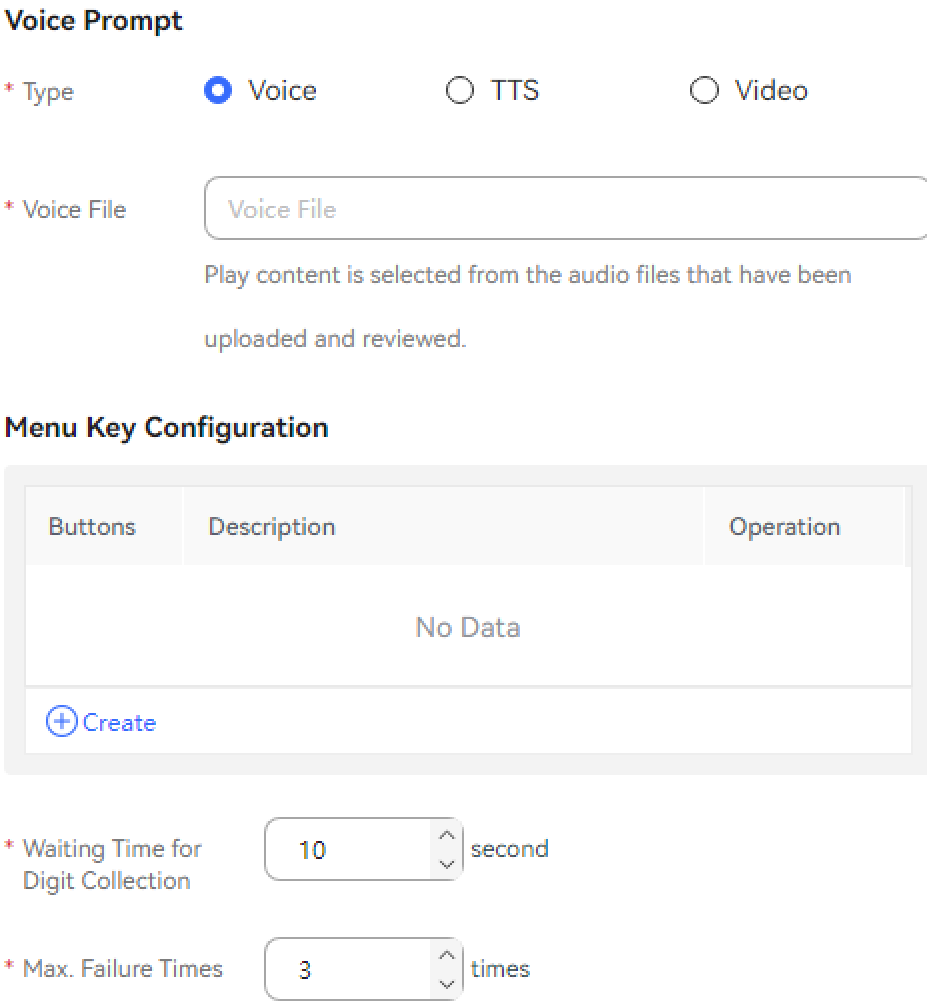
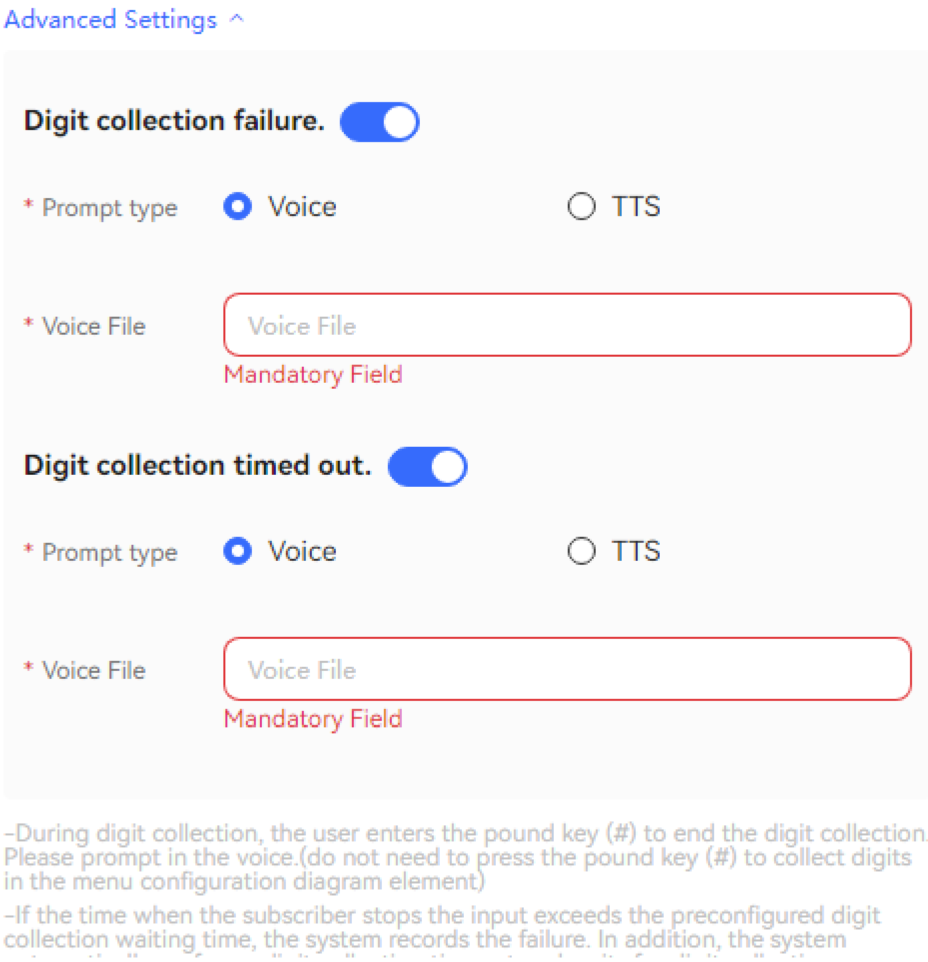
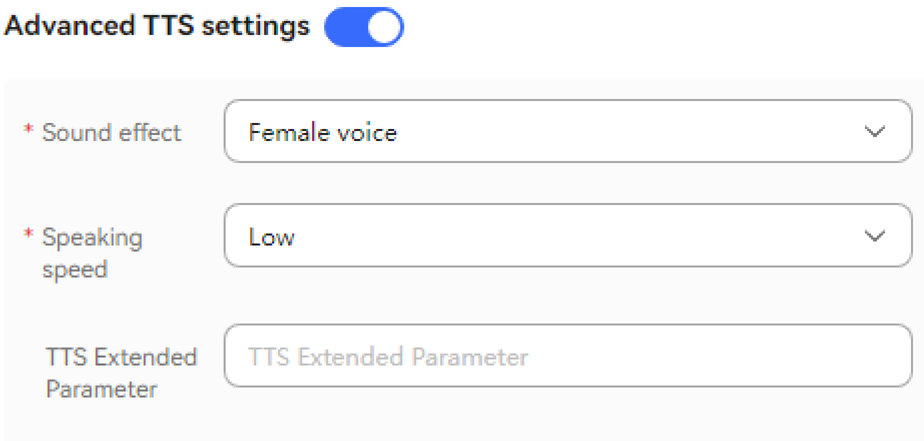


Figure 2-143 Advanced Settings



The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice**: Upload a WAV voice file. The UAP supports only the WAV voice files in the following format: 8 bit, 8000 Hz, 64 kbit/s, and mono.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS Extended Parameter** is not set by default.



- **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
- **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.
- **TTS Extended Parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list.

  You can click and select a required file.
- **Menu Key Configuration**: service option provided in a flow. Each button maps a service option. You can click **New** to add a service option. Multiple service options are allowed.
  – **Buttons**: number key or character button available on the keyboard or screen, such as **1**, **2**, or **3**.
  – **Description**: service introduction of a key or button, which can be displayed in the menu. For example, if you set **Buttons** to **1** and **Description** to **Query member information**, a customer can press 1 to query member information.
  – **Operation**: You can click **New** to add a service option, click **Delete** to delete a service option, and click **Down** or **Up** to adjust the sequence of a service option.
- **Waiting Time for Digit Collection**: time to wait for the digit input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
- **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.

   - **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.
   - **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- By default, **Digit collection failure** and **Digit collection timed out** are disabled in the **Advanced Settings** area. If the capabilities are disabled, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

- You can click **Save** to save all parameters set on the current page.

Condition Branch Description

Table 2-78 Condition branch description

Condition Branch	Description	Usage
Timeout or other keys	Digit collection timeout or out-of-range key	Triggered when digit collection times out or the key is out of the range.

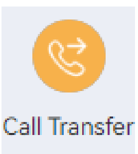
Typical Application Scenario

In a flow, multiple service options need to be provided for a customer to select. For example, a customer can press **1** to query member information, **2** to query traffic information, **3** to make complaints or provide suggestions, or **0** to obtain manual services.

Call Transfer

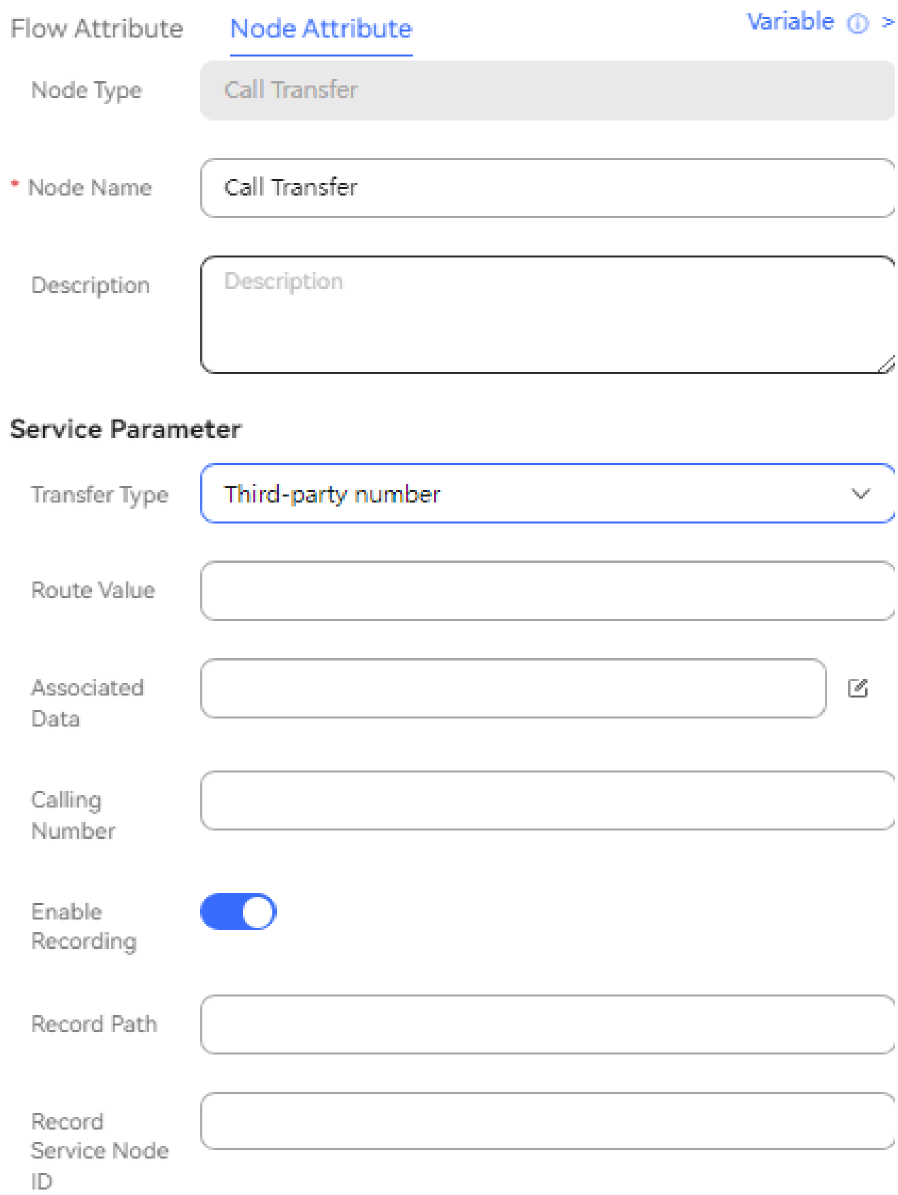
This diagram element is used to transfer a call to an IVR flow (an existing key pressing flow) or an agent.

Diagram Element



Parameter Description

Figure 2-144 Node Attribute

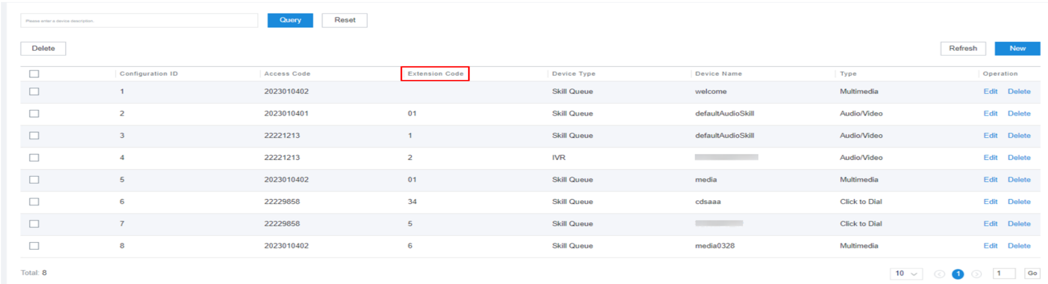


- **Node Name**: name of a node.
- **Description**: details of a node.
- **Transfer Type**: The options are as follows:
  - **Skill Queue (Route Extension Code)** (1)
  - **IVR** (2)
  - **Skill Queue (Name)** (3)
  - **Transfer to Skill Queue (Customized Route)** (10)
  - **Agent** (4)

– **Third-party number** (5)
– **Online Digital Assistant** (6)
– **Audio and video familiar customers** (9)
– **Multimedia familiar customer** (7)
– **Skill queue (MAgent)** (8)
– **Familiar customer message** (31)
– **Skill queue message (name or access code)** (32)
– **Message to an Agent** (33)

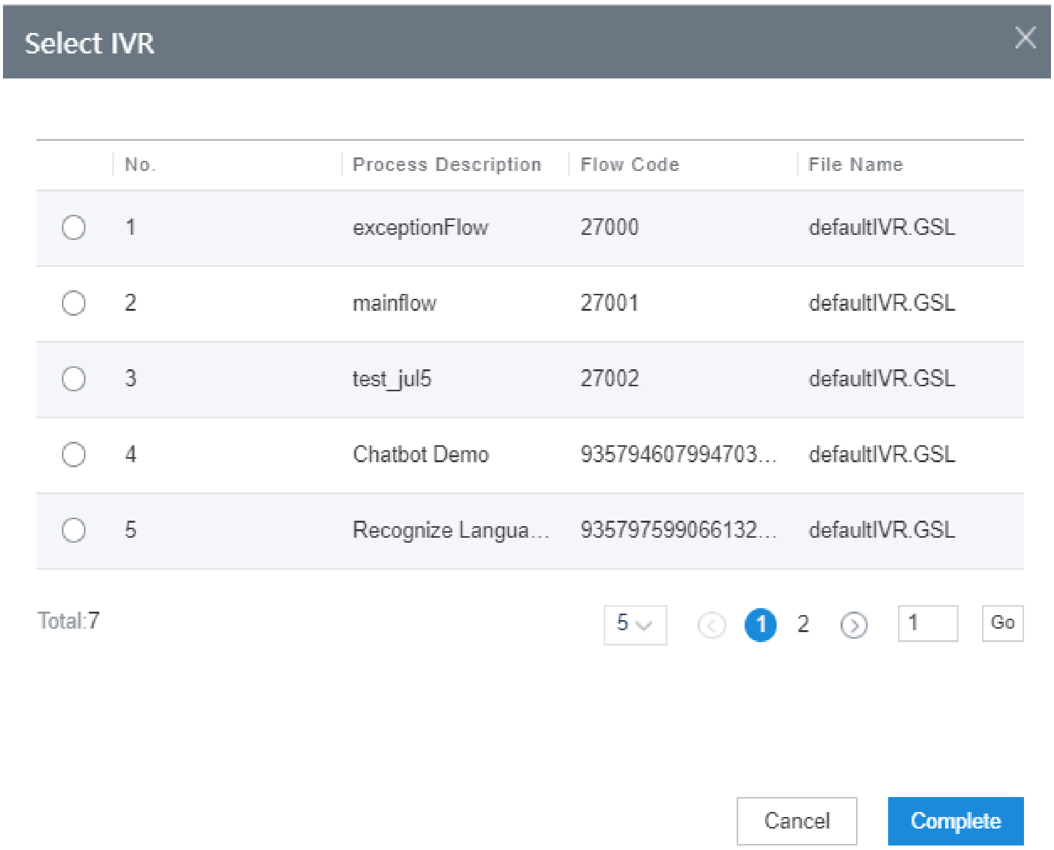
- **Route Value**: Select a value from the drop-down list box.
  – If **Transfer Type** is set to **Skill Queue (Route Extension Code)**, set this parameter to the extension code for transferring to a skill queue. For this configuration, you need to ensure that the manual flow and the current flow are under the same system access code. The call is transferred to the manual skill queue through the extension code configured on the **Called Party** page.

  Figure 2-145 Extension Code



  – If **Transfer Type** is set to **IVR**, set this parameter to the IVR flow access code.

    The following figure shows the IVR flow access code in the AICC integrated deployment mode.



- If **Transfer Type** is set to **Skill Queue (Name)**, set **Route Value** to the name of the skill queue where the agent to whom the call is transferred resides, for example, **Agent Group 1**. You can choose **Configuration Center** > **Employee Center** > **Skill** to view the skill queue name.
- If **Transfer Type** is set to **Transfer to Skill Queue (Customized Route)**, set the corresponding routing policy.
- If **Transfer Type** is set to **Agent**, set this parameter to the platform agent ID of the agent to whom the call is transferred.
- If **Transfer Type** is set to **Third-party number**, set this parameter to the third-party number.
- If **Transfer Type** is set to **Online Digital Assistant**, set this parameter to the flow route code agreed with the third-party intelligent system.
- If **Transfer Type** is set to **Audio and video familiar customers**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 3**.
- If **Transfer Type** is set to **Multimedia familiar customer**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 3**.
- If **Transfer Type** is set to **Skill queue (MAgent)**, set this parameter to the platform agent ID or variable corresponding to the agent to whom the call is transferred.
- If **Transfer Type** is set to **Familiar customer message**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 3**.

– If **Transfer Type** is set to **Skill queue message (name or access code)**, set this parameter to the name or access code of the skill queue where the agent to whom the call is transferred resides.
– If **Transfer Type** is set to **Message to an Agent**, set this parameter to the platform agent ID or variable corresponding to the agent to whom the call is transferred.

- **Routing Policy**: This parameter needs to be set only when **Transfer Type** is set to **Transfer to Skill Queue (Customized Route)**. The options are **Percentage** and **Number segment**.

Figure 2-146 Setting Routing Policy to Percentage

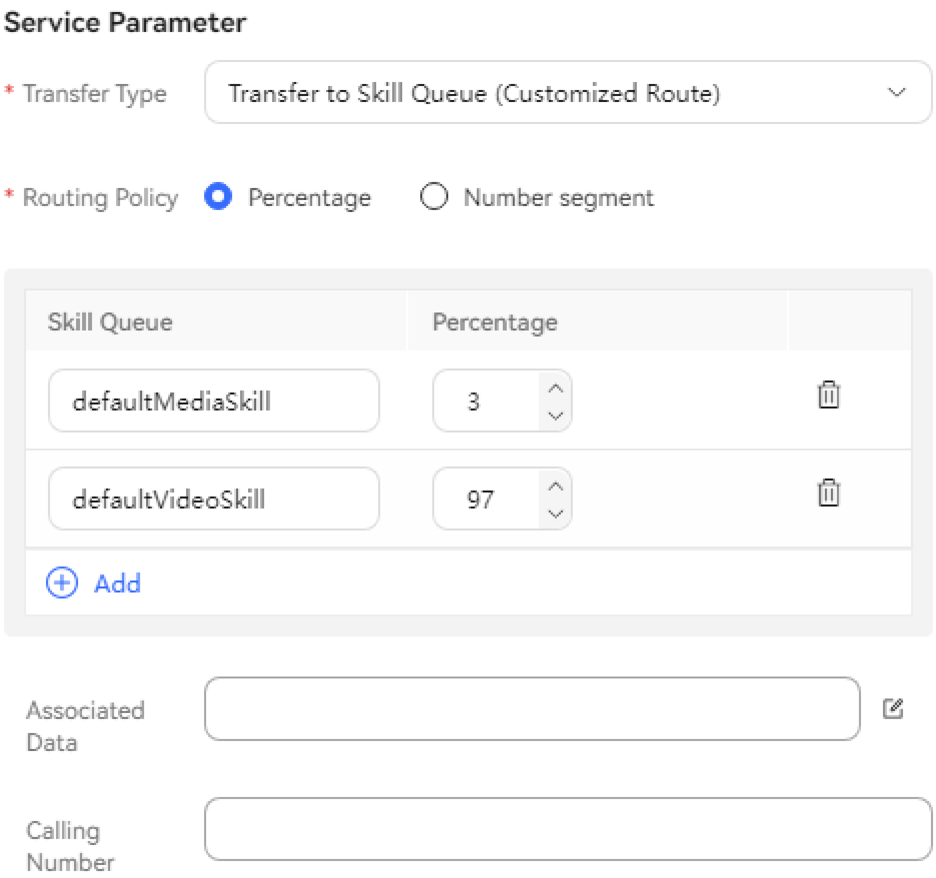
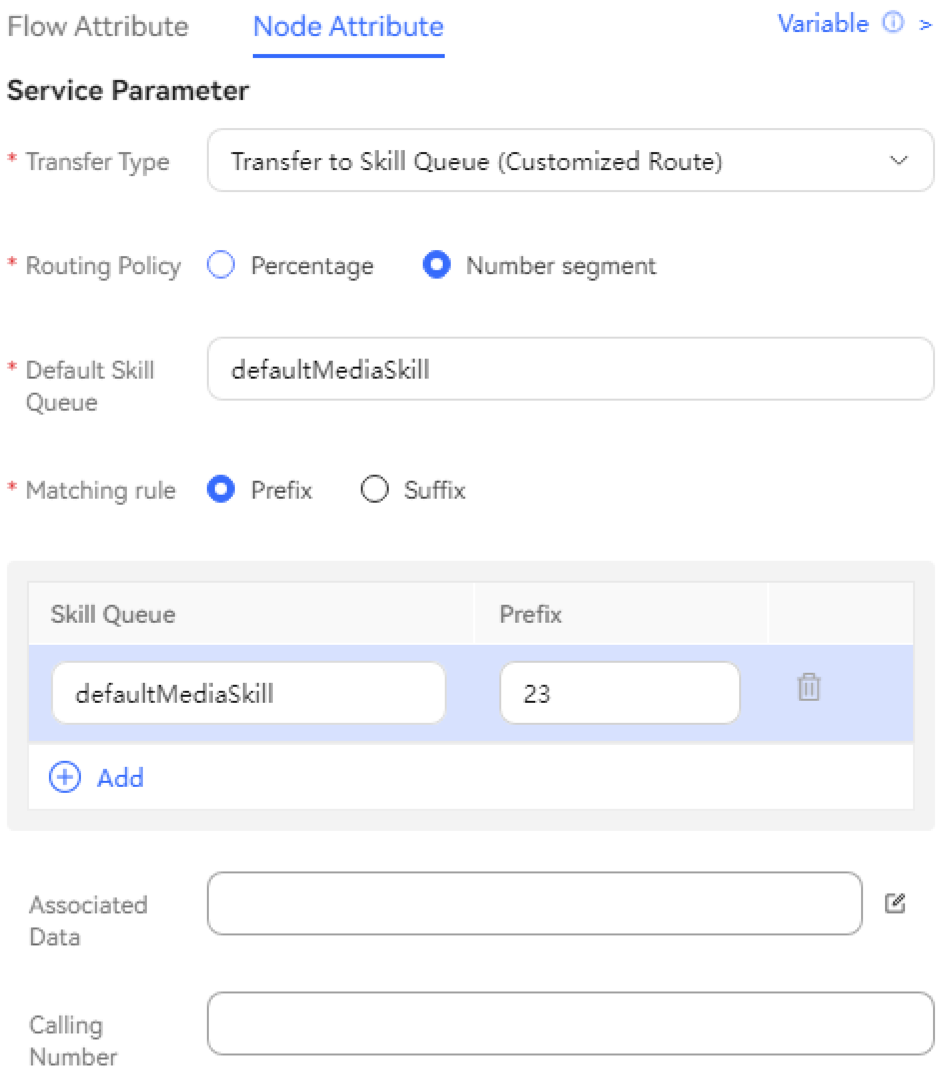


Figure 2-147 Setting Routing Policy to Number segment



- Percentage configuration: When **Routing Policy** is set to **Percentage**, you need to configure multiple skill queues and their routing percentages. During call transfer, the system dynamically assigns calls to skill queues based on the percentage configuration.

Table 2-79 GUI elements for the percentage configuration

Element/ Component	Type	Description	Value Range	Triggering Event	Remarks
Skill Queue	Drop-down list	Skill queue to which calls are transferred.	All skill queues except multimedia skill queues	Click	• A skill queue cannot be selected repeatedly.
Percentage	Text box	Percentage of calls transferred to a skill queue during transferred-to skill queue assignment.	1 to 100	Enter	The total percentage must be 100.
	Button	Delete a percentage setting.	-	Click	-
 Add	Button	Add a percentage setting.	-	Click	-

- **Default Skill Queue**: When **Routing Policy** is set to **Number segment**, you need to select a skill queue as the default skill queue to which calls are transferred when no skill queue is matched based on the number segment matching rule configuration.
- **Matching rule**: When **Routing Policy** is set to **Number segment**, you need to select a matching rule. The options are **Prefix** and **Suffix**.
- Number segment matching rule configuration: When **Routing Policy** is set to **Number segment**, you can select different skill queues and configure different prefixes or suffixes for them. During call transfer, the system transfers calls whose calling numbers exactly match the configured prefixes or suffixes to the corresponding skill queues.

Table 2-80 GUI elements for the number segment matching rule configuration

Element/Component	Type	Description	Value Range	Triggering Event	Remarks
Skill Queue	Drop-down list	Skill queue to which calls are transferred.	All skill queues except multimedia skill queues	Select	• A skill queue cannot be selected repeatedly.
Prefix/Suffix	Text box	Prefix/Suffix used for calling number matching during call transfer to a skill queue.	-	-	-
	Button	Delete a number segment matching rule setting.	-	Click	-
 Add	Button	Add a number segment matching rule setting.	-	Click	-

- **Associated Data**: The call-associated data can be in JSON format (flow variables and global variables are supported). Manually enter a value, or click the edit icon and add information in the **Set TransferData** dialog box.

Figure 2-148 Set TransferData (transfer to a skill queue, including manual and multimedia skill queues)

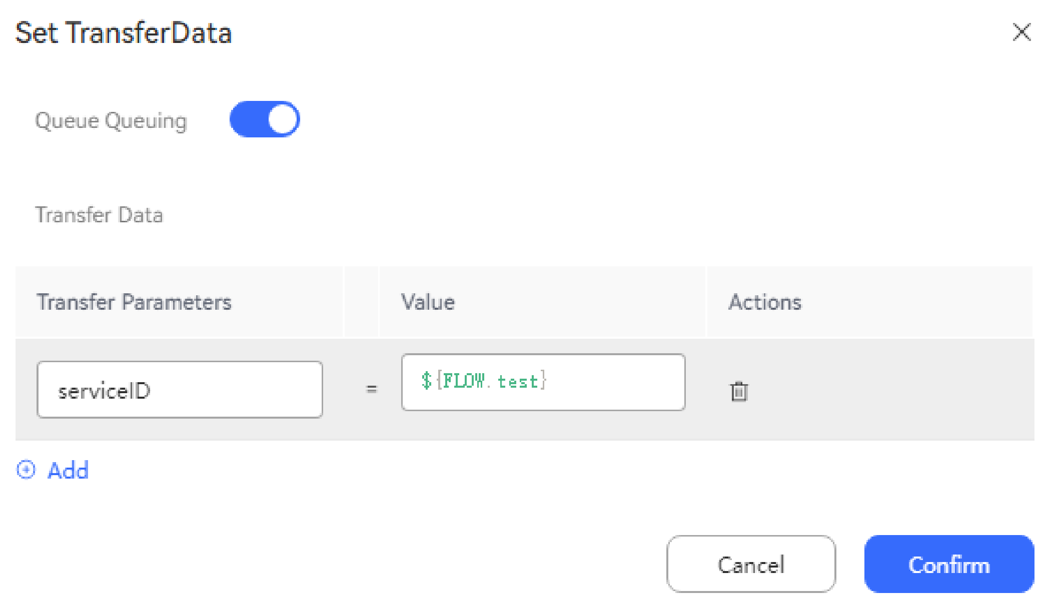


Figure 2-149 Set TransferData (transfer to the last agent, including manual and multimedia agents)

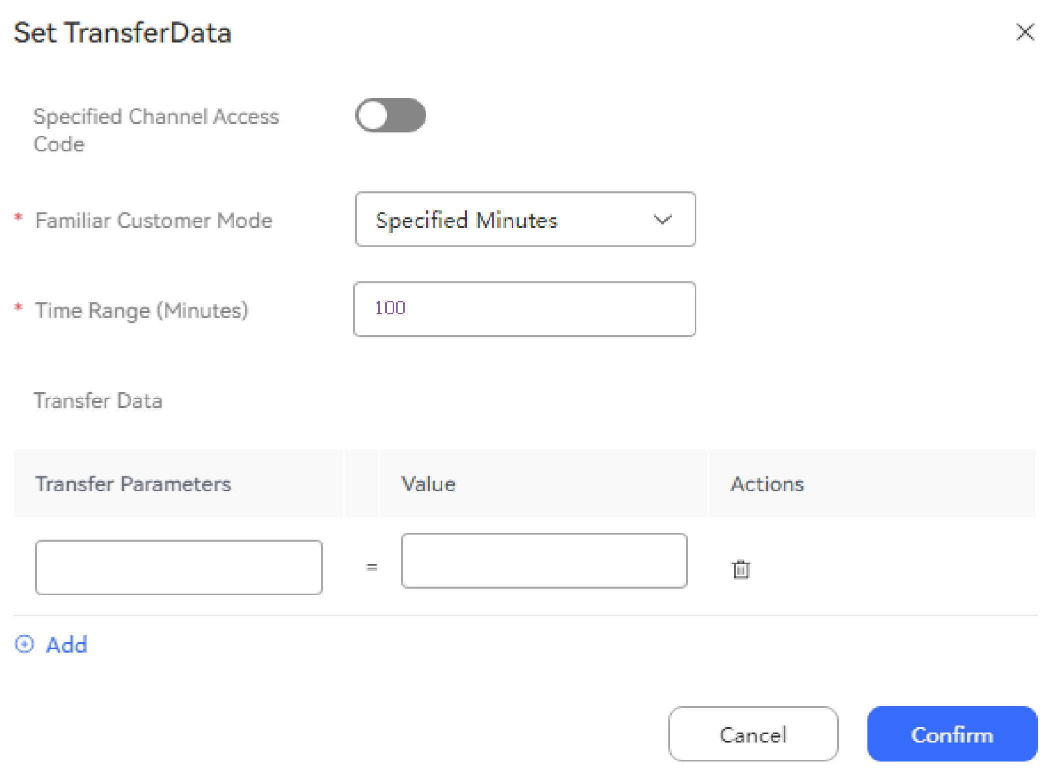
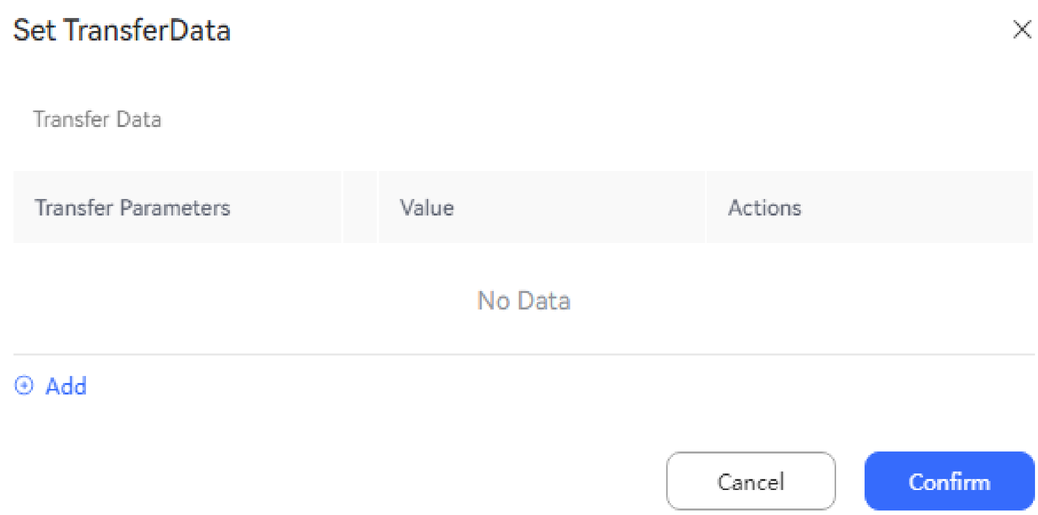


Figure 2-150 Set TransferData (transfer to others)



The format of the generated complete JSON data is as follows:

```
{
  "wait": "Y",
  "isSpecifyAccessCode": "true",
  "type": "1",
  "time": "30",
  "starttime": ""
  "data": {
    "serviceId": ${FLOW.test},
    "yy": "bbb"
  },
}
```

Table 2-81 Call-associated data parameters

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Queue Queuing	wait	Switch	Whether a call can wait in a skill queue until the session times out when the call is transferred to the skill queue.	• **Y** • **N**	Click	This parameter can be set only when a call is transferred to a skill queue, including manual and multimedia skill queues.

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Specified Channel Access Code	isSpecifyAccessCode	Switch	Whether to transfer to the current channel when a call is transferred to the last agent.	• **true** • **false**	Click	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Familiar Customer Mode	type	Drop-down list	Mode of selecting the last agent.	**1**: agent within the specified minutes **2**: agent within the specified time range **3**: agent on the current day	Select	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Transfer Data	data	Table	Call-associated data that needs to be carried during call transfer.	-	-	-

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Transfer Parameters	Customized key	Text box	Key in call-associated data.	-	Enter	• To obtain the customer type field, set the transferred parameter to **customerEntityName**. • To use a visualized service guidance flow, set the transferred parameter to **serviceRequest**.

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Value	-	Text box	Value of the key in call-associated data.	-	Enter	• Variables can be used, for example, **${FLOW.variable}**. • To obtain the customer type field, set the value to **account** or **contact**. • To use a visualized service guidance flow, set the value to the name of a visualized flow configured on the **Configuration Center** > **Workbench Configuration** > **Service Guidance** page, that is, the name of the flow created in **Step 7**.

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Actions	-	Button	Delete a line of call-associated data.	-	Click	-
Add	-	Button	Add a line of call-associated data.	-	Click	-
Cancel	-	Button	Cancel the editing.	-	Click	-
Confirm	-	Button	Fill back the call-associated data in JSON format.	-	Click	-

- **Calling Number**
  - When **Transfer Type** is set to **Third-party number** (**5**), the number set here is used as the calling number.
  - When **Transfer Type** is set to **Audio and video familiar customers** (**9**), the variable set here is used as the calling number of the customer. The default value is **SYS.callingNumber**.
- **Enable Recording**: This check box is displayed only when **Transfer Type** is set to **Third-party number** (**5**). You can select this check box to enable recording during call transfer from an intelligent IVR to a third-party number. After you select this check box, set the following parameters:
  - **Recording File Name**: Enter a flow variable, for example, **FLOW.recordPath**.
  - **Recording Service Node ID**: Enter a flow variable, for example, **FLOW.serviceNo**.

NOTE

The recording files in the intelligent IVR can be played and downloaded on the **Contact History** > **Transfer Record** page.

Condition Branch Description

Table 2-82 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Transfer success	Triggered when a call is transferred successfully.
FAILED	Transfer failure	Triggered when a call fails to be transferred. After this branch is triggered, the flow is not interrupted and does not automatically go to the exception handling flow.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.

Using the Diagram Element

The **Call Transfer** diagram element is used when a call needs to be transferred to another destination device in the AICC, for example, to a common IVR self-service flow or an agent.

Click the diagram element or drag it to the canvas, and set **Transfer Type** and **Route Value** as prompted.

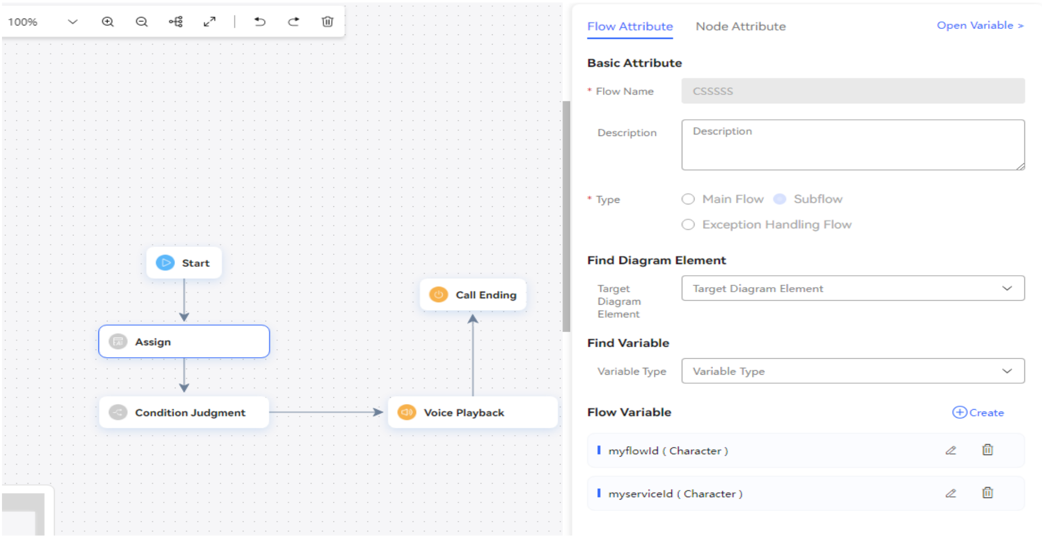
Typical Application Scenario

The following describes how to use the **Call Transfer** diagram element to transfer a call from an intelligent IVR flow to a common IVR flow when call-associated data in JSON format is carried.

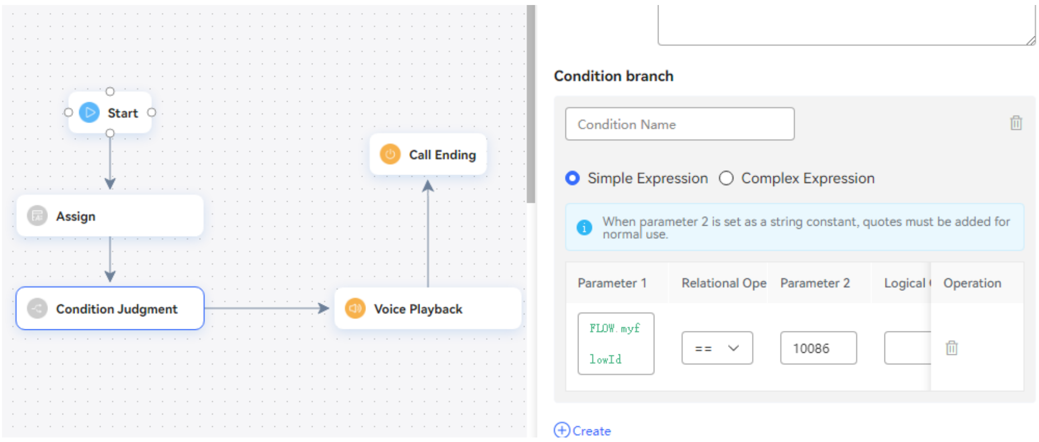
Step 1 Sign in to the AICC.

Step 2 Configure a common IVR flow.

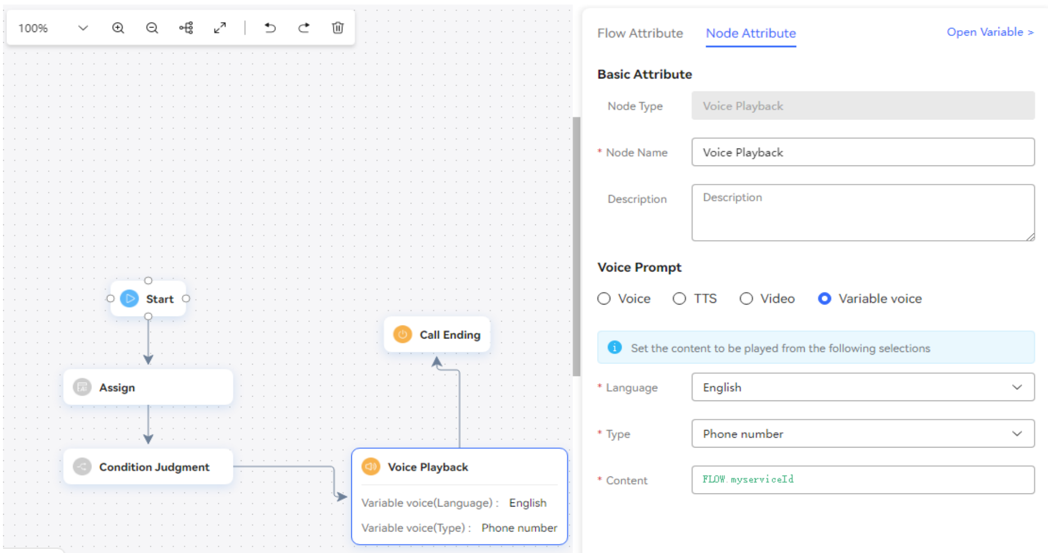
1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** and add a common IVR flow.
2. Add flow variables, as shown in the following figure, and configure an **Assign** diagram element.



3. Configure a **Condition Judgement** diagram element for conditional judgment based on the call-associated data.



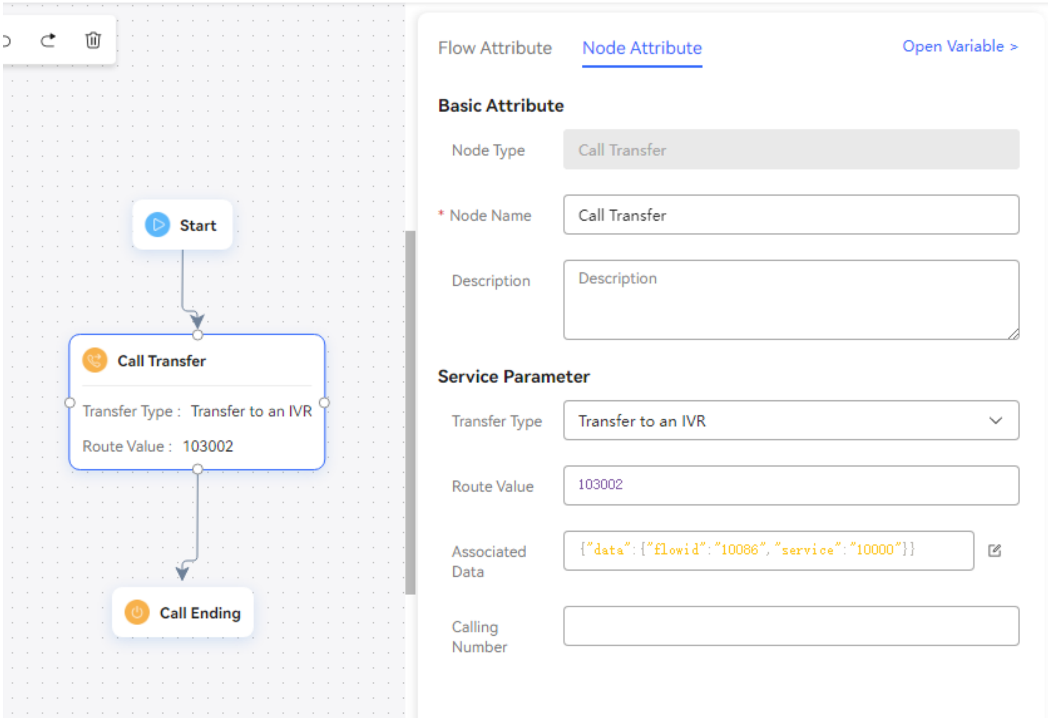
4. Configure a **Voice Playback** diagram element for playing a variable voice.



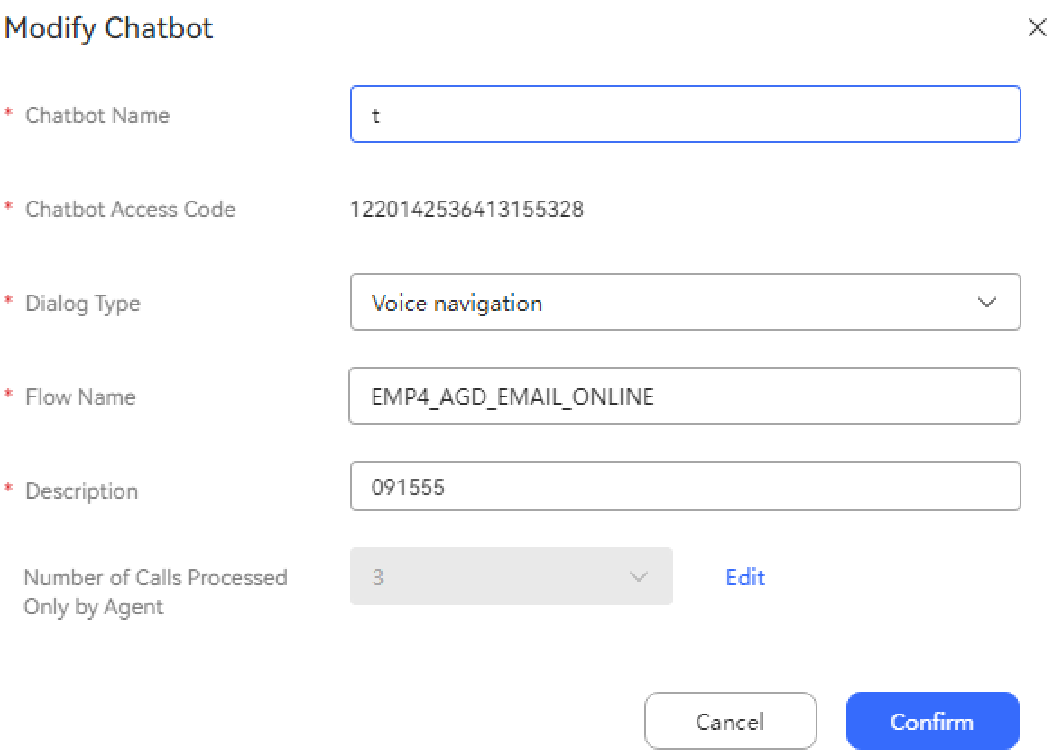
5. Save and publish the flow.

Step 3 Configure an intelligent IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. Choose **Flow** > **Orchestration**, add an intelligent IVR flow, add a **Call Transfer** diagram element, and set service parameters of the diagram element, as shown in the following figure.



3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.



Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 3**.

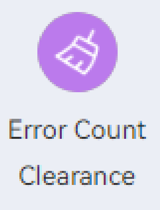
Step 5 Log in to the OpenEye and dial the access code added on the **Called Party** page. If "10000" is heard, the call-associated data (**service_id**: **10000**) transferred by the intelligent IVR is successfully obtained.

----End

Error Count Clearance

This diagram element is used to clear previous error records when a customer needs to be transferred to another flow due to a number of intention matching errors.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

Condition Branch Description

Table 2-83 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Error Count Clearance** diagram element is used when the number of semantic recognition and key pressing errors do not need to be accumulated.

Click the diagram element or drag it to the canvas.

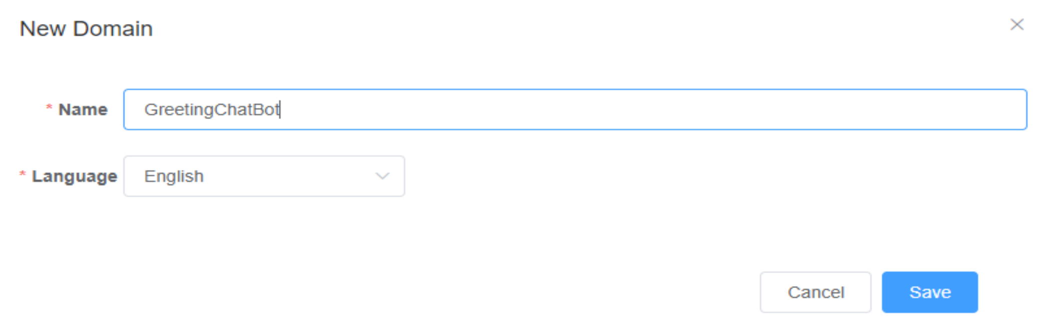
Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Configure a domain and an intention.

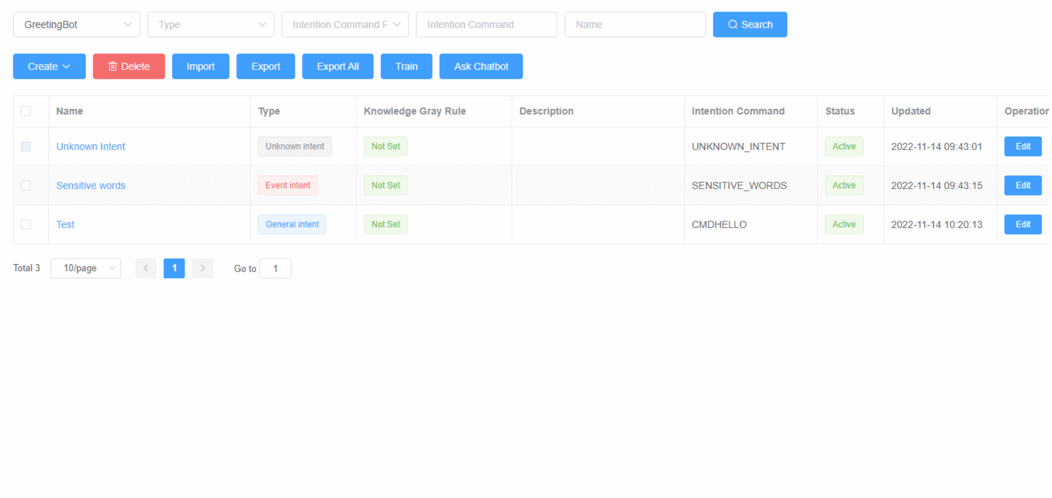
1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

Figure 2-151 Creating a domain



2. Click the name of the new domain. The **Intention Management** page is displayed.
3. Click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

Figure 2-152 Creating an intention



4. Click **Active** corresponding to the new intention to activate it.

Step 3 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-153 Flow variables to be added

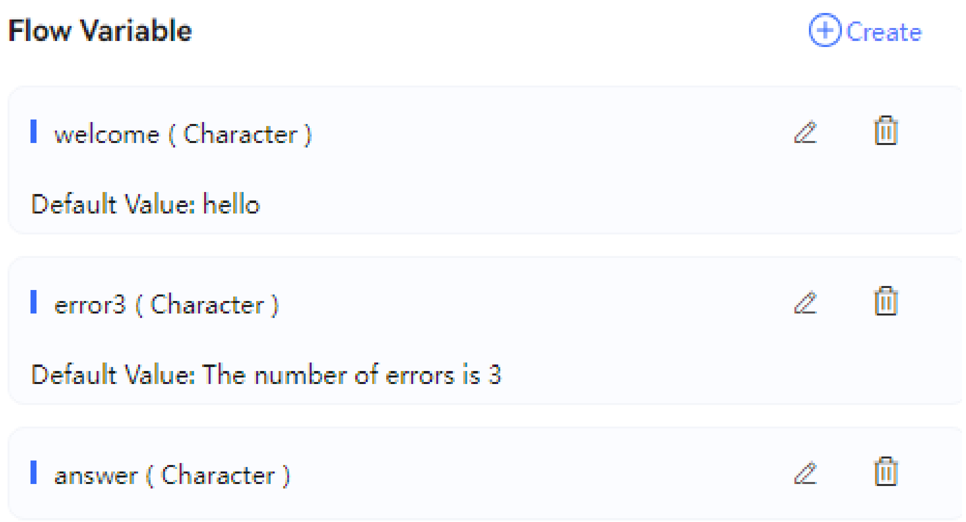
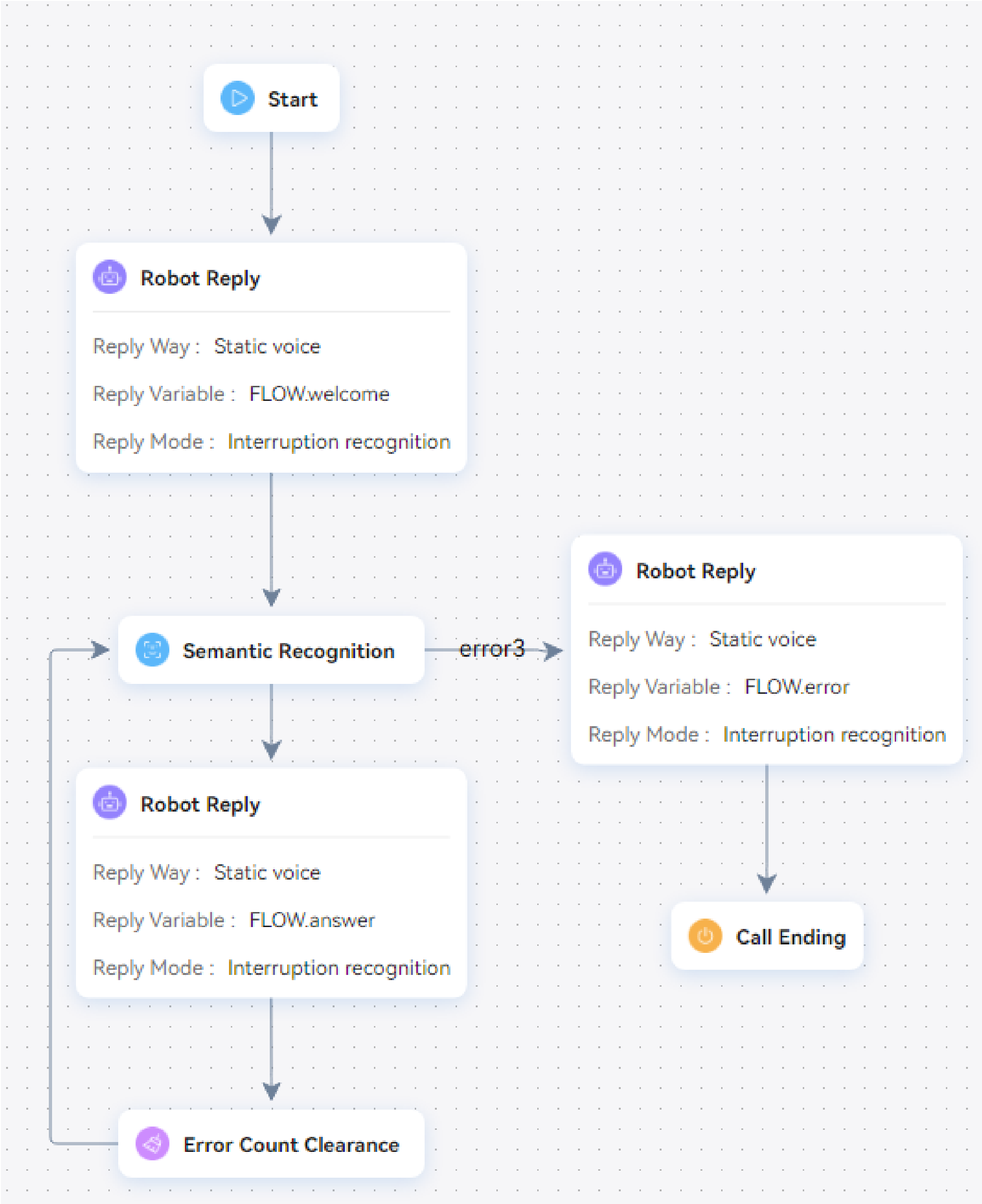


Figure 2-154 Flow orchestration example (Semantic Recognition diagram element)



– Use the reply variable **FLOW.answer** for the **Robot Reply** diagram element below the **Semantic Recognition** diagram element to send the reply to the matched intention.

– Use the reply variable **FLOW.error3** for the **Robot Reply** diagram element below the **error3** condition branch of the **Semantic Recognition** diagram element to send the reply "The number of errors is 3" for three semantic recognition errors.

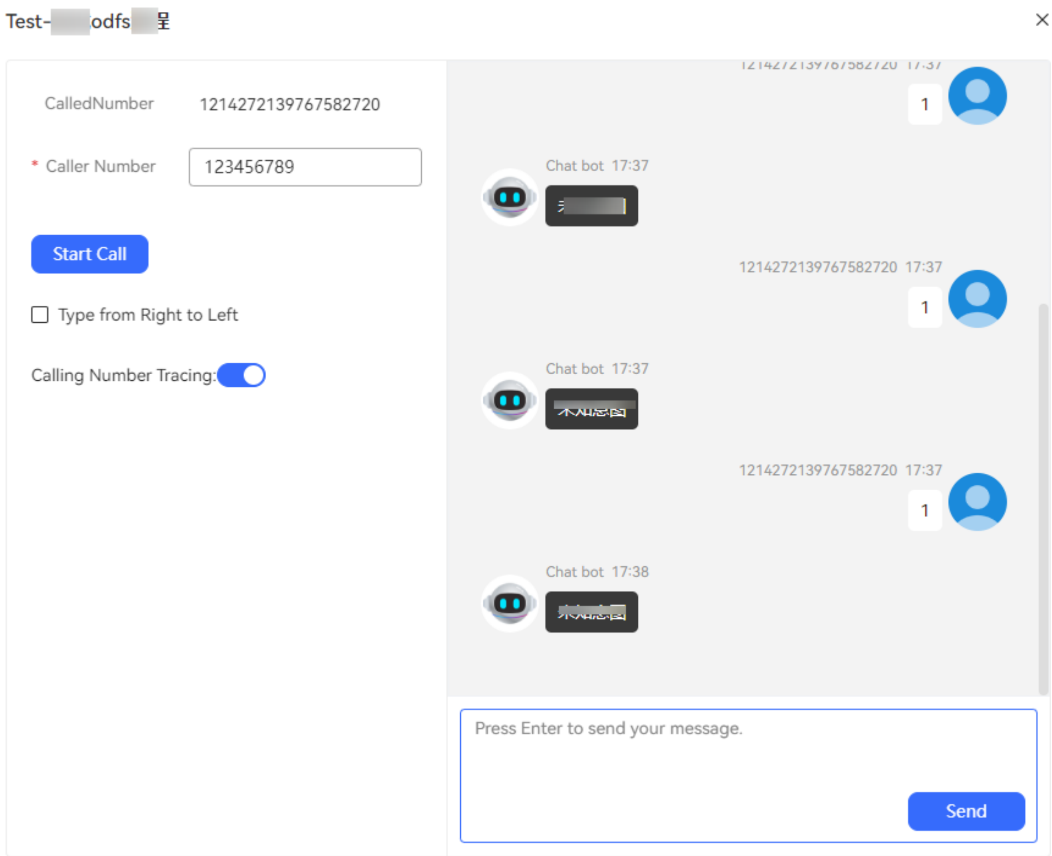
3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. Enter incorrect corpuses continuously. If the robot keeps replying "Unknown intent" and does not reply "The number of errors is 3" for more than three semantic recognition errors, the **Error Count Clearance** diagram element takes effect in the flow.

Figure 2-155 Testing the robot

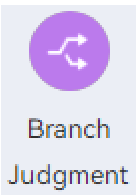


----End

Branch Judgment

This diagram element is used to judge branches.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element.

Condition Branch Description

Table 2-84 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Condition Judgment** diagram element is used when branch flows need to be executed based on different conditions. It makes the flow logic clearer.

Click the diagram element or drag it to the canvas, and click Create under **Condition Branch** to add a condition expression.

Typical Application Scenario

For details about how to use the **Branch Judgment** diagram element, see **Typical Application Scenario**. The typical application scenario of the **Key Recognition** diagram element involves the **Branch Judgment** diagram element.

Logic Loop

This diagram element is used to perform an operation on an object repeatedly until a certain condition is met.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Counter**: flow variable that stores the number of elements in a list.

- **Loops**: objects to be traversed. Generally, the object list is the value obtained by the previous node, for example, the customer list obtained by a stored procedure.
- **Loop Object**: flow variable that stores the value of the object obtained each time when the object list is traversed.

In addition to four variables, the **Logic Loop** diagram element provides two default branches: **inLoop** and **outLoop**. The **inLoop** branch executes the logic when a loop is entered, that is, some actions during object list traversal. The **outLoop** branch executes the actions after object list traversal.

Condition Branch Description

Table 2-85 Condition branch description

Condition Branch	Description	Usage
inLoop	Loop list traversing	Triggered when the loop list traversing is not completed.
outLoop	Completed loop list traversing	Triggered when the loop list traversing is completed.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Logic Loop** diagram element is used when an operation needs to be performed repeatedly until a certain condition is met.

Click the diagram element or drag it to the canvas, and set loop conditions and objects.

Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-156 Flow variables to be added

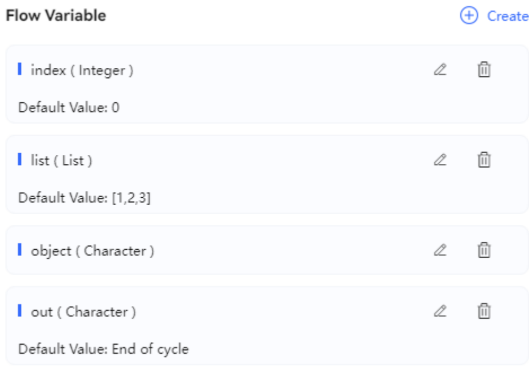
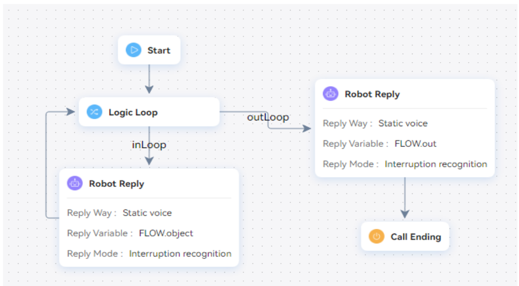


Figure 2-157 Flow orchestration example (Logic Loop diagram element)



- The **Robot Reply** diagram element of the **inLoop** condition branch traverses **FLOW.list** and outputs the values in **FLOW.list**.
- The **Robot Reply** diagram element of the **outLoop** condition branch outputs **FLOW.out**, indicating that the loop ends.

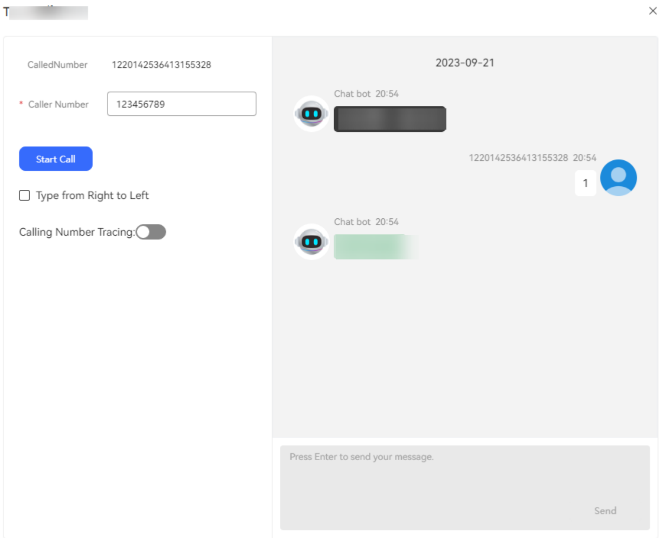
3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot outputs results properly, the configuration is successful.

Figure 2-158 Testing the robot



----End

Variable Assignment

Use this diagram element by referring to the **JSON Data Invoking** diagram element. This diagram element is used to obtain call-associated data and assign values.

Diagram Element

Parameter Description

None

Condition Branch Description

Table 2-86 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no satisfaction option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

(1) When the call-associated data is in JSON format, this diagram element can be used to obtain the parameters of a specified node and assign values to the parameters.

(2) Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

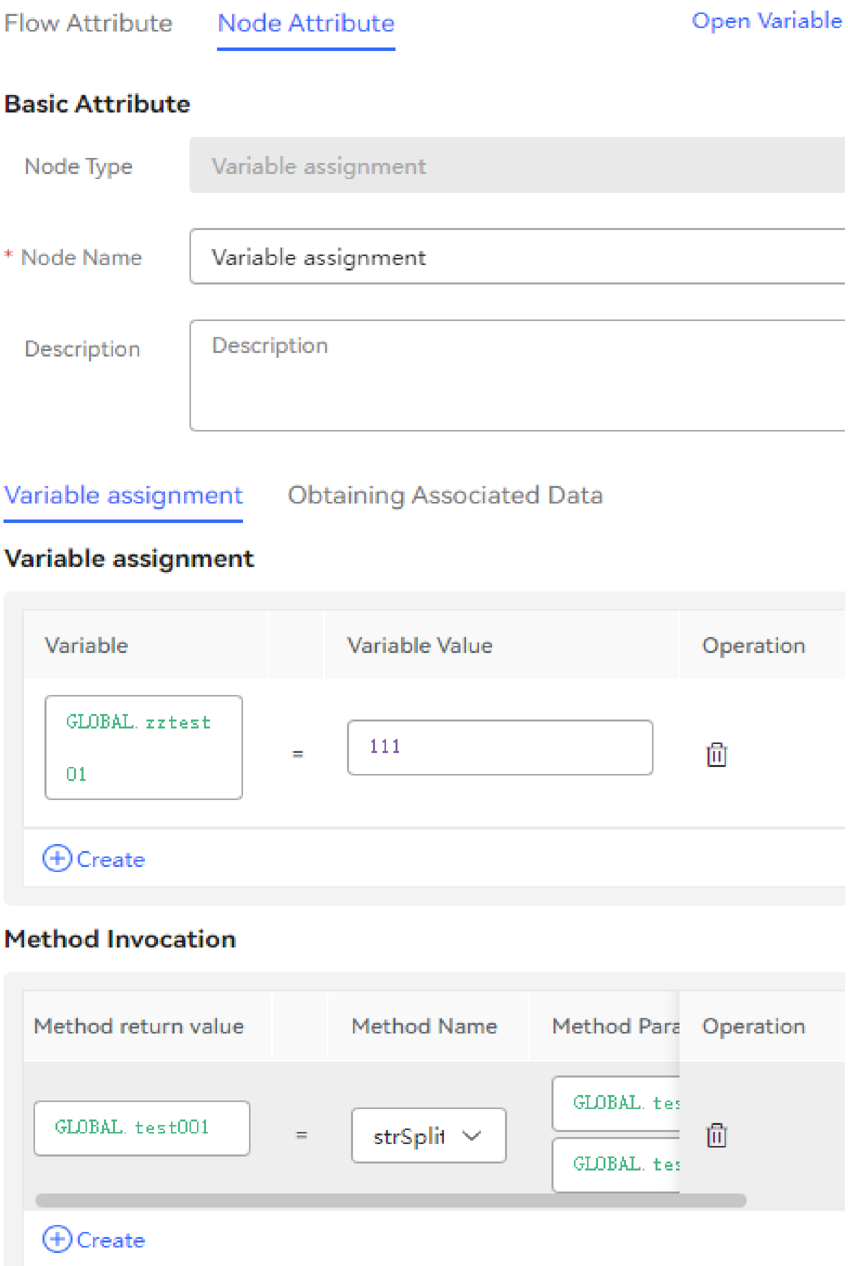
Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Assigning Values to Variables

Step 1 During data value assignment, in addition to string and integer data, expression calculation is also supported. Integer data supports the following arithmetic operations: +, -, *, and % (). Data supports **FLOW**, **GLOBAL**, and **SYS**. Example: **(FLOW.xxx+FLOW.yyy)*GLOBAL.zzz**. Note that when / is used for division, the calculation result needs to be received using data of the string type. Integers do not support decimals. String data supports comparison, case conversion, character string concatenation, substring calculation, and length calculation. Example: **FLOW.aaa=="Huawei" FLOW.bb.to FLOW.a.toUpperCase() FLOW.A.toLowerCase() FLOW.hua+FLOW.wei FLOW.len.substring(0,3)FLOW.zzzz.length()**



1. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queuing information is heard, the configuration is successful.

----End

Scenario 2: Obtaining Call-associated Data

Step 1 Orchestrate a flow.

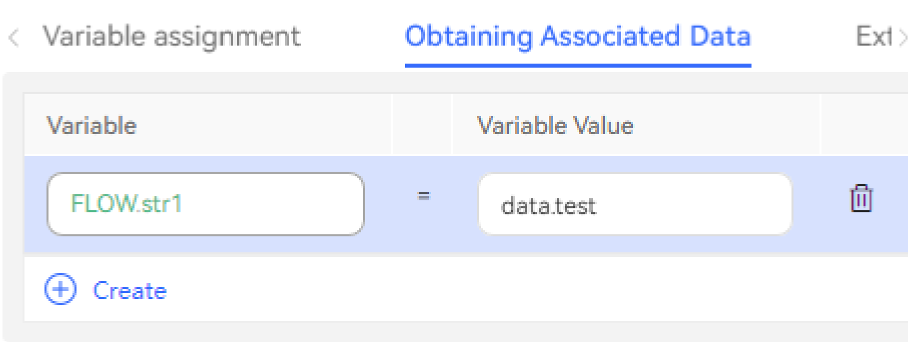
Example 1: Assume that the call-associated data is **{"data":{"test": "Call-associated data test"}}**.

Use the **Variable assignment** diagram element to assign the value of the **test** field in the call-associated data to the flow variable **FLOW.str1**. In this example, the value of **FLOW.str1** is **Call-associated data test**.

Example 2: If the call-associated data of an outbound call task is **{"iSales":{"name":"Tom"}}**, the content **Tom** can be obtained by setting **iSales.name**.

The following figure shows the screenshot based on example 1.

Figure 2-159 Obtaining call-associated data



1. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.
2. Configure a common IVR, add the **Transfer** diagram element, select **Transfer to Intelligent IVR**, and configure call-associated data.
3. Add the **Variable assignment** diagram element to the intelligent IVR flow, and configure a variable on the **Obtaining Associated Data** tab page to receive call-associated data from the common IVR.

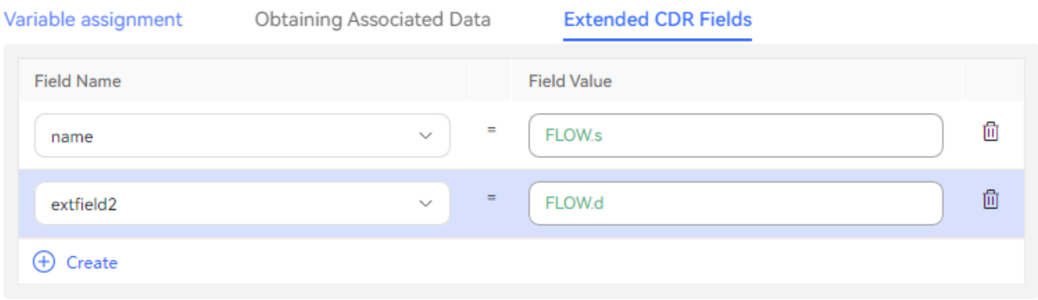
Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. Check whether the call-associated data obtained in the intelligent IVR flow is correct.

----End

Scenario 3: Extended CDR Fields

You can set 10 service information fields (extfield1 to extfield10) to collect customer information and customer operations to be saved in the IVR flow. These fields can be used only when the system parameter **IVRCDRCTRLPARAMS** is enabled. Do not assign values to encrypted variables. The values of encrypted variables are processed as ****** for storage.



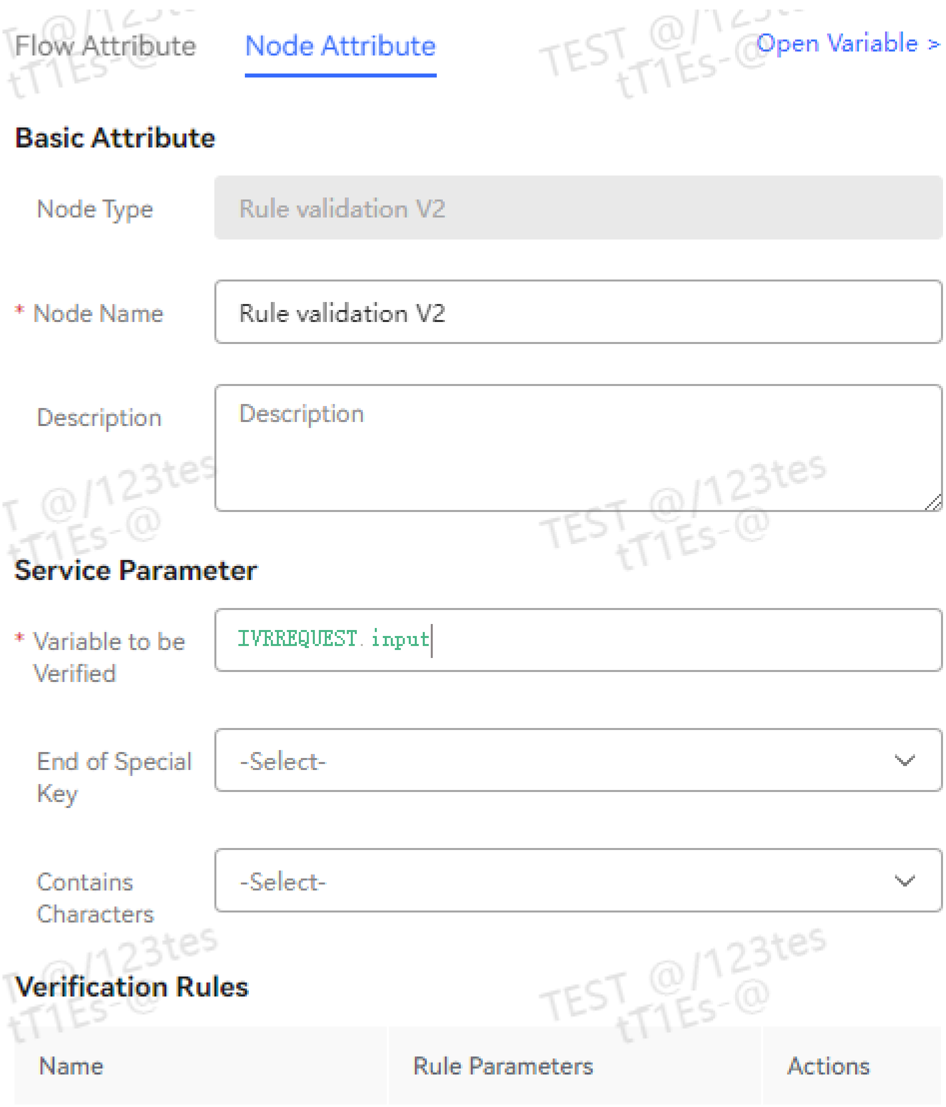
Rule Validation V2

This diagram element is used to verify the customer input or output based on rules.

Diagram Element

Parameter Description

Figure 2-160 Rule validation V2 parameters



- **Variable to be Verified**: Enter the variable corresponding to the parameter to be verified, for example, **IVRREQUEST.input**.
- **End of Special Key**: Specify the end character of the parameter to be verified. The options are as follows:
  - **With #**
  - **With ***
  - **With # or ***
  - **Without special keys**
- **Contains Characters**: Specify the characters that can be contained in the parameter to be verified. You can select multiple values. The options are as follows:

- **Matches numbers**
- **Matches uppercase letters**
- **Matches lowercase letters**
- **Matches letters, digits, and underscores (_)**
- **Empty character**

Verification Rules

- **Name**: Select a verification rule. The options are as follows:
  - **Minimum Length**
  - **Maximum Length**
  - **Length Range**
  - **Min.**
  - **Max.**
  - **Value Range**
  - **Email**
  - **URL**
  - **Time Format**
  - **Decimal Number**
  - **Positive Integer**
  - **IP Address**
  - **Alphanumeric Underscore (not starting with a number)**
- **Rule Parameters**: Enter rule parameters. Variables are supported.

Condition Branch Description

Table 2-87 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Successful verification	Triggered when the verification is successful.
FAILED	Verification failure	Triggered when the verification fails.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

This diagram element is used to verify the customer voice or keyboard input based on rules.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Rule validation V2** diagram element to verify whether the customer input is a valid date.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-161 Add Variable

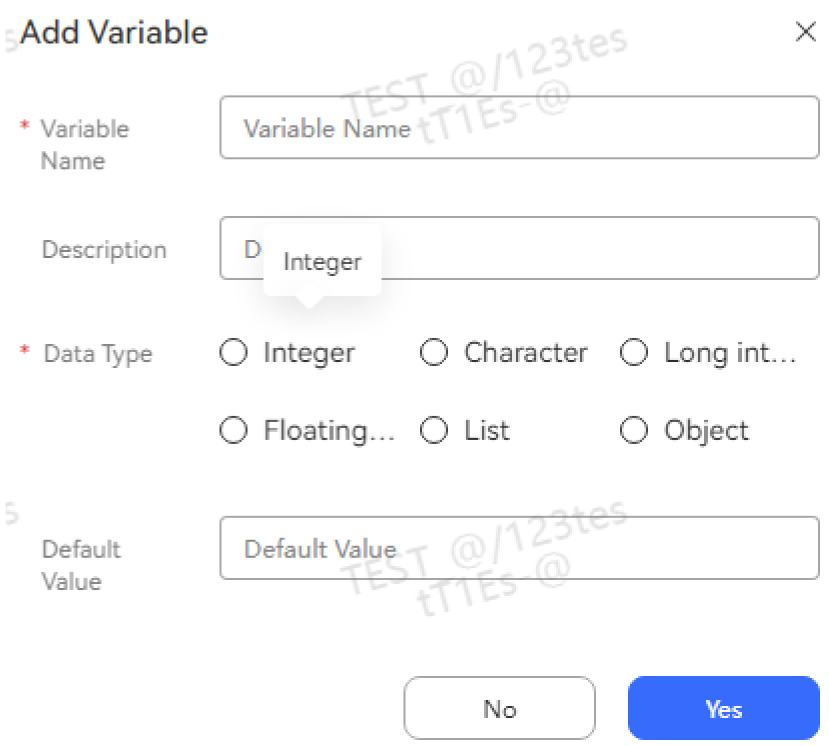
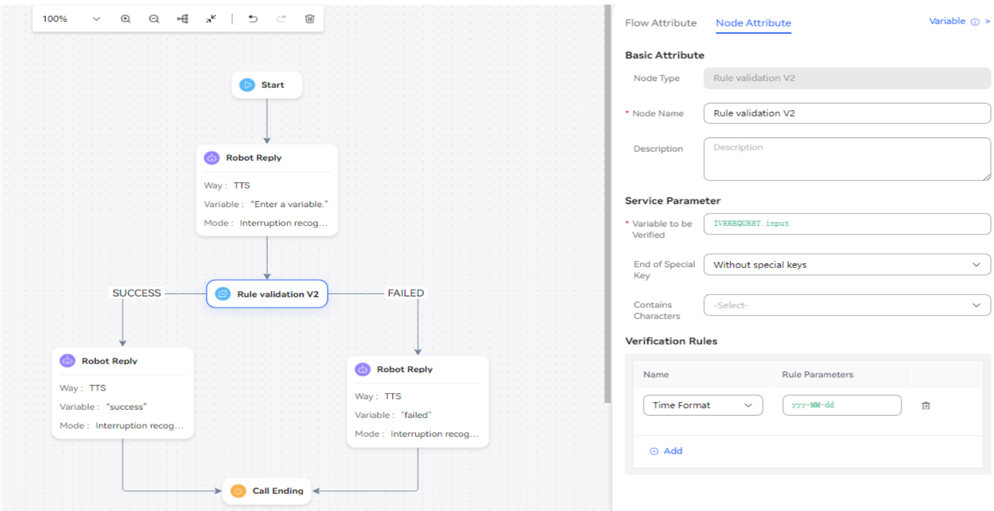


Figure 2-162 Flow orchestration example (Rule validation V2 diagram element)



– Select the reply text **SUCCESS** for the **Robot Reply** diagram element of the **SUCCESS** condition branch, indicating that the time meets the format requirements.
– Select the reply text **FAILED** for the **Robot Reply** diagram element of the **FAILED** condition branch, indicating that the time does not meet the format requirements.

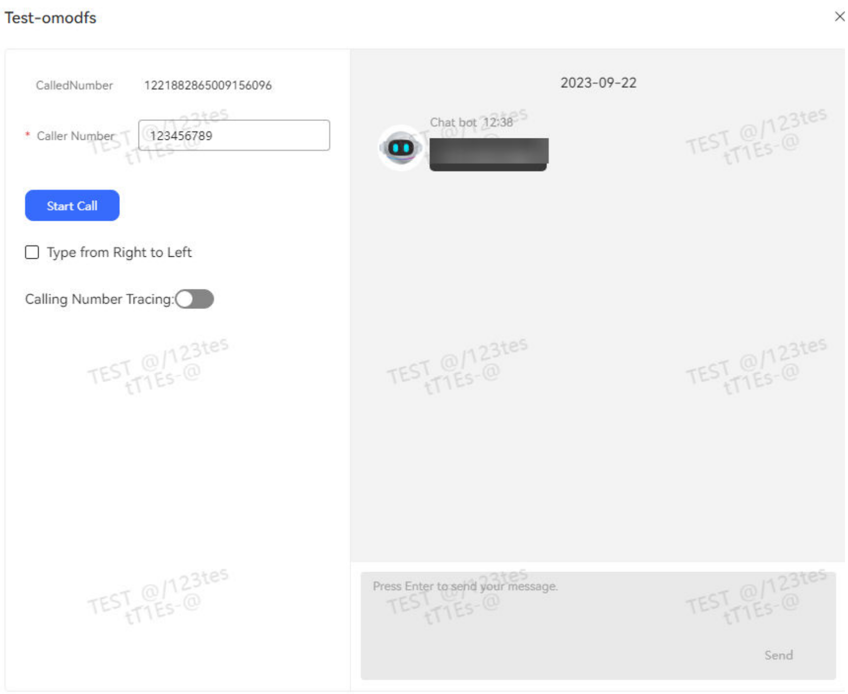
3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers **SUCCESS** or **FAILED** based on the time entered by the customer, the configuration is successful.

Figure 2-163 Testing the robot

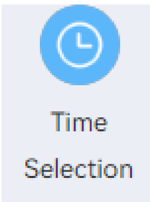


----End

Time Selection

The orchestration capability varies depending on the time. That is, the holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and working days.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Week Selection**: Select the working days of a week.
- **Service Period**: Select the start working time and end working time.
- **Specified Service Date**: Specify one or more dates as working dates.
- **Specified Non-service Date**: Specify one or more dates as non-working dates.

The time zone is that set by the system administrator when the tenant space is created. If the time zone is not set when the tenant space is created, the value of the built-in variable **timezone** is used.

The configuration priority is as follows: **Specified Non-service Date** > **Specified Service Date** > **Week Selection**.

Condition Branch Description

Table 2-88 Condition branch description

Condition Branch	Description	Usage
NON_SPECIFIC_TIME	Non-working time	Triggered when the current time is non-working time.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and workdays.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Time Selection** diagram element to determine whether the current time is working time for subsequent business handling.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent robot.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-164 Flow variable to be added

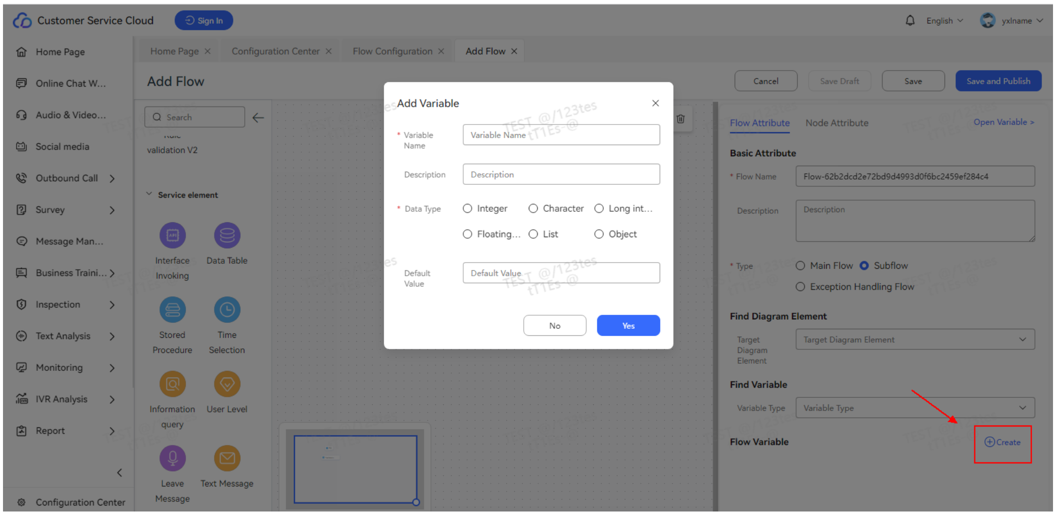


Figure 2-165 Flow orchestration example (Time Selection diagram element)

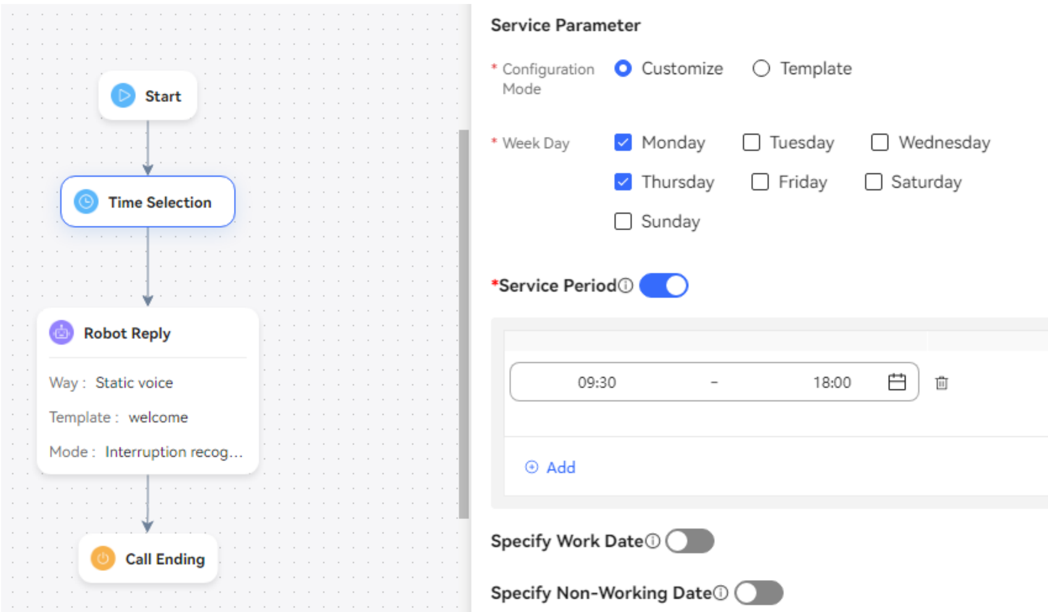
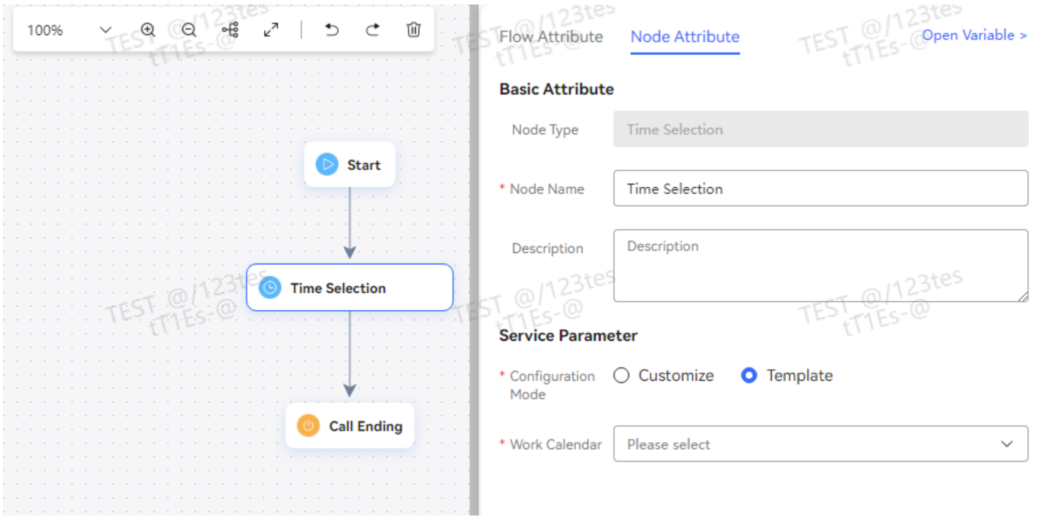


Figure 2-166 Referencing a work calendar template



For the **Robot Reply** diagram element, set **Reply Variable** to **FLOW.response** to reply to the customer with "The current time is working time. What kind of business do you want?" if the current time is working time.

3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot replies based on whether the current time is working time, the configuration is successful.

----End

Interface Invocation

This diagram element is used when a third-party system interface needs to be invoked to implement a function. If no interface is selected, you can directly add parameters and assign values to the parameters to implement the function of the diagram element.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

- **Interface Type**: Select the type of the interface to be invoked. The options are **inner interface** and **self defined interface**. If **inner interface** is selected, the following two built-in interfaces are available:
  – **Record Q&A**: This interface used to record the survey ID, question title, user reply intention, original user reply, and other information.
  – **Obtain the APIFabric token**: This interface is used to obtain the API Fabric token. After a robot successfully invokes this interface, the token is recorded in the cache and can be directly obtained from the cache within the validity period. If the AK/SK is changed, the original cache is not cleared, and this interface fails to be invoked within the cache validity period. To invoke this interface immediately, you can bind the flow to a new robot.
- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **Variable assignment**: variable name and variable value. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a variable here and assign the value of the output parameter to the variable.
- **Condition branch**: condition name and condition expression. Define the branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter. Different subsequent flows can be specified for each branch.
- **Method Invocation**: Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

Condition Branch Description

Table 2-89 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
SYSERROR_INTERFACE	Interface invocation failure	Triggered when an interface invocation exception occurs. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

Click the diagram element or drag it to the canvas, and select the interface to be invoked. The invoked interface needs to be configured on the **Resource** > **Business Interface** page in advance. Alternatively, in the dialog box that is displayed, click **Add** to add an interface. If you use this diagram element to assign a value, you do not need to select an interface. Instead, you can directly add a cache variable and assign a value to it. In this case, you need to maintain global variables in advance.

Typical Application Scenario

For details about how to use the **Interface Invoking** diagram element, see **Typical Application Scenario**. In the typical application scenario of the **Rule Validation** diagram element, the parameter value assignment function of the **Interface Invoking** diagram element is used.

Data Table

This diagram element is used to search for configuration data. It is used with the **Branch Judgement** diagram element to determine which branch to go to or the next step to process data.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Data Table Name**: name of the data table to be searched.
- **Search Page**: page number of the data table to be searched. Enter an integer or a variable. If this parameter is left blank, the first page is searched by default. The page size is fixed at 10.
- **Search Criteria**: condition for searching a data table.
  - If the field is of the character type, the operator can be **=**, **>**, **>=**, **<**, **<=**, **!=**, **like**, or **in**. If the field value is of the character type, it does not need to be enclosed in quotation marks. If the operator is **in** and the field value is of the list type, each list item must be enclosed in double quotation marks, for example, **["watermelon","apple"]**.
  - If the field is of the integer type, the operator can be **=**, **>**, **>=**, **<**, **<=**, **!=**, or **in**.
  - If the field is of the date type, the operator can be **=**, **>**, **>=**, **<**, **<=**, or **!=**. Set **Field Value** to a timestamp, in milliseconds. A value or variable of the character type or long integer type is supported. A value or variable of the character type does not need to be enclosed in double quotation marks.
- **Return Records**: variable for saving search results. Enter a variable of the list type.
- **Total**: variable for saving the total number of search results. Enter a variable of the integer type.

Condition Branch Description

Table 2-90 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Data Table** diagram element is used when you need to search a customized data table for data.

Click the diagram element or drag it to the canvas. Select a data table and add search conditions.

Typical Application Scenario

Use the **Data Table** diagram element in an IVR flow to search for the milk brand, price, and inventory.

The following describes how to use the **Data Table** diagram element to search for data and then process the data.

Query data records with **milkCount** being greater than 10 from the **milkInfo** table. If the condition is not met, the robot returns a message indicating that no such data record is found. If the condition is met, the robot returns the total number of such data records, data records on the first page that meets the condition, and **milkName** of the first data record.

Prerequisites

You have added a data table by referring to **2.6.2.4.4 Adding Data Tables**, as shown in the following figure.

Figure 2-167 Table fields

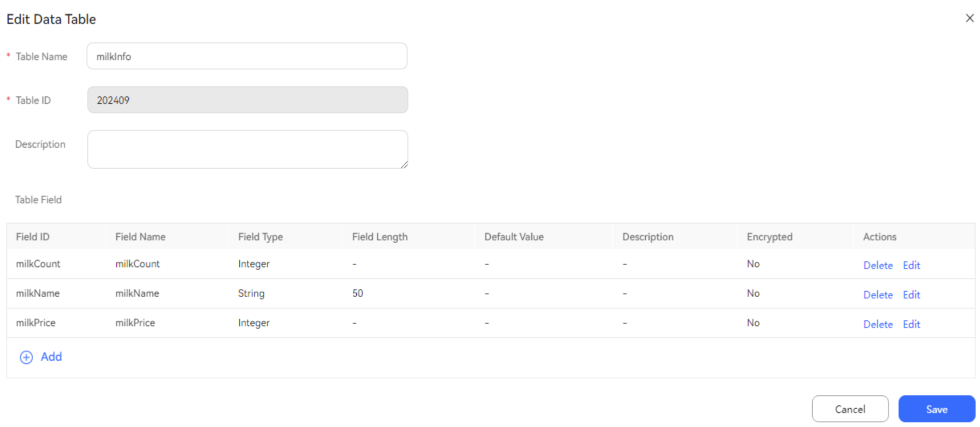
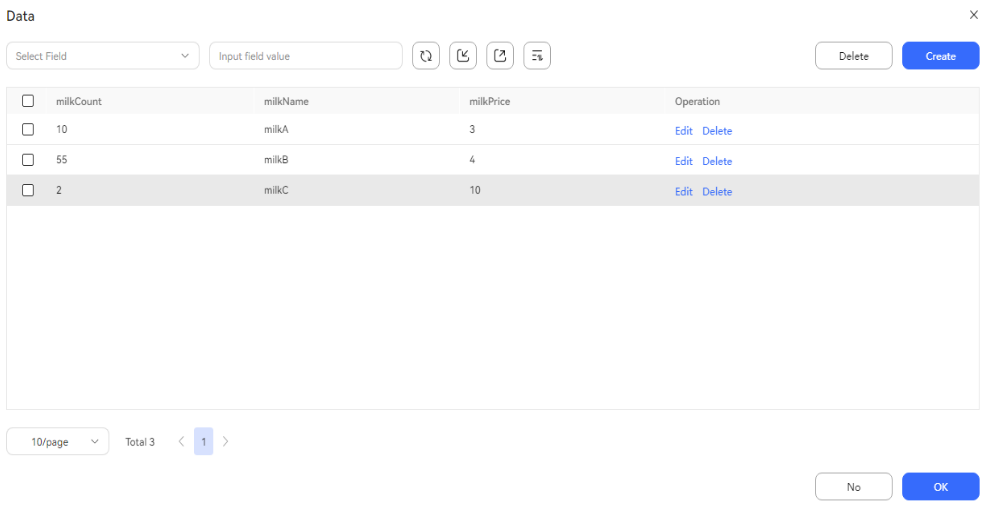


Figure 2-168 Table data



Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.
3. Save and publish the flow.

Figure 2-169 Flow variables to be added

Figure 2-170 Example of data table diagram element configuration

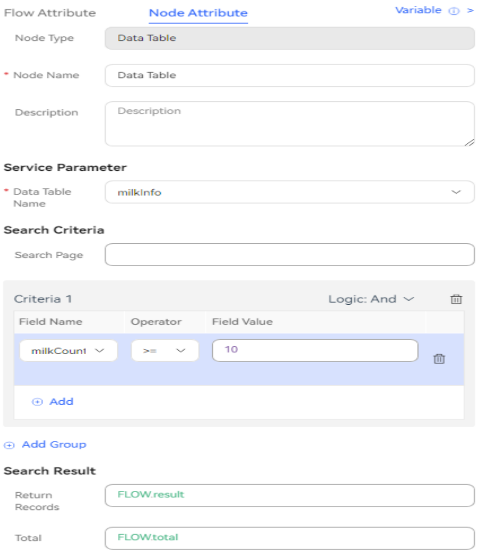


Figure 2-171 Example of branch judgment diagram element configuration

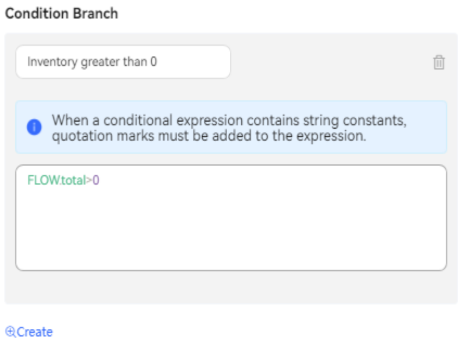
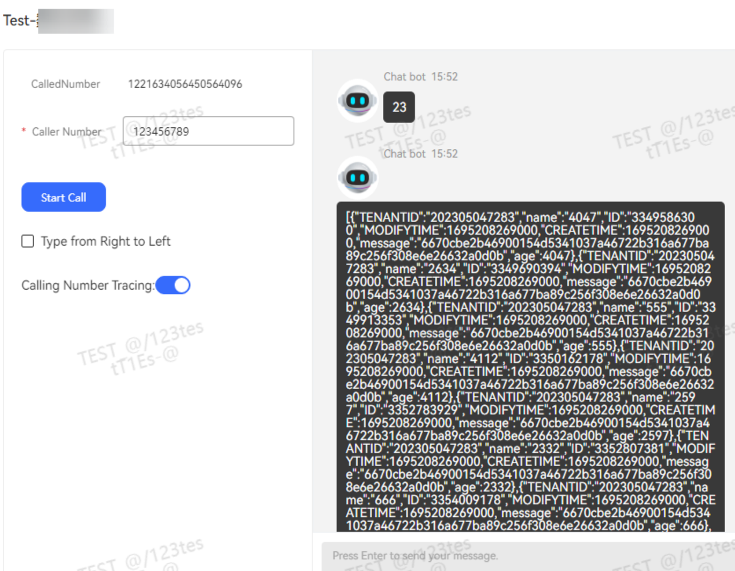


Figure 2-172 Flow orchestration example

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot.



NOTE

Only 10 data records on the specified search page are queried. If no search criteria are specified, the first page is queried by default.

----End

Stored Procedure

The **Stored Procedure** diagram element interacts with the database.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Stored Procedure**: stored procedure added on the **Configuration Center** > **Flow Configuration** > **Resource** > **Stored Procedure** page.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The output parameter returned by the stored procedure is valid only on the current node. If you want to use the value in subsequent flow nodes, define a cache variable here and assign the value of the output parameter to the cache variable.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter in the stored procedure. Different subsequent flows can be specified for each branch.

Using the Diagram Element

The **Stored Procedure** diagram element is used when data needs to be imported to the database. It cannot be used in public cloud scenarios. In scenarios where the OIAP is independently deployed, the database you access needs to be deployed in the same security zone as the OIAP for security purposes.

Currently, the stored procedure applications of the MySQL database, Oracle database, and GaussDB are supported.

Click the diagram element or drag it to the canvas, select the stored procedure to be invoked, set its input parameters, and add cache variables to temporarily save its output parameters. For the list type in output parameters, you need to set it separately based on rules.

Typical Application Scenario

The following describes how to use the **Stored Procedure** diagram element.

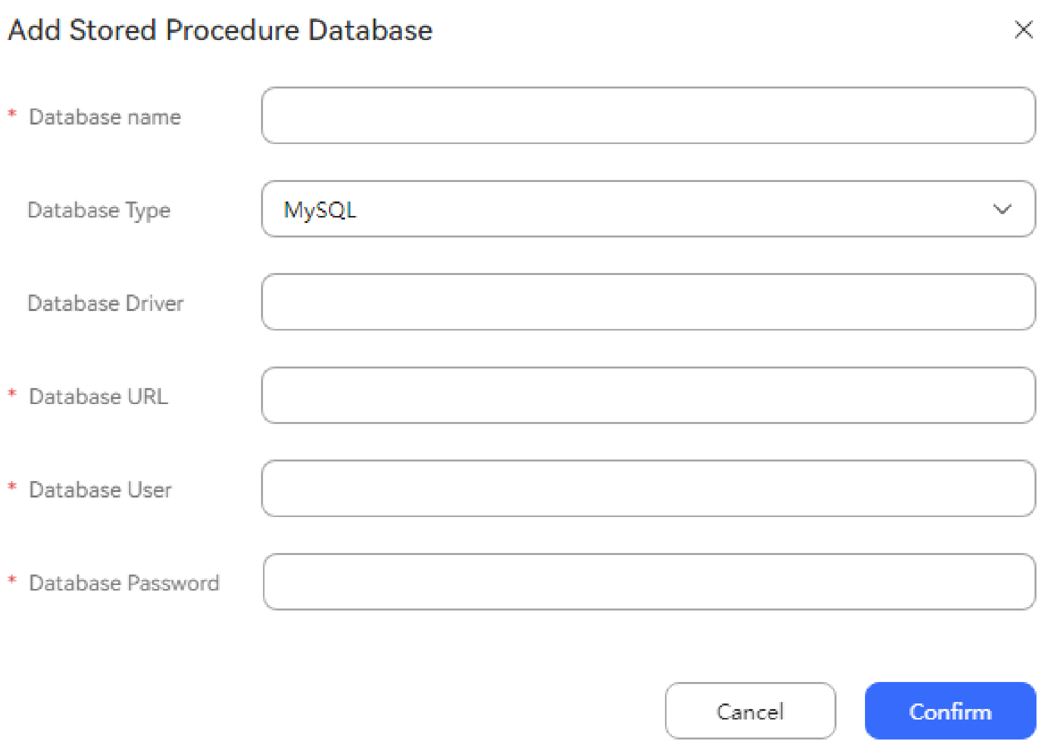
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure a database.

1. Contact the system administrator to add the database URL to the trustlist.

2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedure Databases** tab, and click **Create**.

Figure 2-173 Configuring a stored procedure database



Step 3 Configure a stored procedure.

1. Obtain the developed stored procedure script. An example is as follows:

Figure 2-174 Stored procedure script example

```
create table t_NumService(Calling_Num  varchar(60) primary key,  ADSL_Num  varchar(60));

DELIMITER //
drop procedure if exists p_addNum;
CREATE PROCEDURE p_addNum(
    IN callingNum varchar(60),
    IN adslNum    varchar(60),
    out Status    boolean)
BEGIN
    set Status = False;
    insert into t_NumService(Calling_Num, ADSL_Num)
    values(callingNum, adslNum);
    on Duplicate key update ADSL_Num = adslNum;
    commit;
    set Status = True;
END;
//

drop procedure if exists p_searchNum;
CREATE PROCEDURE p_searchNum(
    IN  callingNum    varchar(60),
    out oldNum        varchar(60))
BEGIN
    select min(ADSL_Num) into oldNum from t_NumService where Calling_Num = callingNum
END;
```

2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedures** tab, and click **Create**.

Figure 2-175 Basic Information page

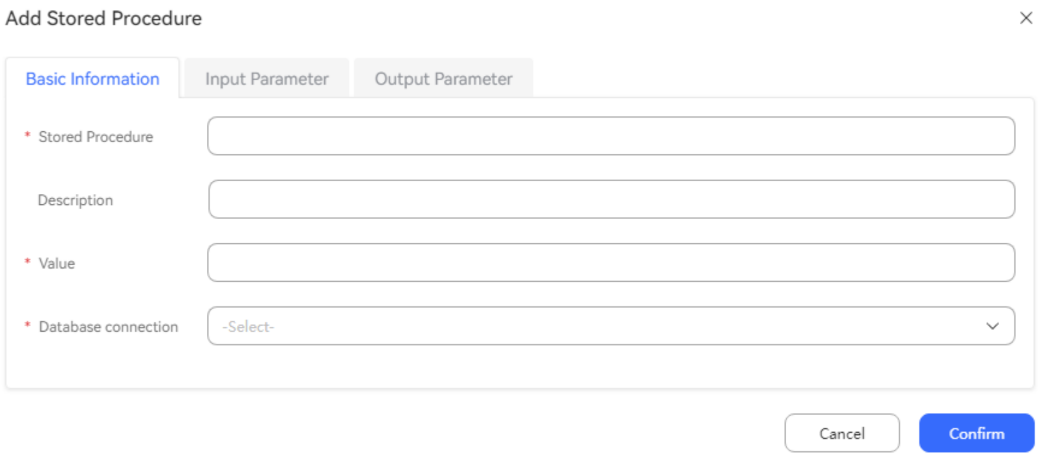


Figure 2-176 Input Parameter page

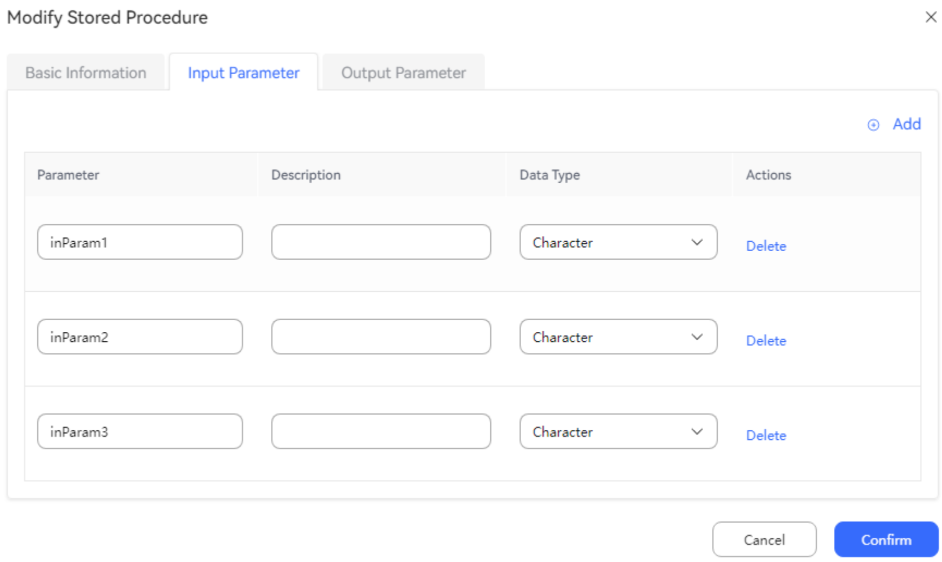
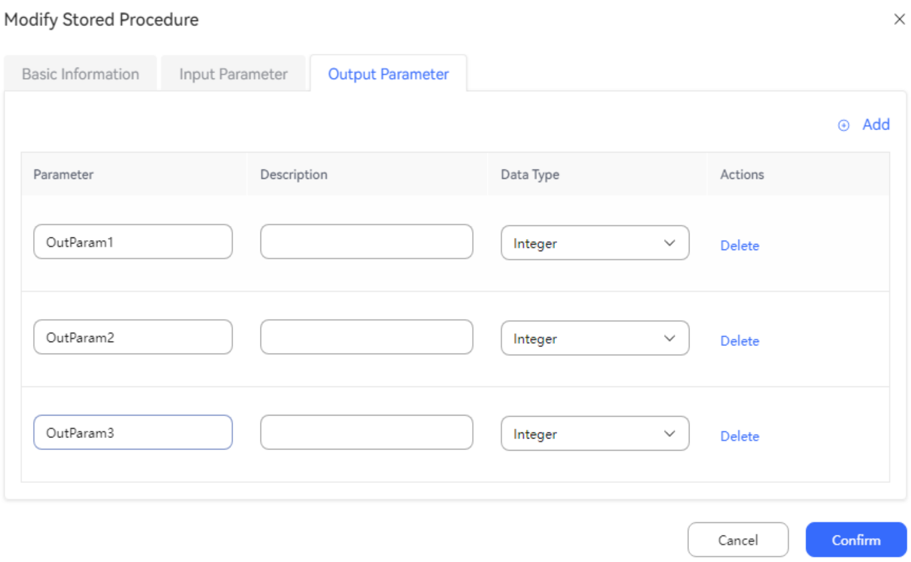


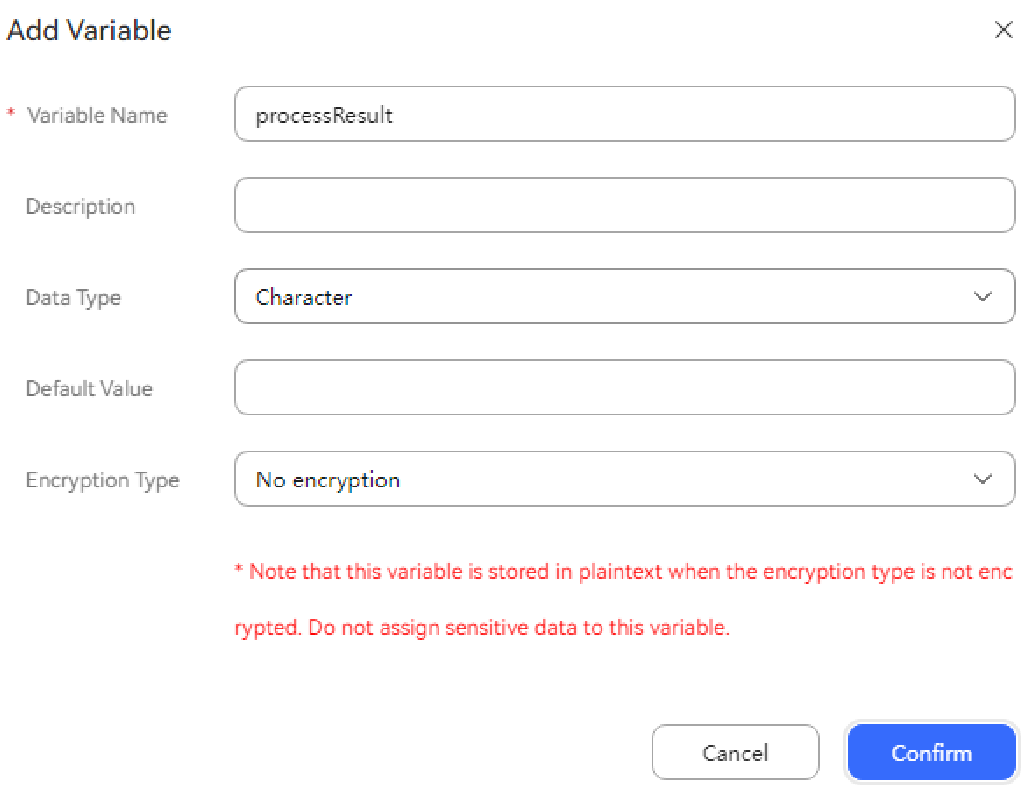
Figure 2-177 Output Parameter page



Step 4 Configure an intelligent IVR flow. The usage of the **Stored Procedure** diagram element is similar to that of the **Business Interface Invocation** diagram element. Select the configured stored procedure, set input parameters, and assign output parameters to variables as required.

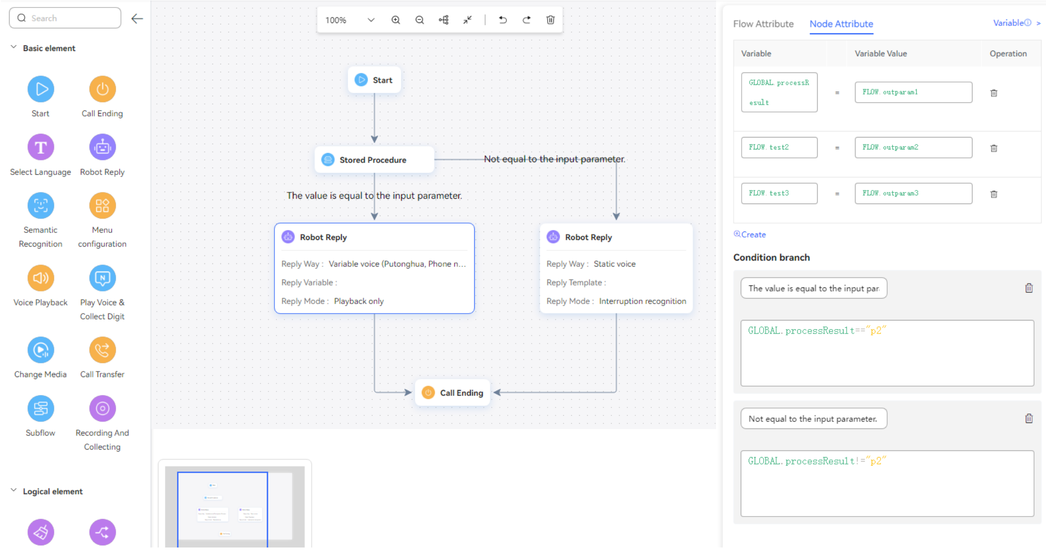
1. Choose **Resource** > **Variable**, click the **Custom Variable** tab, and click **Create** to add a system variable for receiving the output parameters of the stored procedure.

Figure 2-178 System variable to be added



2. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.

Figure 2-179 Flow orchestration example (Stored Procedure diagram element)



Use the reply variable **GLOBAL.***xxxx* for the **Robot Reply** diagram element to reply the number output by the stored procedure to the customer.

3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 6 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the robot can query the number output by the stored procedure based on the calling number and reply it to the customer, the configuration is successful.

----End

Information Query

This diagram element is used to query the status of the current customer in the queue. When all agents are busy, the system plays the waiting tone to the customer through the IVR.

Currently, you can query the queuing position, the number of all online agents in a skill queue, and the estimated time required for accessing an agent.

This diagram element is used to query details about agents in configured skill queues.

This diagram element is used to query whether the customer is in the special list.

Diagram Element

Parameter Description

- Querying queuing information
  - **Query Type**: information type that can be queried using this diagram element. Currently, queuing information can be queried.

    The queuing information is queried using an IVR flow when a call is transferred to a skill queue.
  - **Query result**
    - **Queue Position**: position of a customer in the current skill queue, that is, the number of queuing customers in front of the customer. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a customer belongs. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Estimated waiting time**: estimated duration for connecting a call to an agent during queuing. This parameter is affected by **Queue Position** and **Number of online agents**. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.
- Querying queue information
  - **Query Type**

    Queue Information: Query queue information before a call is transferred to a skill queue.
  - **Request Parameter**

    Skill Queue: skill queue to which a call is transferred.
  - **Query result**
    - **Number of queues**: number of customers in the current skill queue before a call is transferred to another skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.

- **Number of idle agents**: total number of online and idle agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
- **Estimated waiting time**: estimated time for connecting a call to an agent after the call is transferred to a skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.

- Querying the queue name
  - **Query Type**

    Queue Name: The name of a skill queue to which an agent belongs can be queried based on the agent ID.

    The scenario is to query the skill queue name based on the agent ID before the call is transferred to the skill queue to which the agent belongs.
  - **Request Parameter**

    Agent ID: agent ID. Flow variables or constants are supported.
  - **Query result**

    Queue Name: name of the voice skill queue with the highest weight in the skill queue to which the agent ID belongs. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

    You can choose **Configuration Center** > **Employee Center** > **Agent Management** to configure the skill queue weight.
- Querying special list information
  - **Query Type**

    Special List Information: Currently, the system can check whether a customer is in the special list based on the customer number. The next process varies depending on the special list query result.

    The special list refers to the blocklist.
  - **Query result**

    Identifier in the special list: whether the calling number exists in the special list. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

    The values of **Identifier in the special list** are as follows: **0** indicates that the calling number does not exist in the special list, and **1** indicates that the calling number exists in the special list.

Condition Branch Description

Table 2-91 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Information query** diagram element can be used to query information such as the queuing status and special list information of the current customer.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

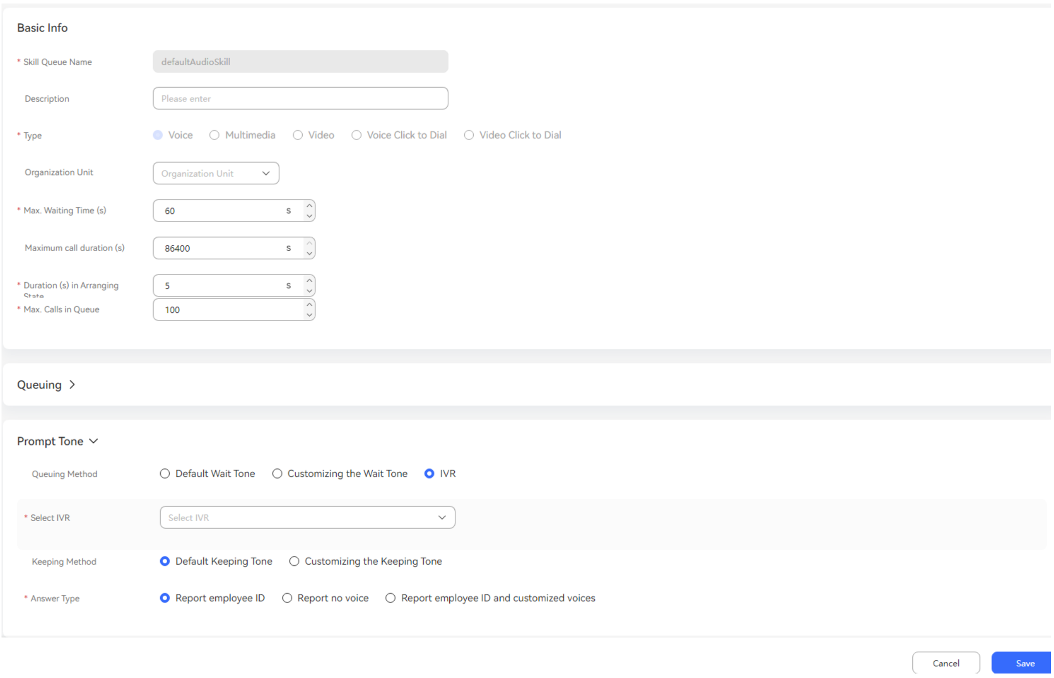
Typical Application Scenario

A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Query queuing information.

Step 1 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, click **Edit** corresponding to the skill queue, and set **Queuing Method** to **IVR**.

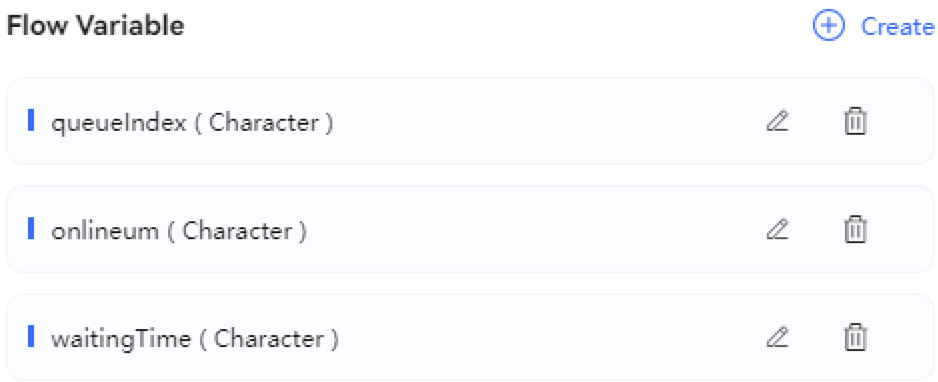
Figure 2-180 Page for editing skill queue parameters



Step 2 Orchestrate a flow. In the flow, use the **Information query** diagram element to query data, including the number of online agents, queuing position, and estimated waiting time.

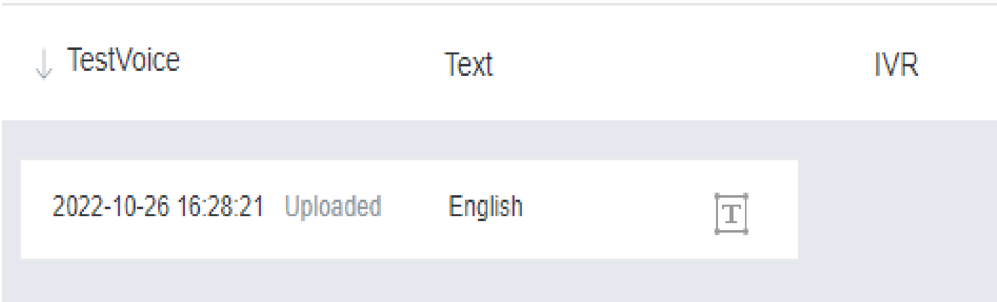
1. Create three flow variables to receive the query result.

Figure 2-181 Flow variables to be added



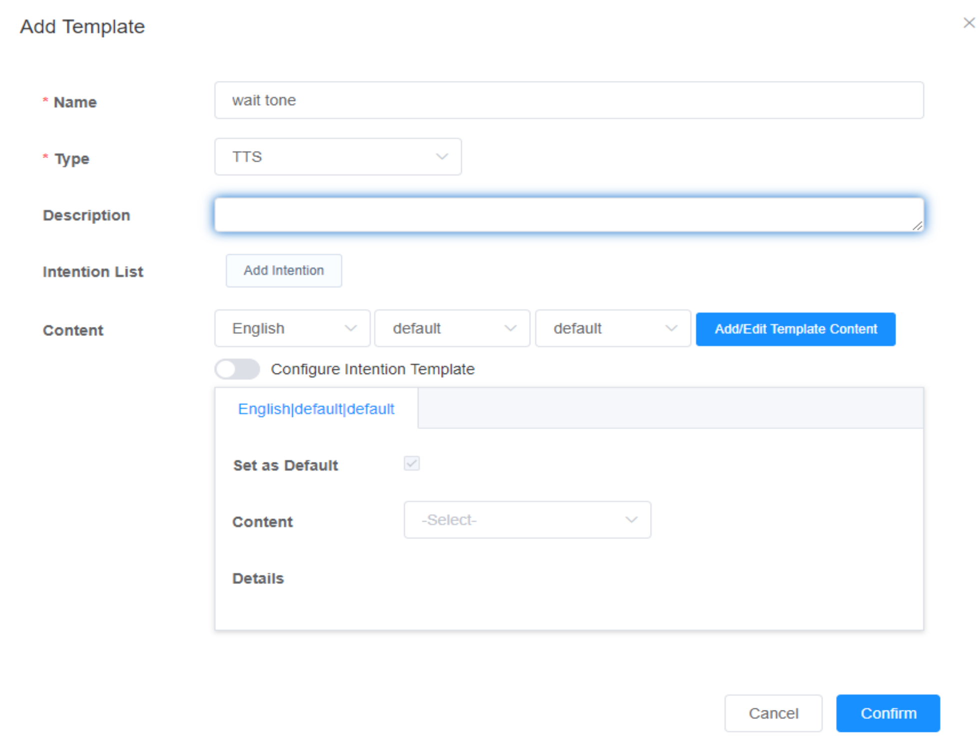
2. Configuring an IVR voice. Use the created flow variables in the IVR voice content.

Figure 2-182 Added IVR voice



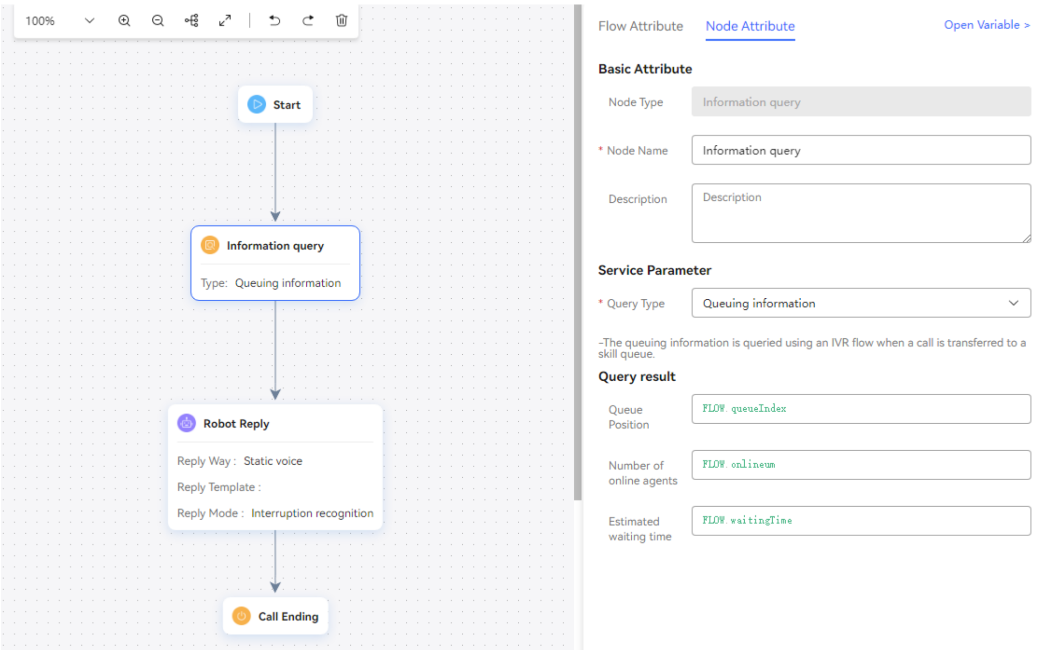
3. Configure a resource template.

Figure 2-183 Page for configuring a resource template



4. Create a flow, use the **Information query** diagram element to assign values to the three flow variables, and use the **Robot Reply** diagram element to select the configured resource template.

Figure 2-184 Flow orchestration example



5. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 2**.

Step 4 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queuing information is heard, the configuration is successful.

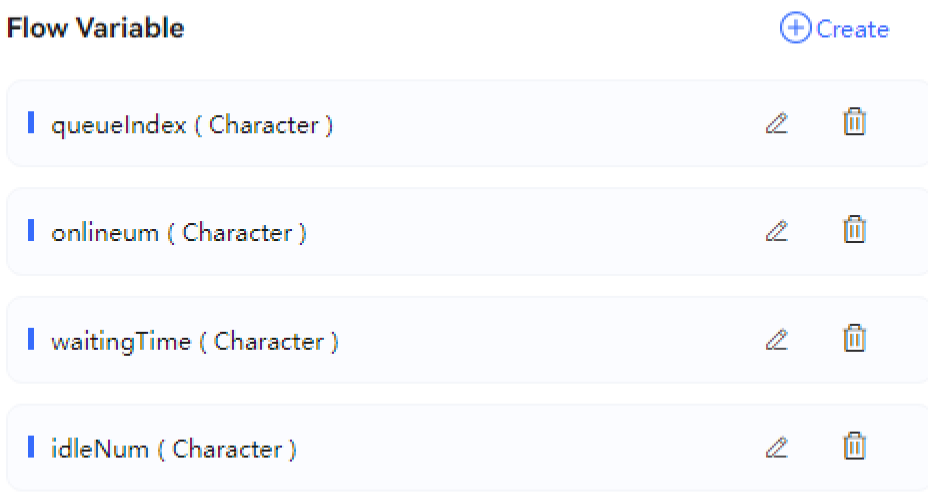
----End

Scenario 2: Query queue information.

Step 1 Orchestrate a flow.

1. Create four flow variables to receive the query result.

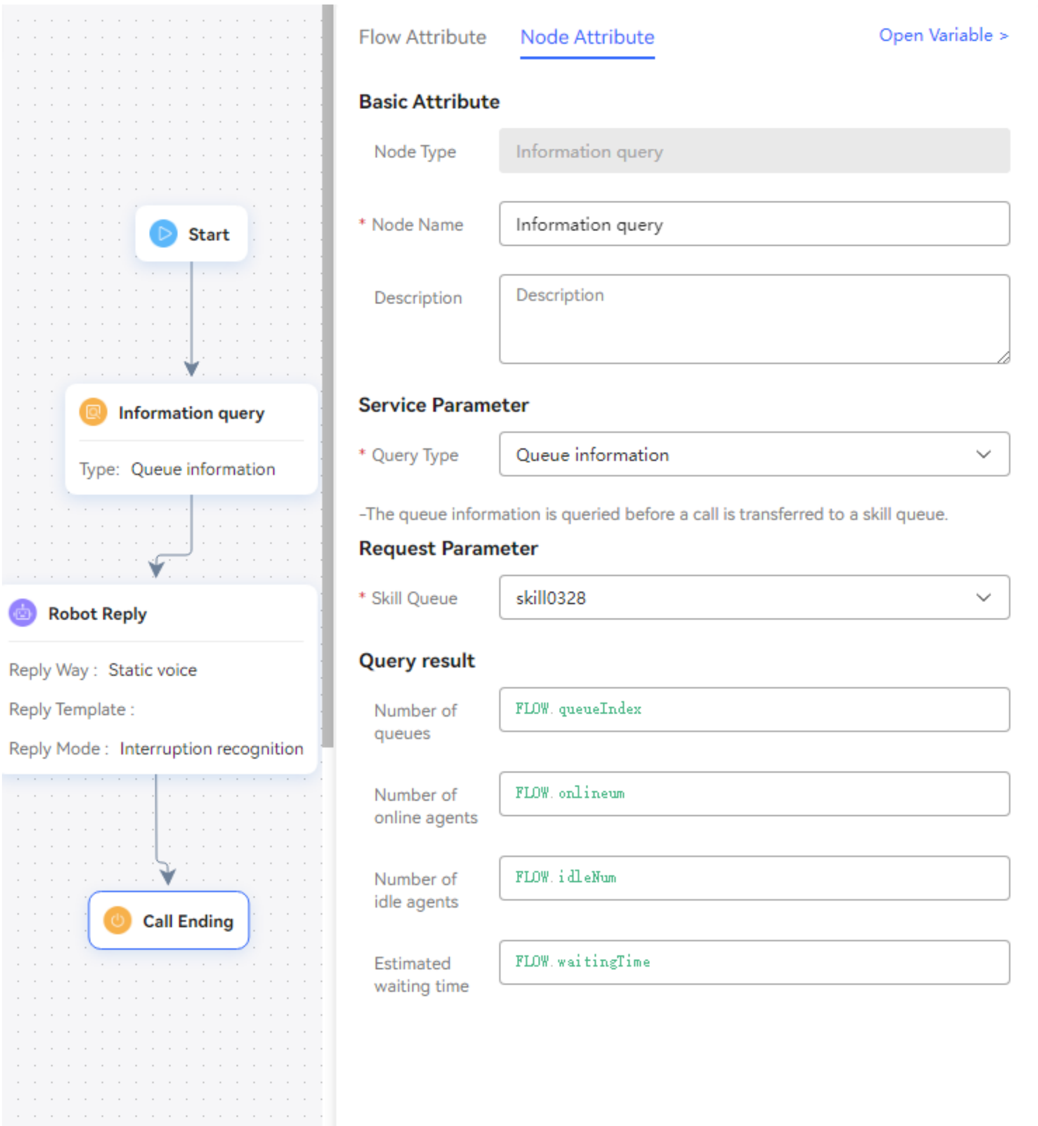
   Figure 2-185 Flow variables to be added

2. When using the diagram element to create a flow, if you want to transfer a call to a skill queue in the flow, you can query the information about the skill queue and then determine whether to transfer the call to the skill queue. The subsequent businesses are determined based on site requirements.

   The flow is shown in the following figure. You need to select a skill queue to be queried.

Figure 2-186 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queue information is heard, the configuration is successful.

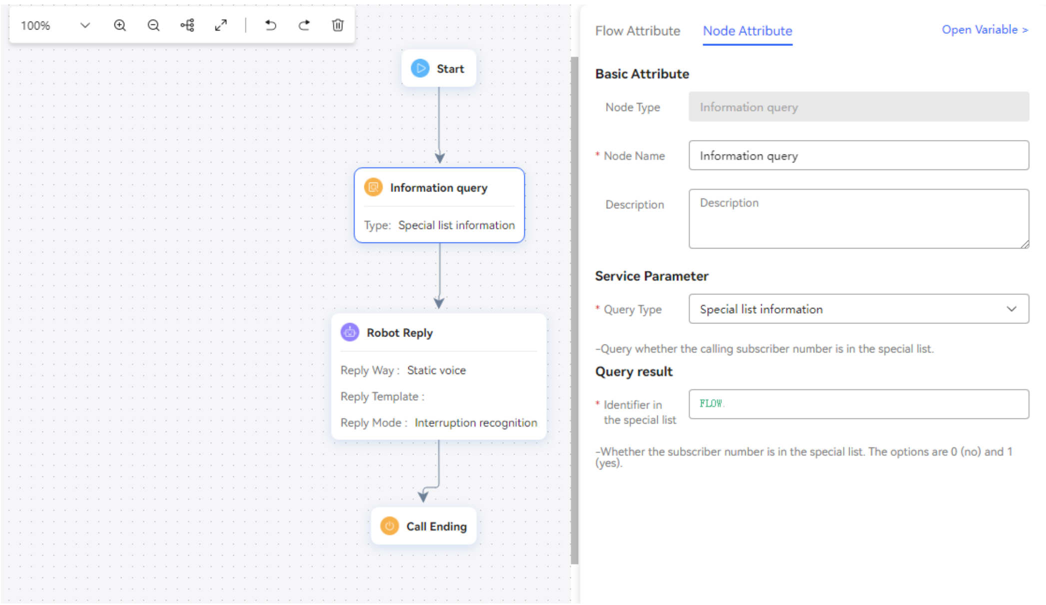
----End

Scenario 3: Query special list information.

Step 1 Orchestrate a flow.

1. Create a flow variable to receive the query result.
2. Configure a flow by referring to the following figure. When the flow runs to the special list information query node, the flow invokes an interface to query special list information, obtains the query result, and enters different flows based on the query result.

Figure 2-187 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

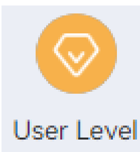
Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current special list information is heard, the configuration is successful.

----End

User Level

The priority (user level) of a call can be set. The call of a user with a higher priority is transferred to an agent first.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **User Level**: Enter a non-negative integer or a string variable. The default value is **0**, and the maximum value is **14**. After calls are transferred to the manual service, the call from a high-level user is processed preferentially.

Condition Branch Description

Table 2-92 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
fail	User level setting failure	Triggered when the call priority of a user fails to be set.

Using the Diagram Element

This diagram element is used when the priority (user level) of a call needs to be set and the call of a user with a higher priority is transferred to an agent first.

Click the diagram element or drag the diagram element to the canvas and set user level service parameters.

Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-188 Flow variables to be added

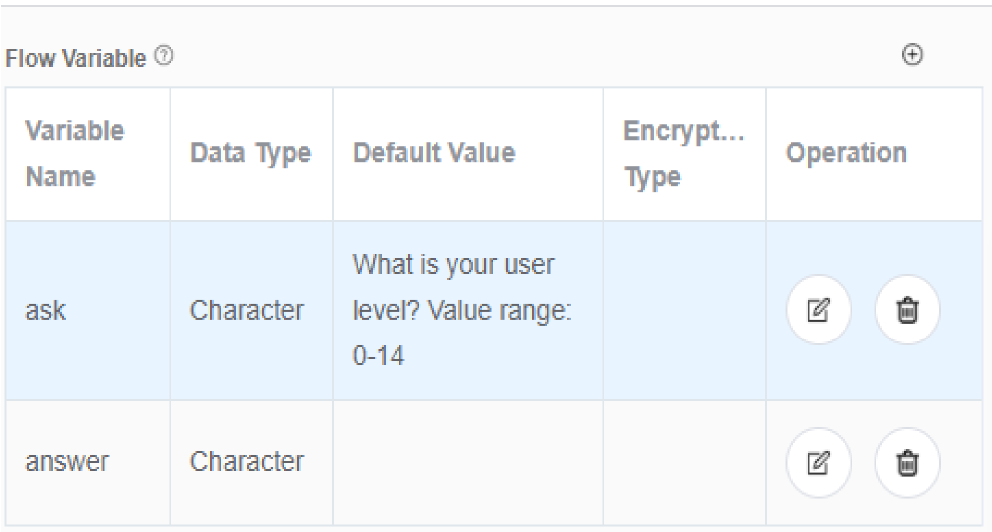


Figure 2-189 Flow orchestration example (User Level diagram element)

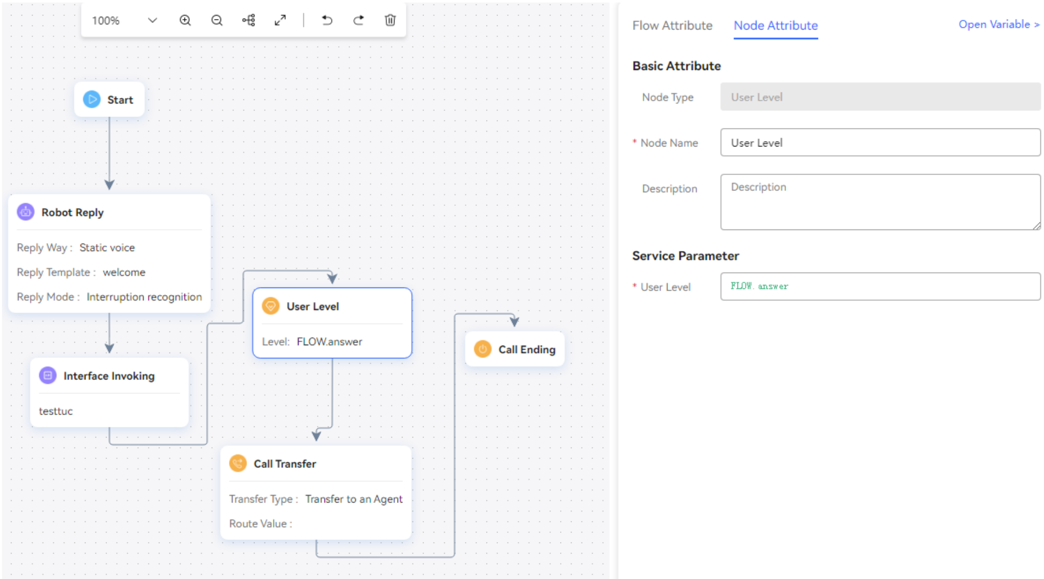
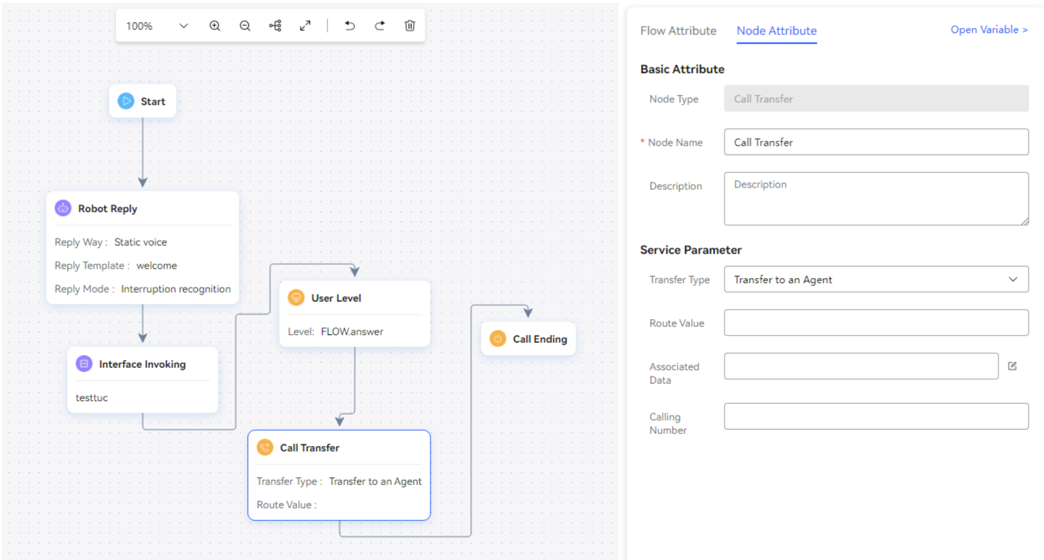


Figure 2-190 Flow orchestration example (Call Transfer diagram element)



3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 2**.

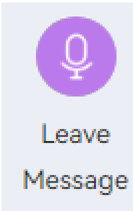
Step 4 Set the current agent to the busy state, log in to the OpenEye using two softphone numbers to simulate two customers, and dial the access code added on the **Called Party** page at the same time. Answer the user level according to the voice prompt. You are advised to set different user levels for the two customers. Then, set the current agent to the idle state. If the customer of a higher level is connected to the agent first, the configuration is successful.

----End

Message Leaving

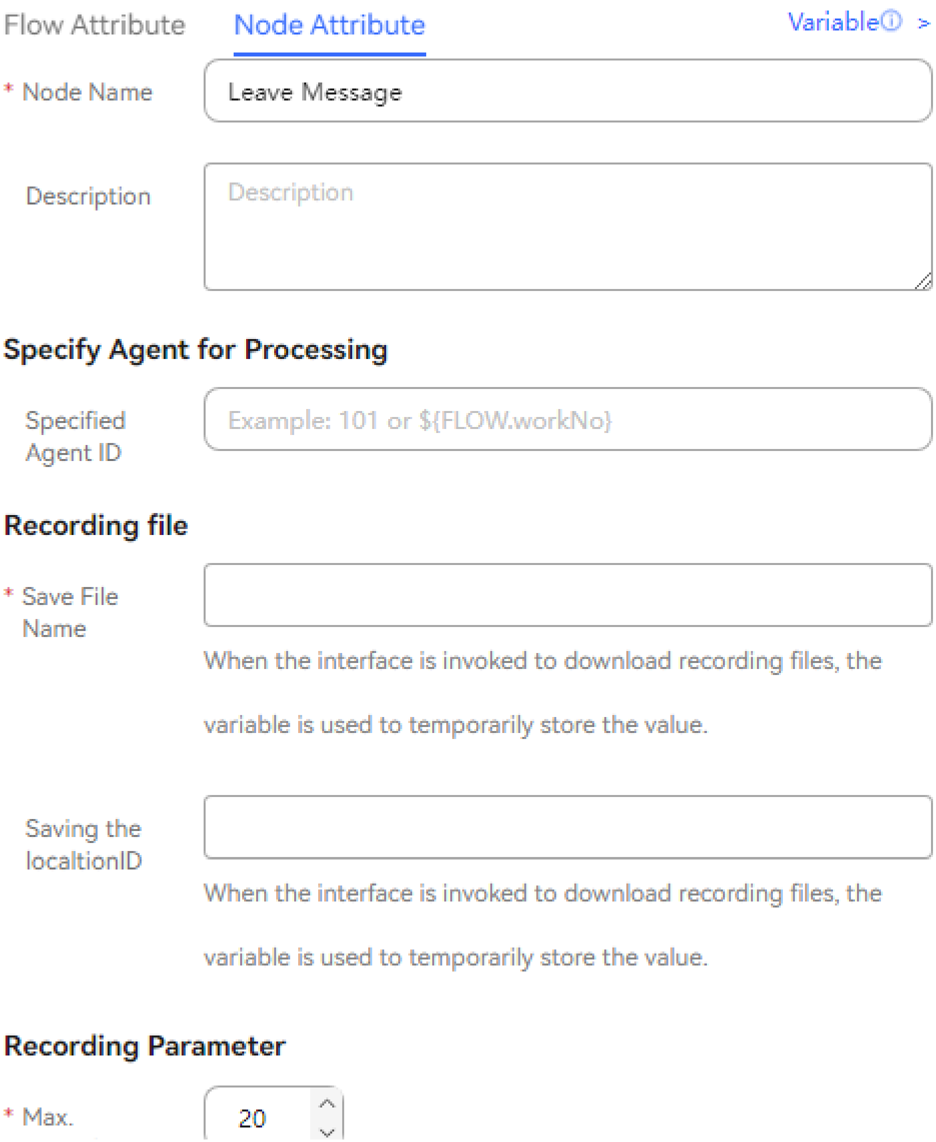
The system records the message of a customer. After the recording is successful, the system returns the directory for storing the recorded message.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Leave Message** diagram element.



- **Node Name**: name displayed on the diagram element, which can be customized.
- **Specify Agent for Processing**

  Specified Agent ID: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified agent ID. If the specified agent ID does not exist, the message status changes to allocation failure. If no agent is specified, messages will be allocated by the administrator.
- **Recording file**

  Save File Name (first text box): Click the text box. In the dialog box that is displayed, select a global variable or flow variable for saving the recording file name as required. The system saves the recording file name using a variable of the string type. Therefore, you can select only a variable of the string type.

  Saving the localtionID (second text box): Select the UAP node set during installation. This parameter is used in call center pool mode.
- **Recording Parameter**

  Max. Recording Duration: Enter the maximum duration of a recording. When the maximum recording duration is reached, the recording ends. The default value is **20**, in seconds.
- **Play the beep tone**: If the check box is selected, a beep tone is played before the recording starts. Otherwise, the recording is performed directly.

  By default, the recording is ended with the pound key (#).: After leaving a message, you can press the pound key (#) to end the recording. After the subscriber hangs up, the end diagram element is invoked directly.
- **Record message information.**: If this check box is selected, messages are saved as records. If this check box is not selected, messages cannot be queried on the message management page.
- Click **Save** to save all parameters set on the current page. When the recording is saved, the system automatically queries the recording directory information of the current tenant and combines the directory with the current date and a random digit string to form a file name. An example is *Recording drive letter:/VDNID/record/20190424/20190424153126*-**record.wav**. The recording file is in the .wav format by default.

NOTE

- When a tenant is deleted, the Customer Service Cloud automatically deletes all recording files of the tenant.
- The retention period of recording files is the same as the recording storage period configured during tenant registration. The scheduled task scans recording files at a specified time every day and periodically deletes recording files that have been stored for a period longer than expected.

Condition Branch Description

Table 2-93 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

This diagram element is used in the scenario where a voice message needs to be stored in a recording file.

SMS

You can send common SMS messages and satisfaction survey SMS messages to the calling party. The SMS messages can be Huawei Cloud SMS messages or SMS gateway messages.

Diagram Element

Figure 2-191 Text Message

Parameter Description

Figure 2-192 Common SMS message parameters

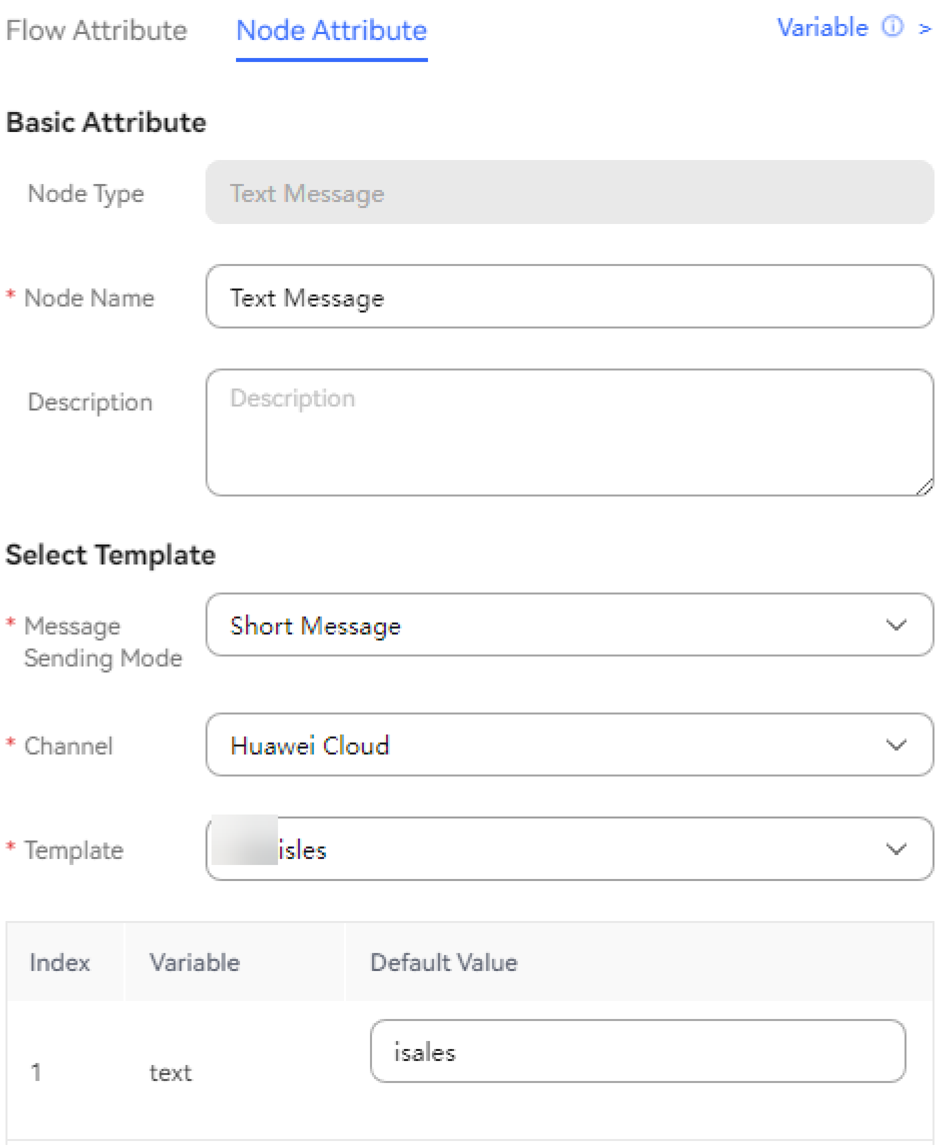
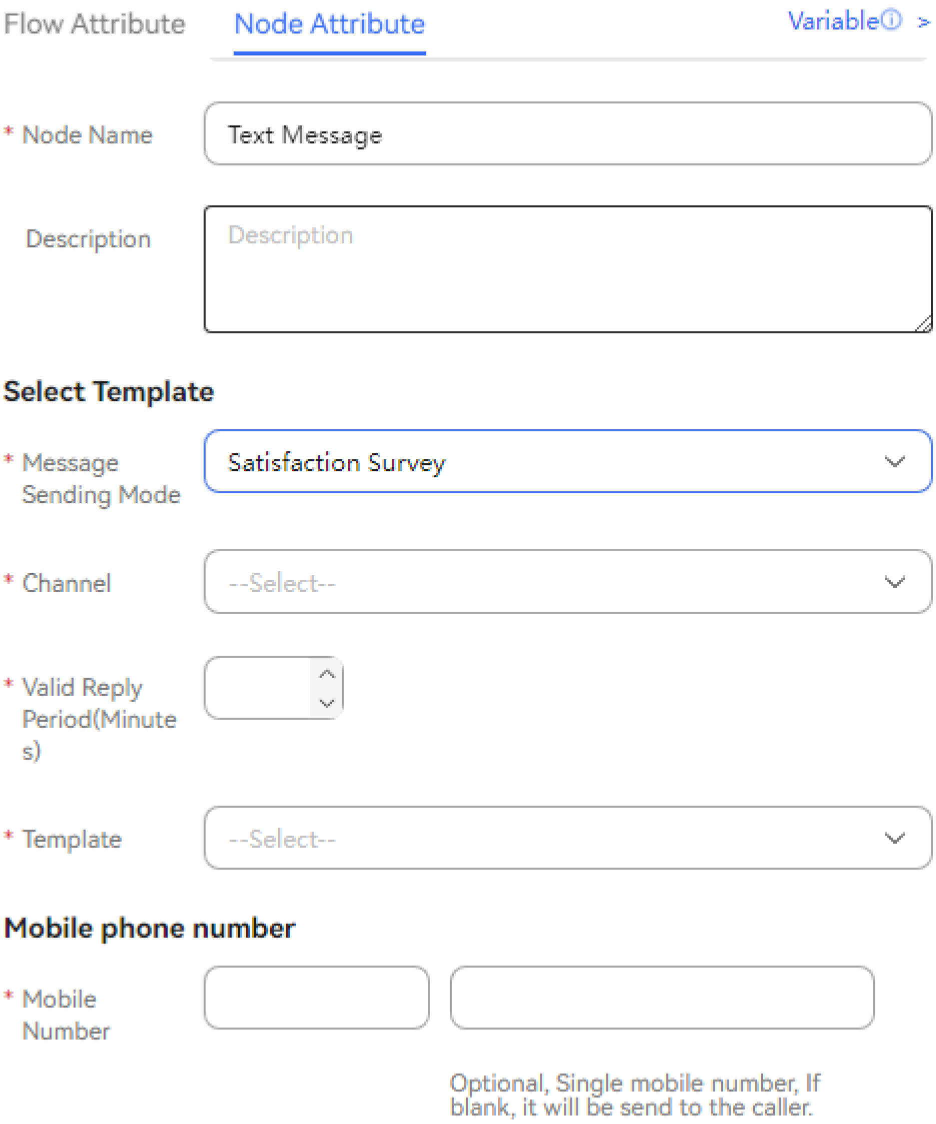


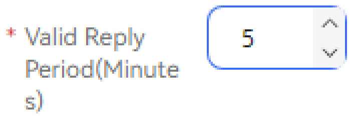
Figure 2-193 Satisfaction survey SMS message parameters



The parameters are described as follows:

- **Message Sending Mode**: Currently, **Short Message** and **Satisfaction Survey** are supported.
  - To send a satisfaction survey SMS message, you need to set **Valid Reply Period(Minutes)**. The value ranges from 1 to 1440.

  Figure 2-194 Valid Reply Period(Minutes)

- **Channel**: The options are **Huawei Cloud** and **SMS Gateway**.
  - **Huawei Cloud**: The SMS service provided by Huawei Cloud is used to send SMS messages.

– **SMS Gateway**: Huawei SMS gateway is used to send SMS messages.

- **Template**: This parameter is mandatory. The administrator SMS message templates that have been configured in the notification center are displayed based on the selected channel.
- **Country Code**: This parameter is mandatory. The country or region code is required for sending an SMS message. If the SMS message needs to be sent to a national number, the country or region code is also required. For example, the country code of China is **+86**.
- **Mobile Number**: This parameter is optional. If this parameter is left empty, the SMS message is sent to the calling party by default. If this parameter is set, the SMS message is sent to the specified number. Only one number is supported and the value cannot contain the country code.

Condition Branch Description

Table 2-94 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

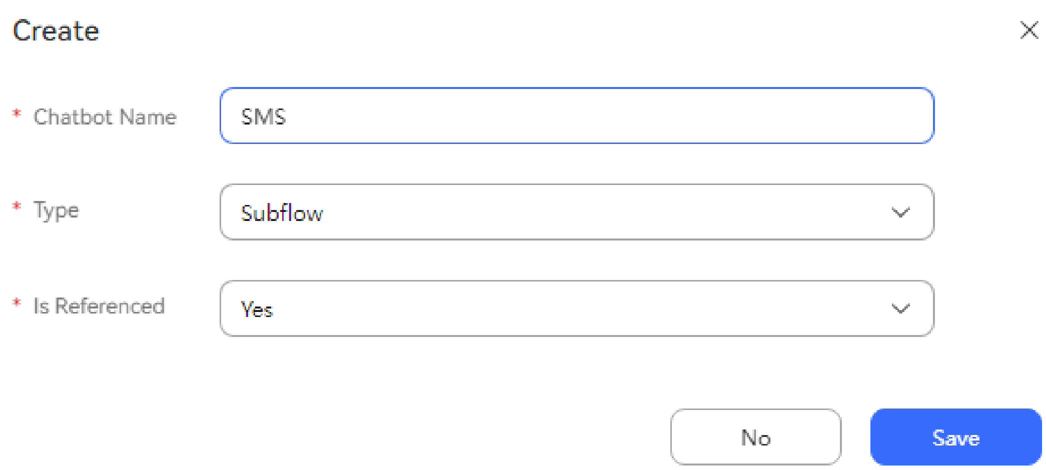
When a user calls the CEC and the call is routed to the IVR, if the IVR is configured with a **Short Message** diagram element, the **Short Message** diagram element is used to send an SMS message to the user.

The configuration method is as follows:

- **Application Scenario**

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Flow Management**, click **New**, set the flow name and type, and set **Is Referenced** to **Yes**.

Figure 2-195 Adding a flow



Step 2 Click **Edit** to develop the flow as follows.

Step 3 Click or drag the **Short Message** diagram element in the **Feature** area on the left. The **Short Message** diagram element is added to the canvas.

Step 4 Set parameters of the **Short Message** diagram element and click **Save**. (Huawei Cloud SMS is used as an example.)

Figure 2-196 Short Message

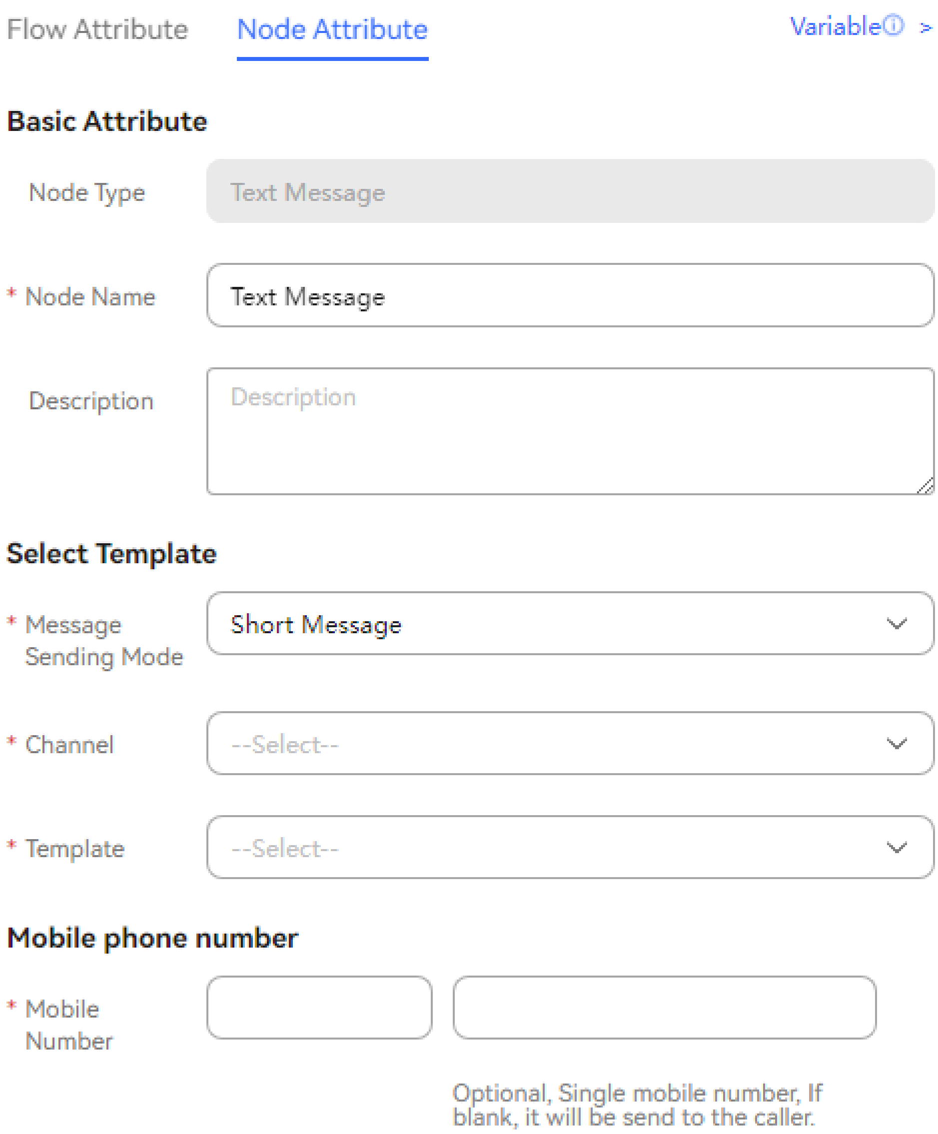
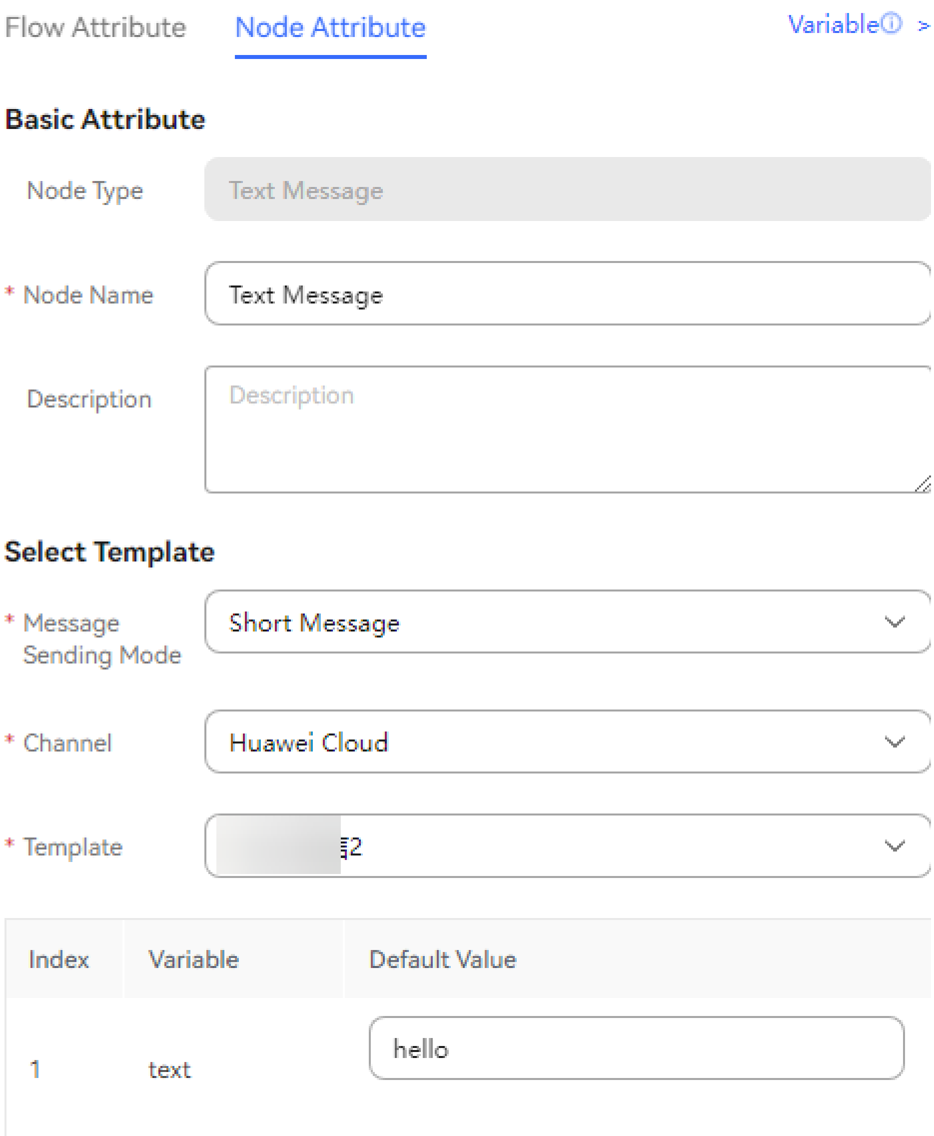
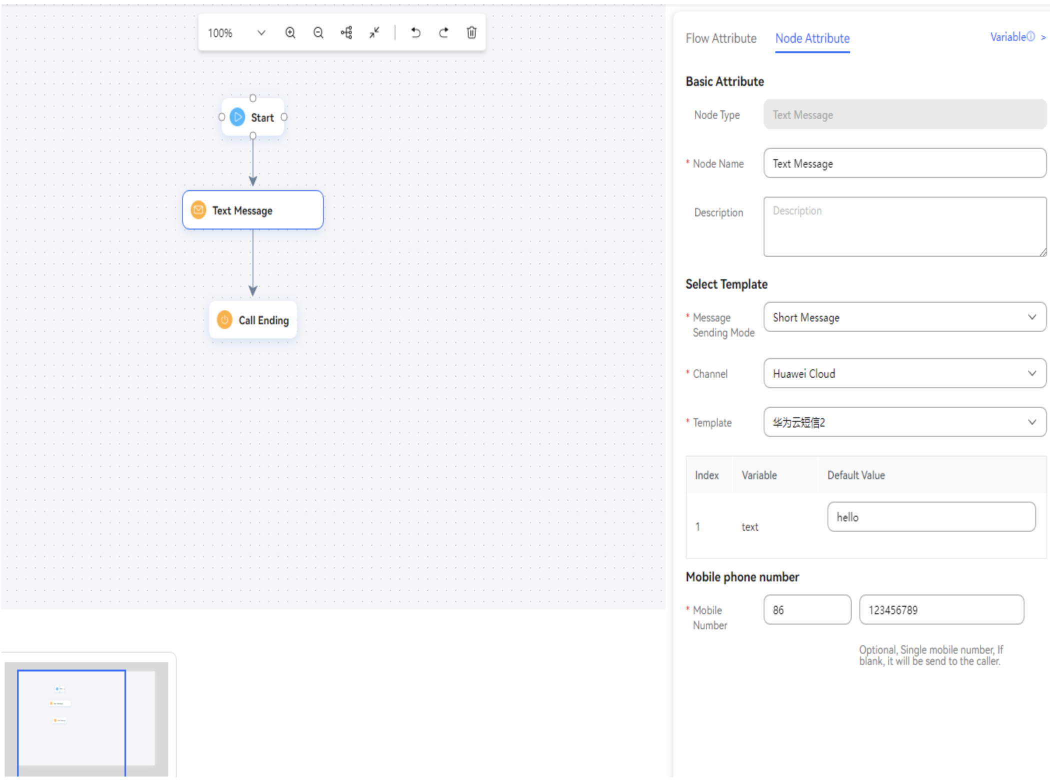


Figure 2-197 Satisfaction Survey



Step 5 Add connection lines. If there are no other diagram elements, the flow is shown in the following figure.

Figure 2-198 Example



Step 6 Perform subsequent operations based on business requirements. You can add other diagram elements. After the configuration is complete, click 

to save the flow.

----End

Satisfaction Configuration

This diagram element is used to play voices or videos to instruct customers to press keys for interaction and collect their satisfaction details about corresponding calls.

Diagram Element

Parameter Description

The following figure shows the parameters of the **Satisfaction Configuration** diagram element.

Figure 2-199 Voice

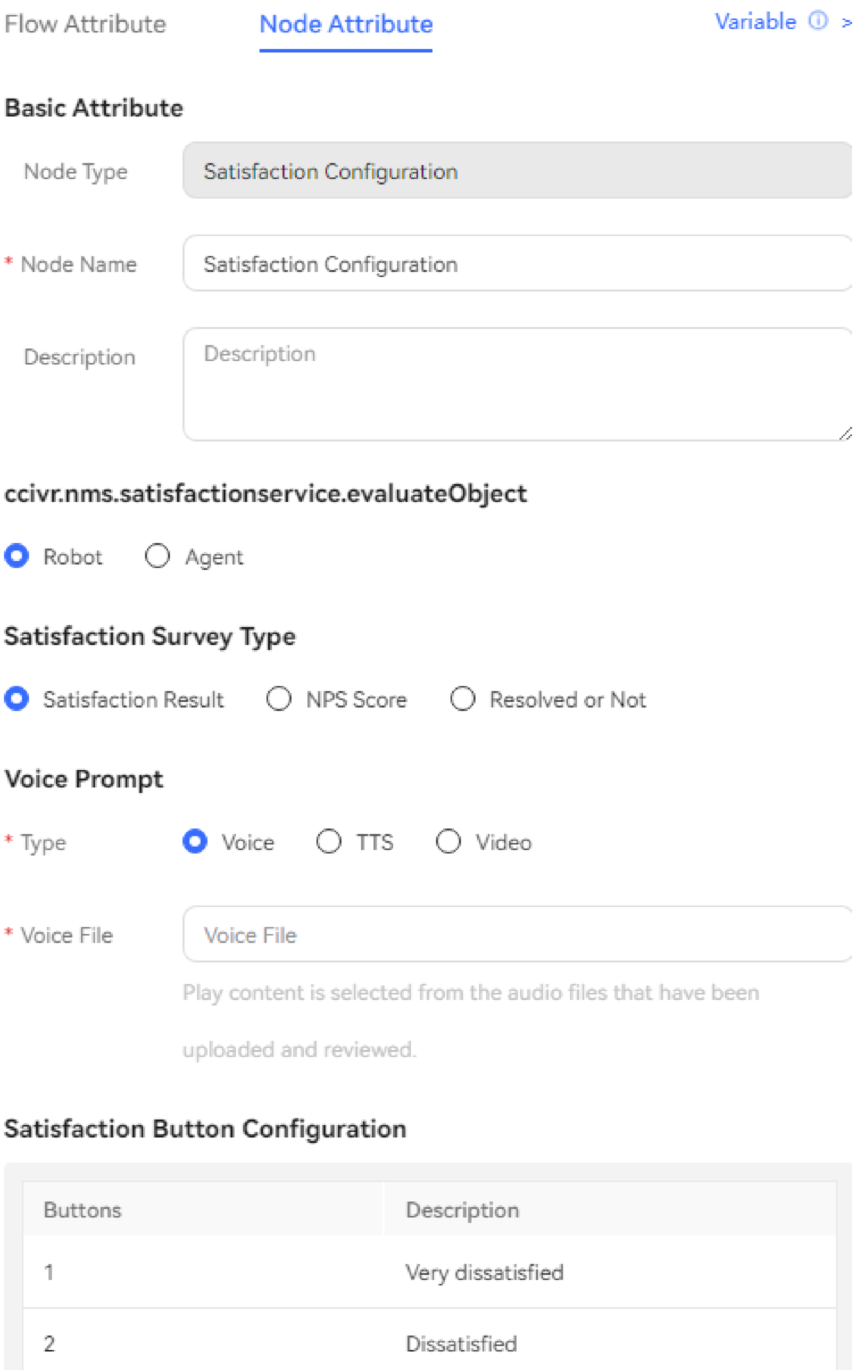


Figure 2-200 TTS

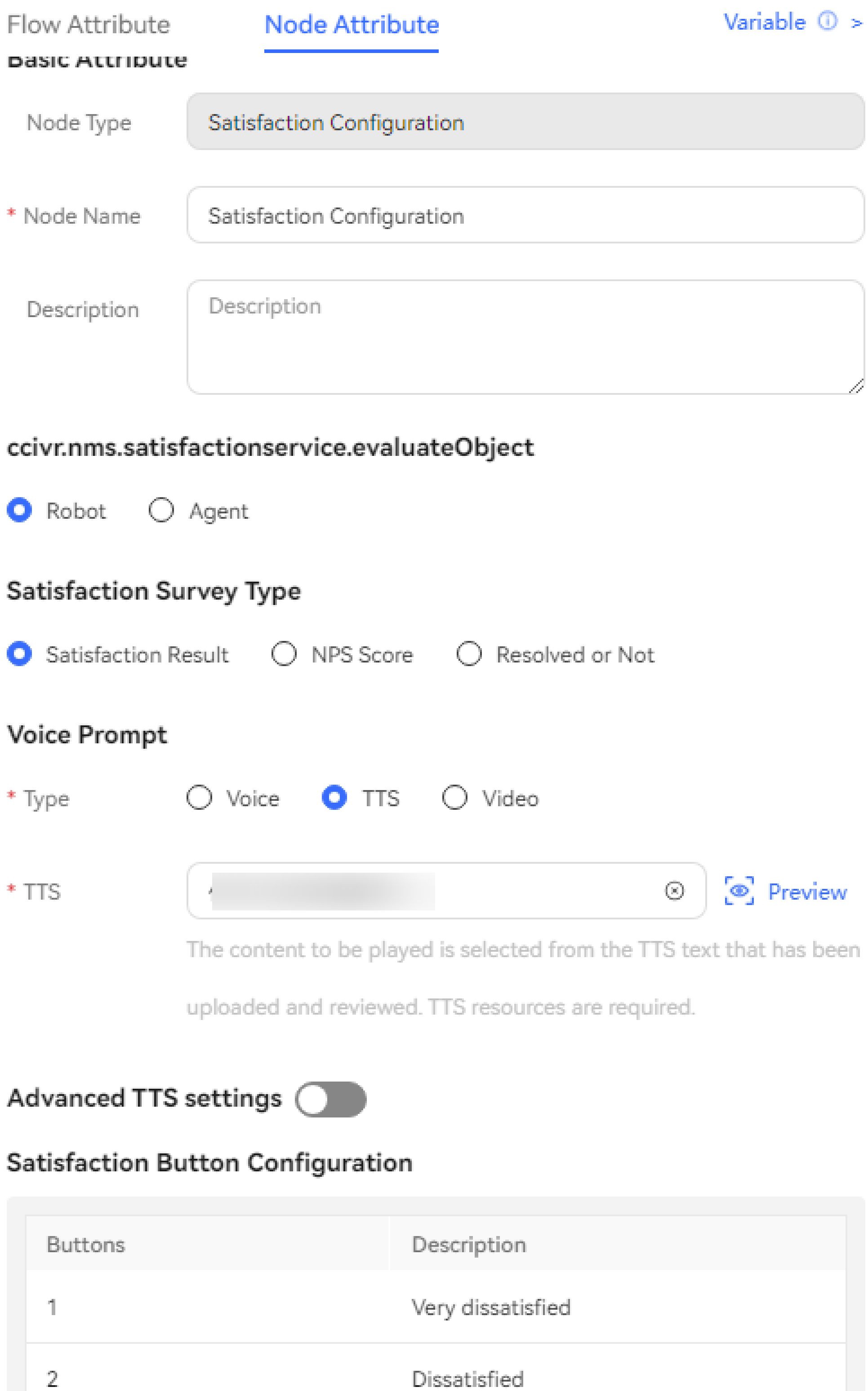
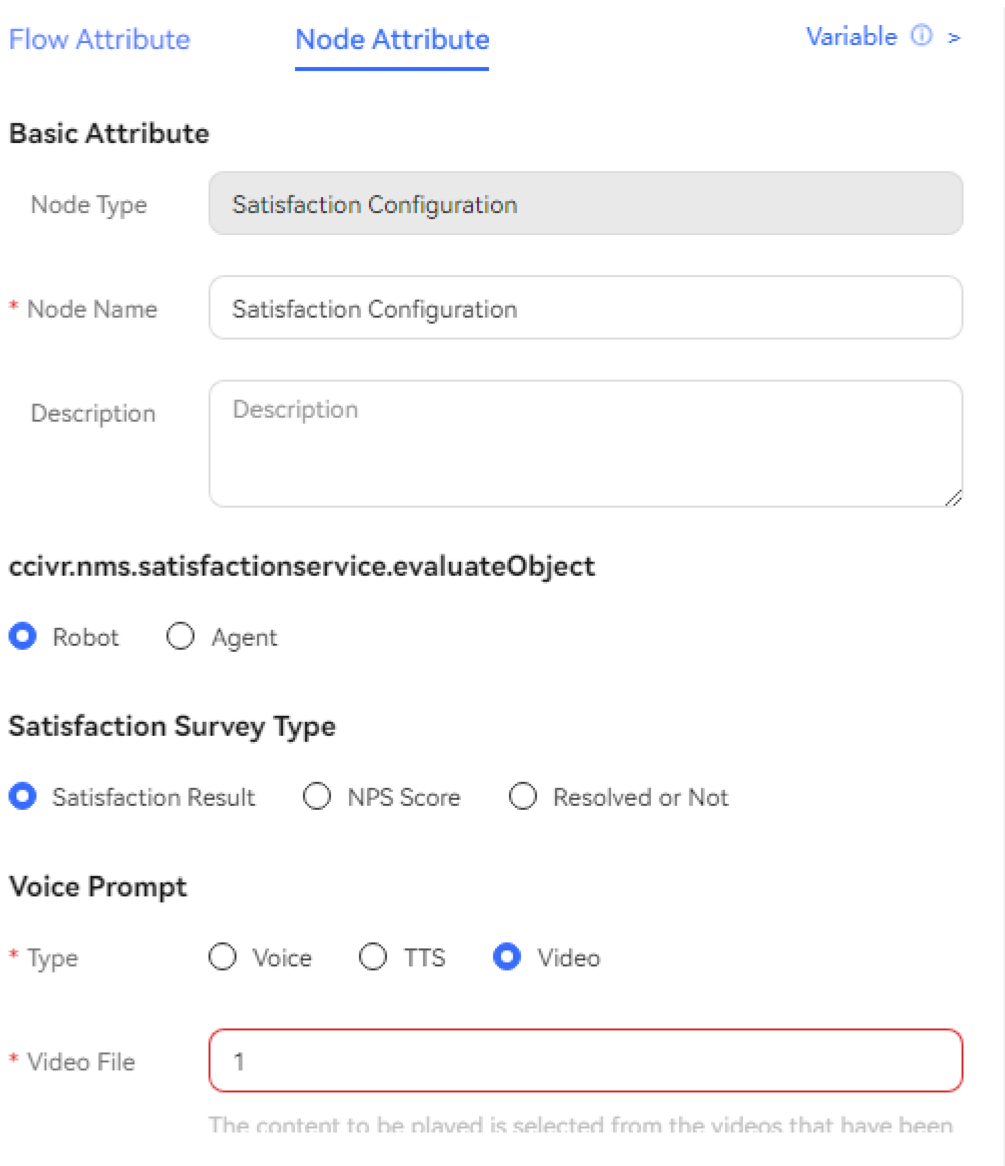


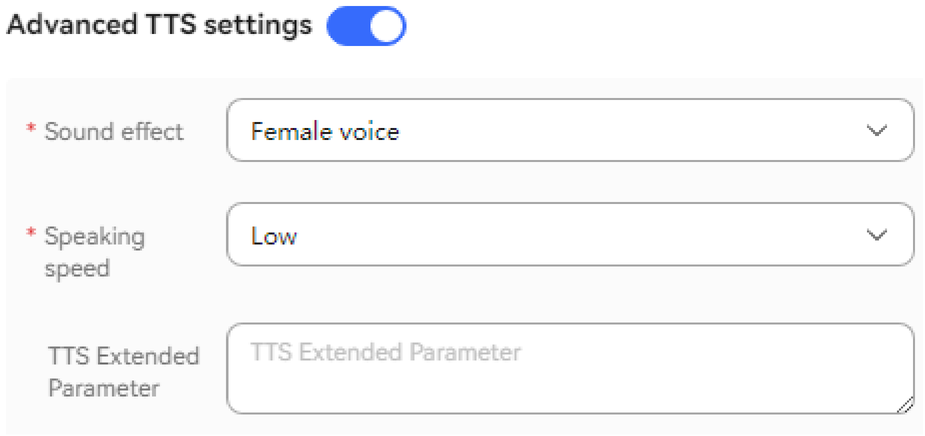
Figure 2-201 Video



The parameters are described as follows:

- **Node Name**: diagram element name which can be customized.
- **ccivr.nms.satisfactionservice.evaluateObject**: Select **Robot** or **Agent**.
- **Satisfaction Survey Type**: **Satisfaction Result**, **NPS Score**, and **Resolved or Not** are available.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  – **Voice**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
  – **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled,

Sound effect is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS Extended Parameter** is not set by default.



- **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
- **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.
- **TTS Extended Parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Satisfaction Button Configuration**: satisfaction options provided in a flow. Each key or button corresponds to a satisfaction option. For details about how to configure the satisfaction level, see **2.3.3.2 Configuring Satisfaction Surveys**.
  – **Buttons**: number key or button available on the keyboard or screen, such as **1**, **2**, or **3**.
  – **Description**: satisfaction introduction of a key or button, which can be displayed in the menu.

  NOTE

  Configure satisfaction levels for the satisfaction survey on the **Survey** > **Survey Config** page. If the flow has been published, you can clone, edit, save, or republish the flow to replace the original flow so that the updated satisfaction levels can be used.

  – **Waiting Time for Digit Collection**: time to wait for the digit input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
  – **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.

– **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.

– **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
- When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- By default, **Digit collection failure** and **Digit collection timed out** are unavailable in the **Advanced Settings** area. If they are unavailable, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

Condition Branch Description

Table 2-95 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no satisfaction option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

This diagram element is used when an agent hangs up without completing the flow.

NOTE

The application scenario of the **Satisfaction Configuration** diagram element is as follows:

- After an agent hangs up, the system releases the call and transfers the call to the IVR flow that contains the **Satisfaction Configuration** diagram element.

Key Recognition (Expired and Not Recommended)

This diagram element is used to recognize keys pressed by customers. For example, a customer uses this diagram element when entering a password for identity verification.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Rule Expression**: expression to verify the type of customer input. For example, if you select month verification, the month format is yyyyMM.
  - **Validate mobile number format (with # and *)**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. 11-digit number ending with a number sign (#) and starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — ValueCheck branch
    iv. 11-digit number ending with a number sign (#) and starting with 1340 to 1348 — ValueCheck branch
  - **Validate mobile number format (without # or *)**
    i. 11-digit number starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — ValueCheck branch
    ii. 11-digit number starting with 1340 to 1348 — ValueCheck branch
  - **Validate password format (with # and *)**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. 6-digit number — ValueCheck branch
  - **Validate password format (with *)**
    i. * — MAIN branch
    ii. 6-digit number — ValueCheck branch
  - **Validate mobile number (with # and *)**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. 11-digit number — ValueCheck branch
  - **Validate mobile number (with *)**

i. * — MAIN branch
ii. 11-digit number — ValueCheck branch

– **Validate month input**

i. * — MAIN branch
ii. # — CURRENT branch
iii. Valid month in *yyyyMM* format — ValueCheck branch

- **Keyboard Input Type**: If this parameter is left blank, the month input verification is performed by default (**Rule Expression** must be set to **Validate month input**). The entered month must be in *yyyyMM* format.
  – **keyBoard_phone**: input from a phone keyboard. Enter this value when the OpenEye or a mobile phone is used.
  – **checkoldpassword**: input from a password keyboard.
- **Variable**: variable for saving customer input.
- **Context**: used to filter intentions to be matched to improve the matching speed. When **Keyboard Input Type** is set to **checkoldpassword**, this parameter is invalid, because semantic recognition is not performed on the keyboard input.

Using the Diagram Element

The **Key Recognition** diagram element mainly follows the **Robot Reply** diagram element (when **Reply Mode** is set to a mode related to digit collection, such as **Interruption by key presses** or **No interruption after digit collection**) to save the pressing content to a variable for further logic processing.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Key Recognition** diagram element to enable customers to select a business to be handled by pressing a key.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-202 Flow variables to be added

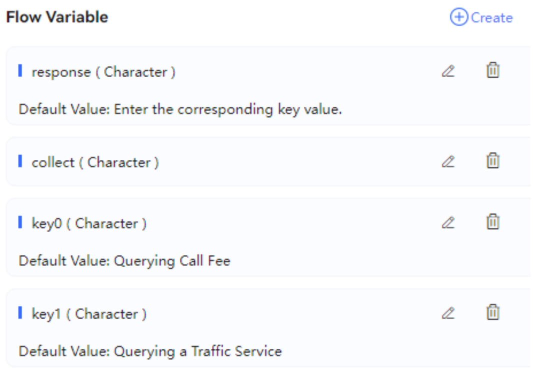


Figure 2-203 Flow orchestration example (Key Recognition diagram element)

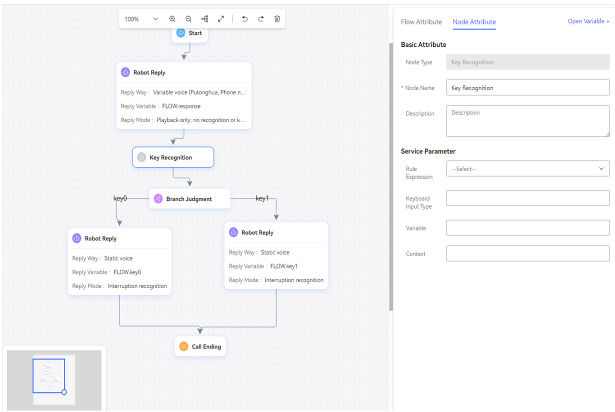
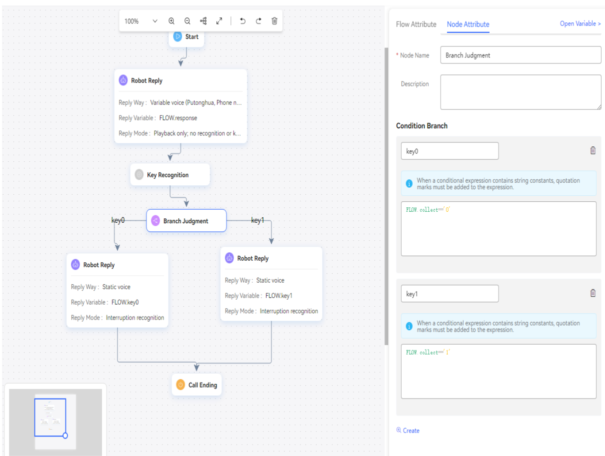


Figure 2-204 Flow orchestration example (Branch Judgment diagram element)



– Use the response variable **FLOW.key0** for the **Response** diagram element of the **Key0** condition branch to reply to the customer that the call fee business is selected.

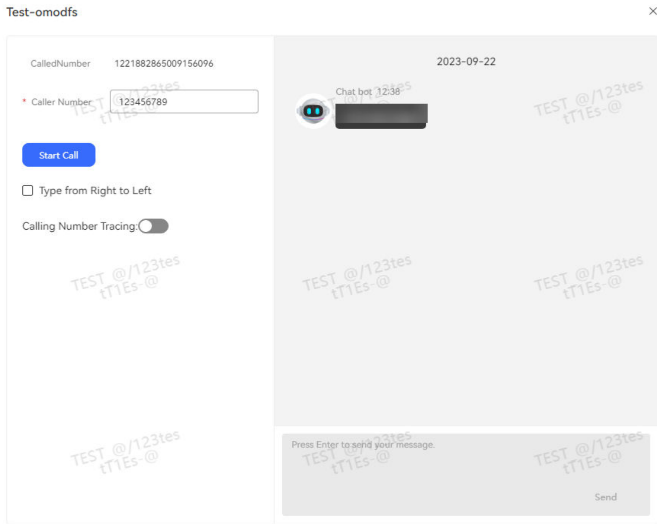
– Use the response variable **FLOW.key1** for the **Response** diagram element of the **Key1** condition branch to reply to the customer that the data package business is selected.

3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers different businesses based on different keys pressed by the customer, the configuration is successful.

Figure 2-205 Testing the robot



----End

Rule Verification (Expired and Not Recommended)

This diagram element is used to verify the customer input or output based on rules.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Text Variable**: variable whose value has been obtained before this node. For example, if a customer wants to query the bills of a month and the customer says "13", this month can be saved as a flow variable using the **Semantic Recognition** diagram element. In this case, the variable is extracted for month verification.

- **Rule Expression**: expression to verify the type of customer input. For example, if you select month verification, the month format is yyyyMM.
- **Validate mobile number format (with # and *)**
  a. * — true branch
  b. # — true branch
  c. 11-digit number ending with a number sign (#) and starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — true branch
  d. 11-digit number ending with a number sign (#) and starting with 1340 to 1348 — true branch
- **Validate mobile number format (without # or *)**
  a. 11-digit number starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — true branch
  b. 11-digit number starting with 1340 to 1348 — true branch
- **Validate password format (with # and *)**
  a. * — true branch
  b. # — true branch
  c. 6-digit number — true branch
- **Validate password format (with *)**
  a. * — true branch
  b. 6-digit number — true branch
- **Validate mobile number (with # and *)**
  a. * — true branch
  b. # — true branch
  c. 11-digit number — true branch
- **Validate mobile number (with *)**
  a. * — true branch
  b. 11-digit phone number — true branch
- **Validate month input**
  a. * — true branch
  b. # — true branch
  c. Valid month in *yyyyMM* format — true branch
- **Keyboard Input Type**: If this parameter is left blank, the month input verification is performed by default (**Rule Expression** must be set to **Validate month input**). The entered month must be in *yyyyMM* format.
  – **keyBoard_phone**: input from a phone keyboard. Enter this value when the OpenEye or a mobile phone is used.
  – **checkoldpassword**: input from a password keyboard.
- **Variable**: variable for saving customer input.
- **Context**: used to filter intentions to be matched to improve the matching speed. When **Keyboard Input Type** is set to **checkoldpassword**, this parameter is invalid, because semantic recognition is not performed on the keyboard input.

Using the Diagram Element

This diagram element is used to verify the customer voice or keyboard input based on rules.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

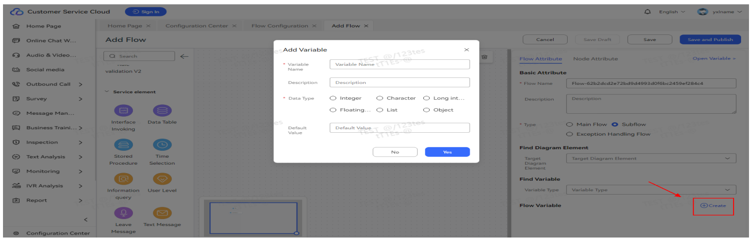
The following describes how to use the **Rule Validation** diagram element to verify whether the customer input is a valid month.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

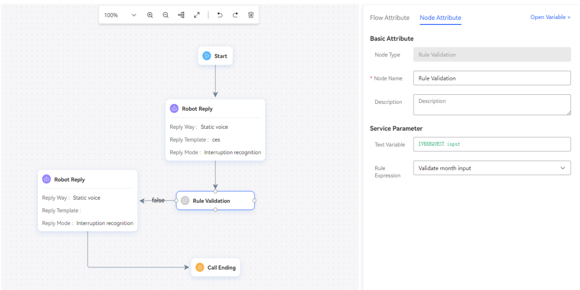
1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

   Figure 2-206 Add Variable

   In this example, the **Business Interface Invocation** diagram element does not invoke an interface. Instead, it is used to assign values to parameters.

   Figure 2-207 Flow orchestration example (Rule Validation diagram element)

   – For the **false** condition branch of the **Robot Reply** diagram element, set **Reply Variable** to **FLOW.FalseResponse** to reply to the customer with "The month you entered is invalid".
   – For the **true** condition branch of the **Robot Reply** diagram element, set **Reply Variable** to **FLOW.TrueResponse** to reply to the customer with "The month you entered is valid".

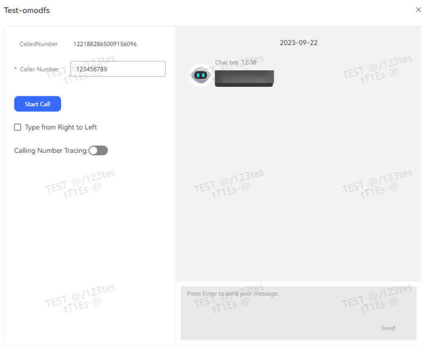
3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers that the month is valid or invalid based on the month entered by the customer, the configuration is successful.

Figure 2-208 Testing the robot

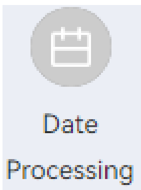


----End

Date Processing (Expired and Not Recommended)

This diagram element is used to offset the date that a customer speaks by month or hour. For example, if a customer says "March 2019", this diagram element can be used to offset March 2019 backward by two months and output "May 2019".

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Offset Period**
  - **By month**
  - **By hour**
- **Source Character String**: variable of the string that has been defined and assigned a value in the previous flow. The string format is *yyyyMM* for offsetting by month and *yyyyMMddHHmmss* for offsetting by hour. For example, "201903" said by a customer can be transferred using a variable.

- **Target Character String**: variable of the correct string after time conversion. This parameter is usually set to a flow variable.
- **Number of Offsets**: mode of converting the source month.

Using the Diagram Element

The **Date Processing** diagram element is used when the relative time expressed by a customer needs to be fuzzily processed.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Date Processing** diagram element to offset the month said by a customer backward by one month.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-209 Flow variables to be added

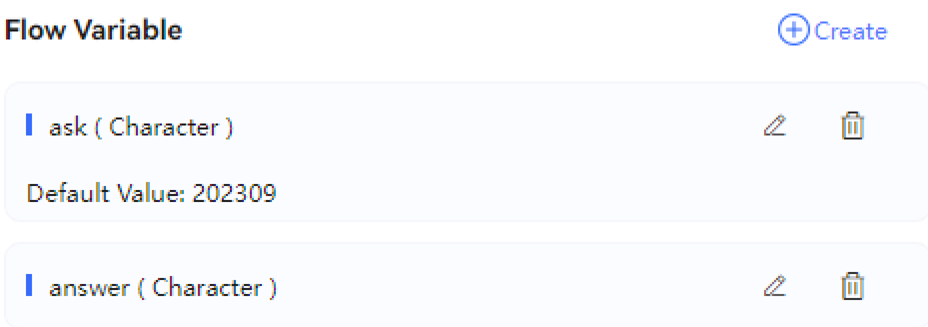
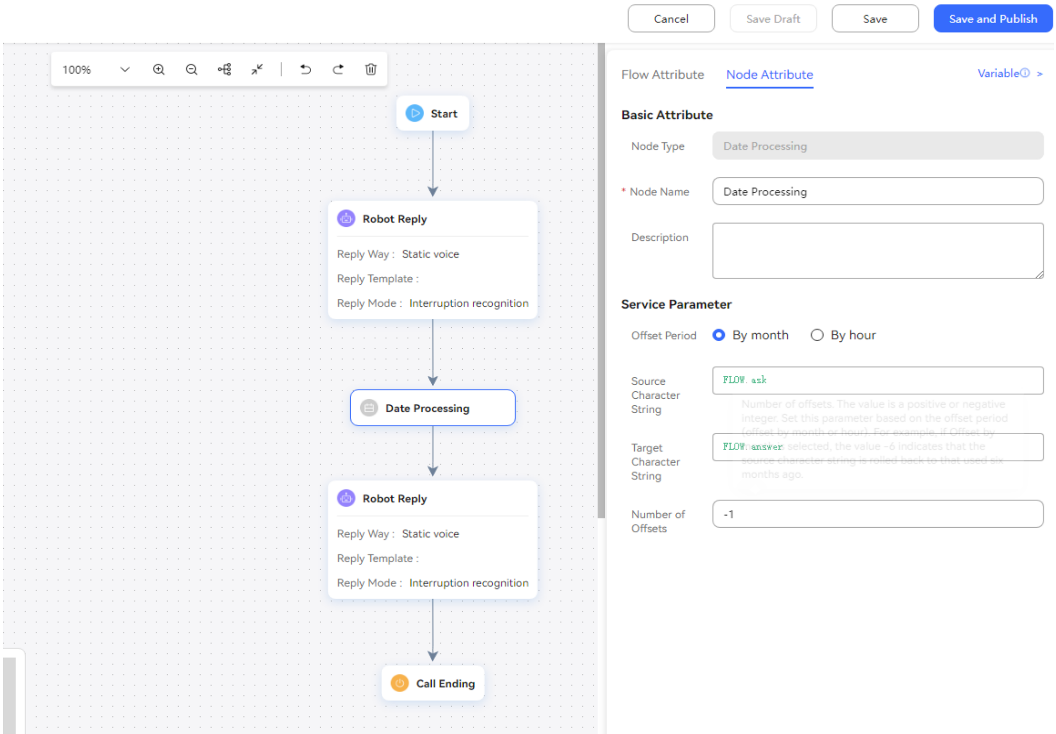


Figure 2-210 Flow orchestration example



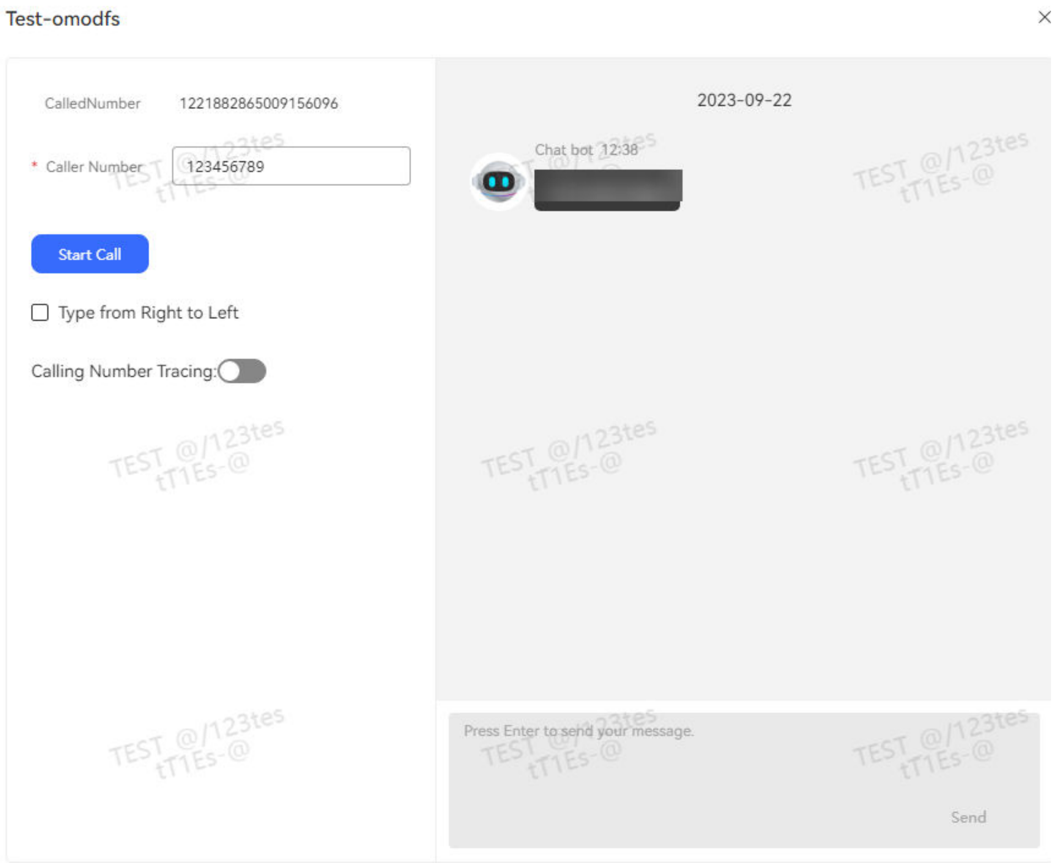
3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. The robot outputs input parameters, and the customer enters any month. Then, the robot offsets the month forward by one month and outputs the result.

Figure 2-211 Testing the robot



----End

SMS Sending (Expired and Not Recommended)

This diagram element is used to invoke an interface for sending SMS messages to send an SMS message based on a template.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **SMS Template**: You can select an SMS template defined under **Resource Management > Resource Template**. This function is supported only when the OP is independently deployed.
- **SMS Content**: If you do not need an SMS template for a simple content, you can enter the content here.

Condition Branch Description

Table 2-96 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.
SYSERROR_INTERFACE	Business interface invocation failure	Triggered if an error occurs when the **Business Interface Invocation** diagram element is used to invoke a third-party interface. This branch is generally used on the connection line between the **Business Interface Invocation** diagram element and subsequent node.

Using the Diagram Element

The **SMS Sending** diagram element is used to send an SMS message.

Click the diagram element or drag it to the canvas, and select an SMS template or add an SMS content. If you need an SMS template, define it under **Resource Management > Resource Template** in advance.

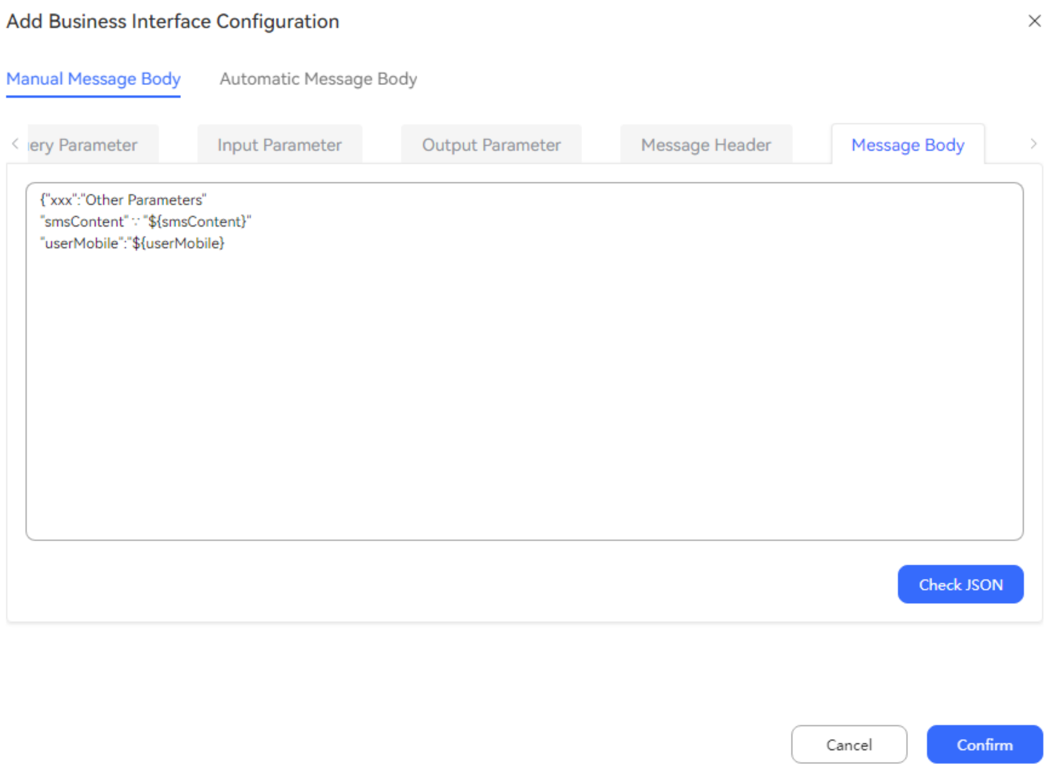
Typical Application Scenario

The following describes how to use the **SMS Sending** diagram element to send a dinner reservation SMS message after the dinner reservation time is confirmed.

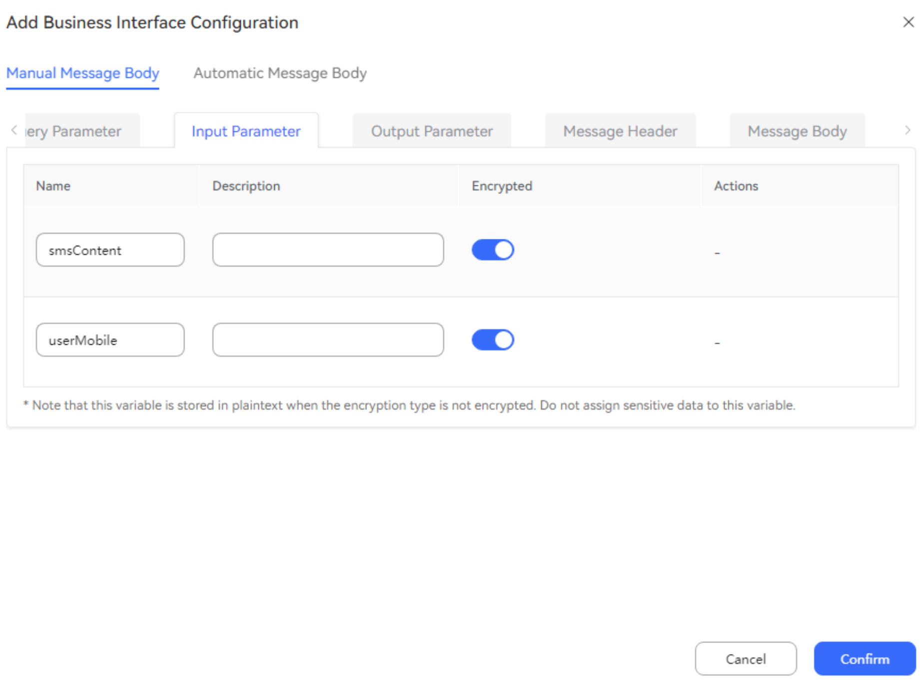
Step 1 Add an interface for sending SMS messages. For details, see **2.6.2.2.2 Adding Business Interfaces**.

The message body of the interface must contain the input parameters smsContent and userMobile. Set other parameters based on the site requirements. The following is an example:

When you manually enter the message body to configure the interface:



When the automatically generated message body is used:



Step 2 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 3 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.

2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-212 Flow variables to be added

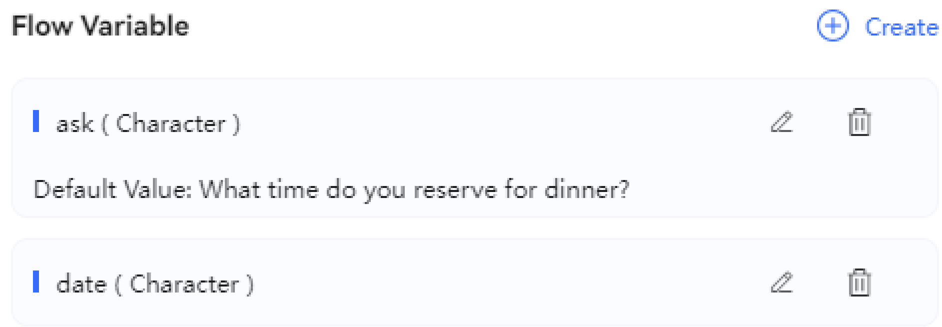
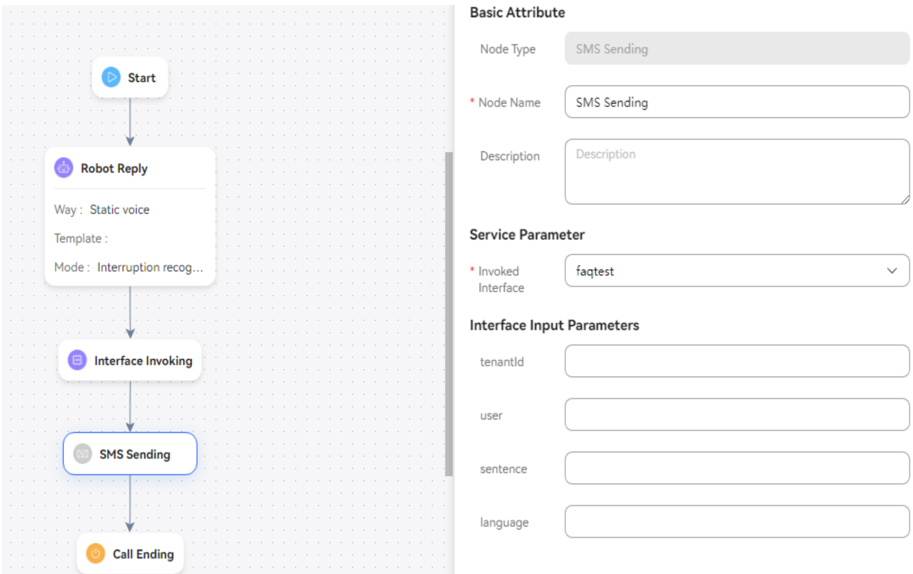


Figure 2-213 Flow orchestration example (SMS Sending diagram element)



- Use the reply variable **FLOW.ask** for the **Robot Reply** diagram element to ask the customer about the dinner reservation date: "What date would you like to make a reservation for dinner?"
- The input parameters smsContent and userMobile of the SMS message sending diagram element interface do not need to be set. If they are set, they are used preferentially.
- You can select an SMS template (variables can be set) or customize the SMS content.
- SmsContent, SMS template, and SMS content. The priorities of the values are as follows: smsContent > SMS template > SMS content
- userMobile and the user number obtained by the system. The priority is as follows: userMobile & > User number obtained by the system

3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot.

----End

JSON Data Invoking (Expired and Not Recommended)

This diagram element is used to parse and assign values to call-associated data in JSON format.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a cache variable here and assign the value of the output parameter to the cache variable.

  NOTE

  - When the call-associated data that the common IVR returns to the intelligent IVR is in the **{"data":{"xx": "aaa", "yy":"bbb"}, "ivrType": "0"}** format, to obtain *aaa*, set **Response Attribute** of the **JSON Data Invoking** diagram element in the intelligent IVR to **IVRREQUEST.transin_data.data.***xx*.
  - When a CC-iSales outbound call is transferred to the intelligent IVR, the CC-iSales converts the call-associated data (for example, **"callData":"{\\\"xxx\\\":\\\"123456\\\",\\\"yyy\\\":\\\"123\\\"}"**) carried by the API for adding an outbound number to the format of **{"iSales":{"UniqueID":"***","ServiceID":"***","xxx":"123456","yyy":"123"}**. To obtain *123456*, set **Response Attribute** of the **JSON Data Invoking** diagram element in the intelligent IVR to **IVRREQUEST.transin_data.iSales.***xxx*.

Using the Diagram Element

When the call-associated data is in JSON format, this diagram element can be used to obtain the parameters of a specified node and assign values to the parameters.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

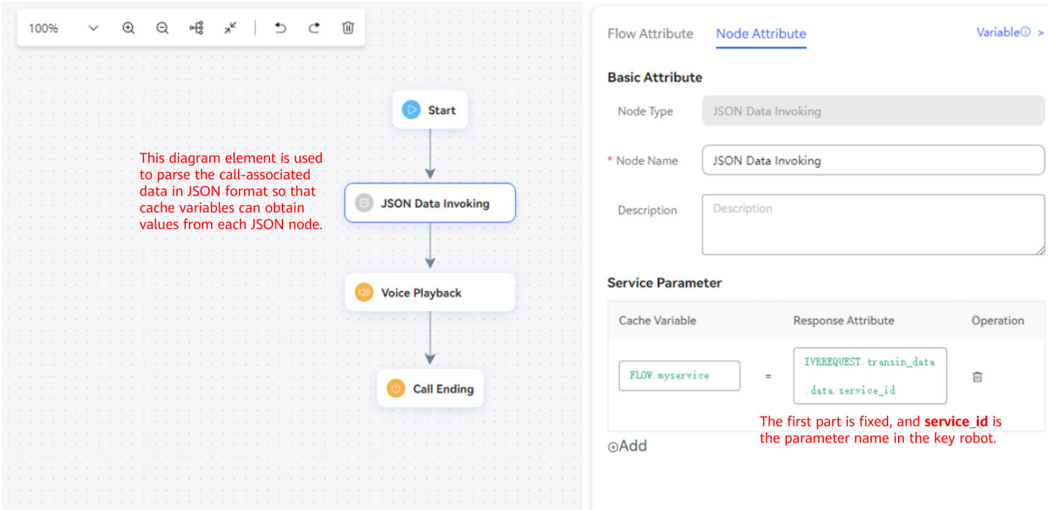
Scenario 1: Transfer a call from a common IVR flow to an intelligent IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration**, add an intelligent IVR flow, and set parameters as shown in the following figure. The value of **Response Attribute** must be the same as the parameter name transferred by the common IVR.

Figure 2-214 Flow orchestration example

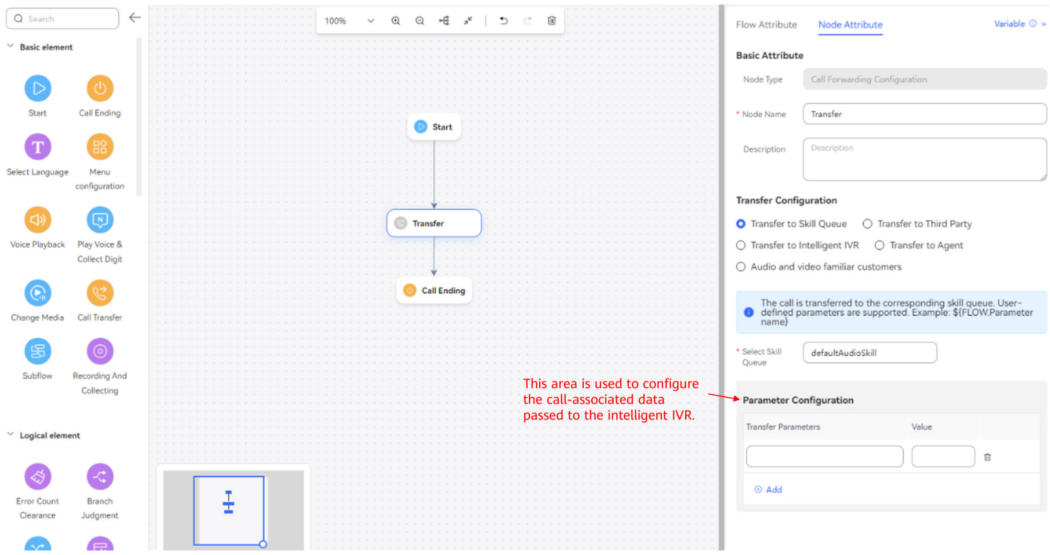


2. Save and publish the flow.
3. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 3 Configure a common IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**, add a common IVR flow, and orchestrate the flow, as shown in the following figure.

Figure 2-215 Flow orchestration example



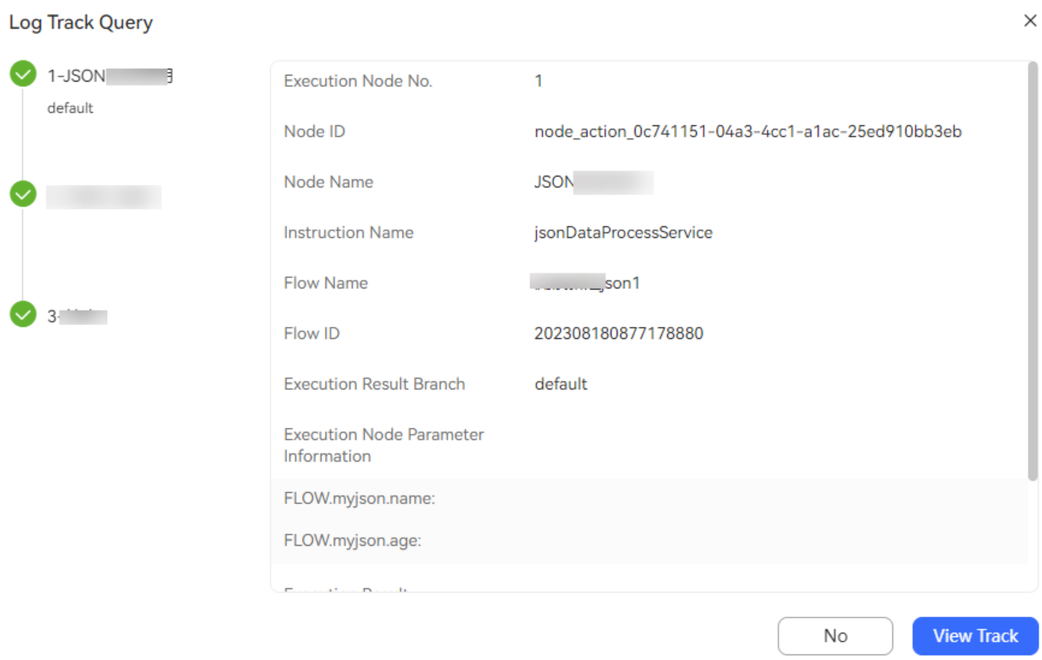
2. Save and publish the flow.

Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the common IVR added in **Step 3**.

Step 5 Log in to the OpenEye and dial the access code added on the **Called Party** page.

Step 6 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. If the result is the similar to that shown in the following figure, the intelligent IVR node successfully obtains the value of the call-associated data parameter (**service_id**) passed by the common IVR.

Figure 2-216 Flow track log page



----End

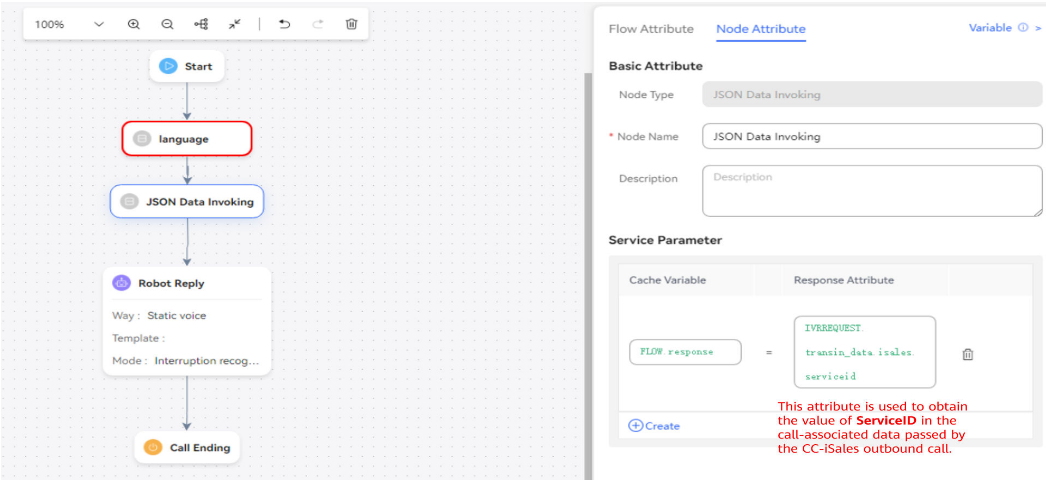
Scenario 2: Transfer a CC-iSales outbound call to an intelligent IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent robot.

1. Choose **Flow** > **Orchestration** and add an intelligent IVR flow whose **Type** is **Main flow**. Configure the **JSON Data Invoking** diagram element, as shown in the following figure. For the **Robot Reply** diagram element, set **Reply Source** to **Reply Variable** and **Reply Variable** to **FLOW.response**.

Figure 2-217 Flow orchestration example

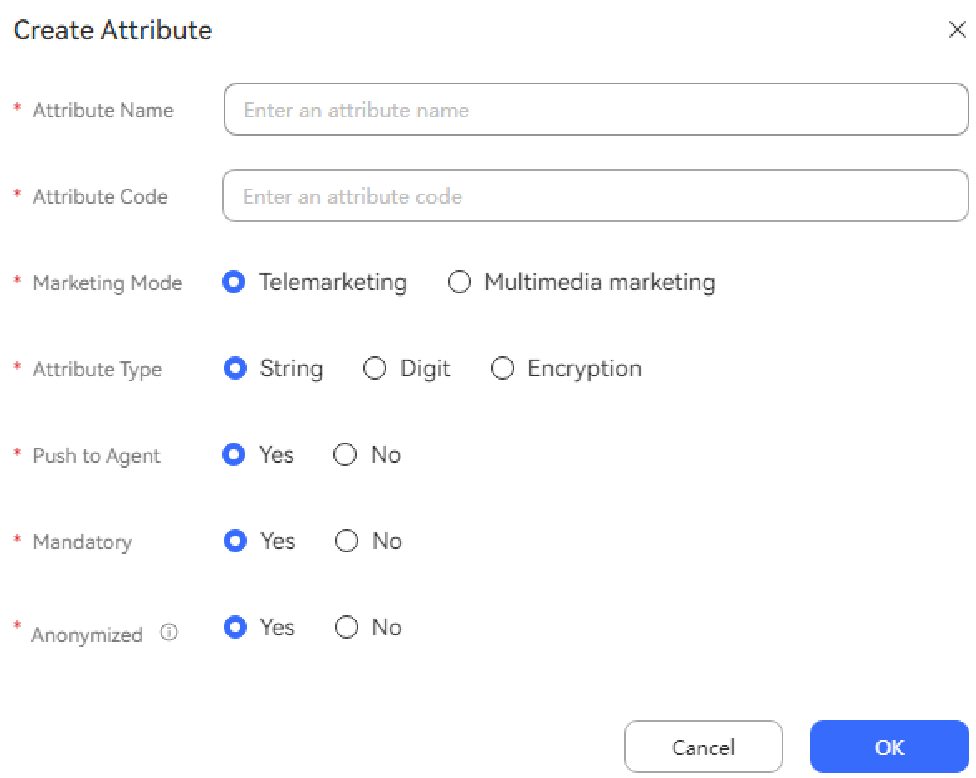


2. Save and publish the flow.

Step 3 Configure an intelligent outbound call task in the CC-iSales.

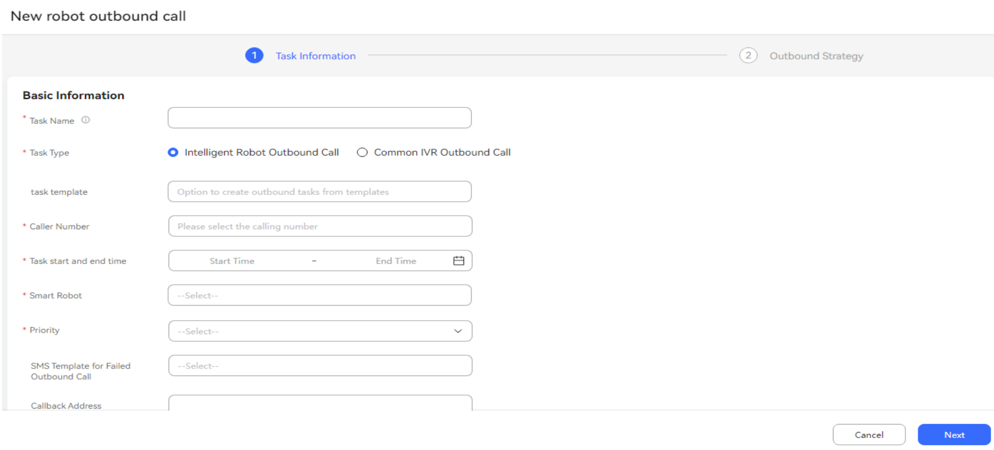
1. Choose **Configuration Center** > **Call Config** > **Data Attr** and create attributes, as shown in the following figure. That is, create call-associated data fields used during outbound call creation. You can click **Call Data** corresponding to an outbound call task to bind the call-associated data fields added here. Publish the attribute.

Figure 2-218 Create Attribute page



2. Choose **Outbound Call** > **Call Mgmt**, click **Create**, and choose **Robot Outbound**.
3. Configure an intelligent outbound call task. Set **Task Type** to **Intelligent Outbound Call** and **IVR Flow** to the intelligent IVR flow added in **Step 2**, and save the configuration.

Figure 2-219 Page for configuring an intelligent outbound call task



4. Click **Outbound Call Data** in the **Operation** column corresponding to the new intelligent outbound call task, click **New**, and add CC-iSales outbound numbers (for example, 88882020) one by one and configure the call-associated data to be passed.

NOTE

To import outbound call data in batches, see **2.13.3.7.1 Configuring Outbound Call Data**.

Figure 2-220 Configuring outbound call data

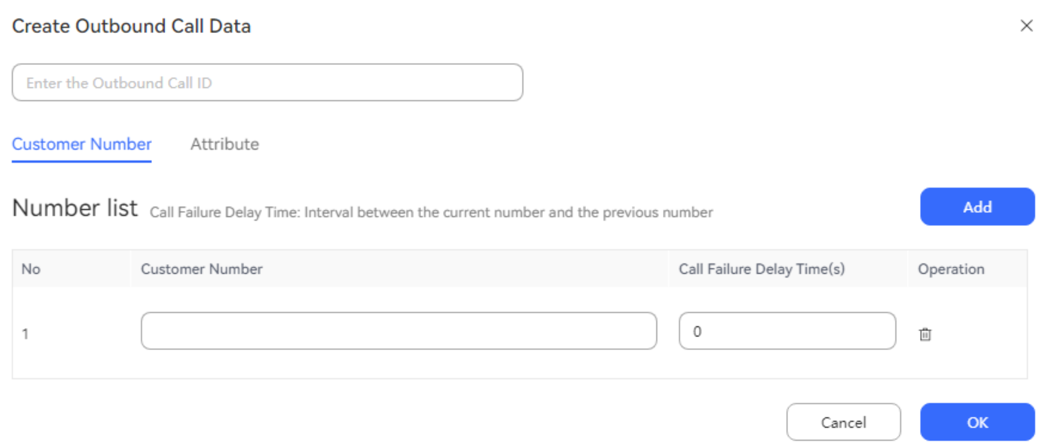
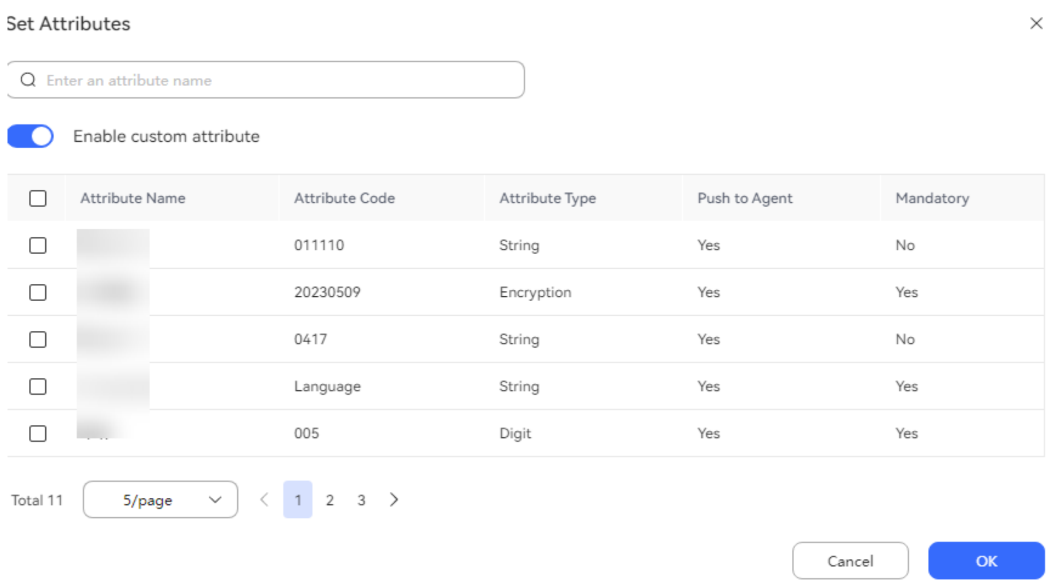


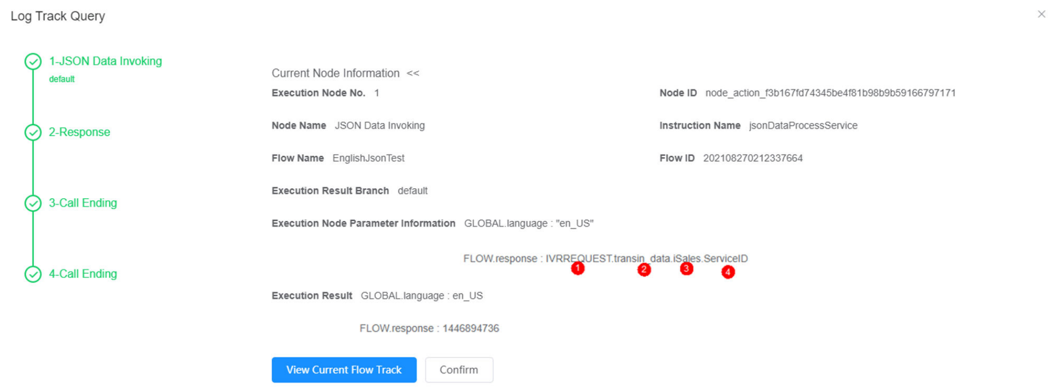
Figure 2-221 Configuring the call-associated data to be passed



Step 4 Log in to the OpenEye using a configured outbound number, and start the intelligent outbound call task. After answering the call, you can hear the call-associated data (**ServiceID**) passed by the CC-iSales outbound call.

Step 5 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. If the result is the same as that shown in the following figure, the intelligent IVR node successfully obtains the value of the call-associated data parameter (**ServiceID**) passed by the CC-iSales outbound call.

Figure 2-222 Flow track log page

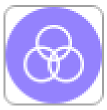


----End

Composite

A composite diagram element is a combination of multiple diagram elements that an operator customizes for simplified operations.

Diagram Element



NOTE

What are the differences between a composite diagram element and a **Flow Transfer** diagram element?

In a flow, input and output parameters can be defined by using composite diagram elements. That is, after the flow in a composite diagram element is executed, other steps in the original flow can be continued. After the flow is transferred, however, the current flow ends, and the data in the transferred flow can no longer be obtained to execute the original flow.

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Input Parameters**: list of input parameters for the composite diagram element.
- **Output parameters**: list of output parameters for the composite diagram element.

Using the Diagram Element

A composite diagram element can function as a specific sub-function module. You can use a composite diagram to combine operations frequently used in flows. If multiple flows use the same operations, you can use a composite diagram element to write the same operations. During orchestration of a complex flow, if the number of diagram elements exceeds 100, you can use composite diagram elements to store remaining operations of the flow.

Before creating a composite diagram element, you need to perform the following operations:

1. Create a composite diagram element catalog. (A maximum of 100 catalogs can be added.)
2. Enter the basic information about the composite diagram element, select a catalog for storing the diagram element, and edit its flow.
3. Edit the composite diagram element canvas. After creating a composite diagram element, orchestrate its flow on the canvas based on the basic flow orchestration logic. You can use basic diagram elements to define a composite diagram element on the **Resource** > **Complex Cell** page.

Typical Application Scenario

The following describes how to use a composite diagram element to greet and interact with the robot.

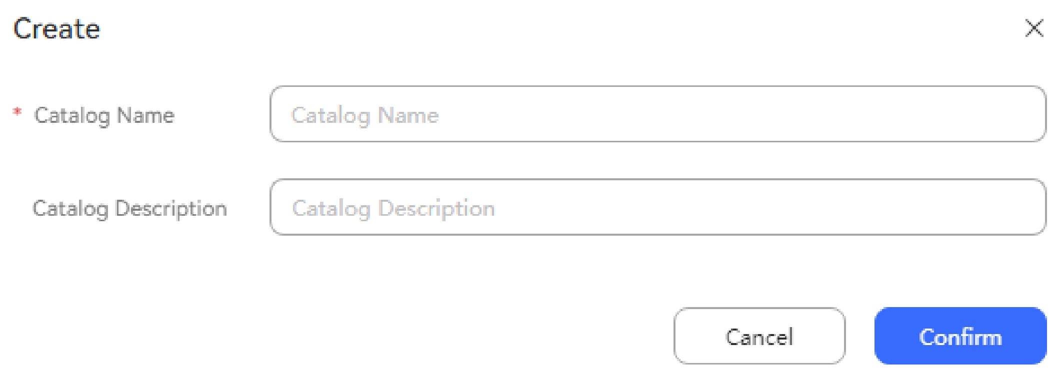
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Add a composite diagram element.

1. Choose **Resource** > **Complex Cell**, click the **Composite Diagram Element Catalog** tab, and click 

.

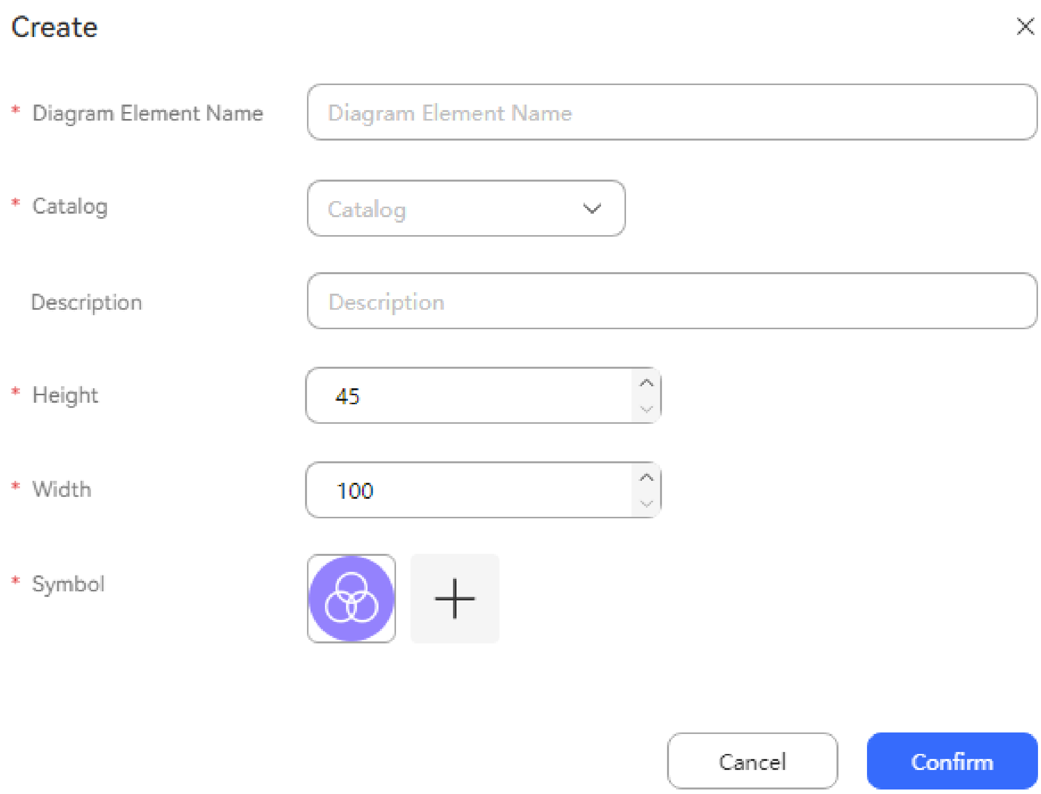
   Figure 2-223 Page for adding a composite diagram element catalog



2. Click the **Composite Diagram Element** tab and click 

.

Figure 2-224 Page for adding a composite diagram element



3. Click **Edit Canvas** in the **Operation** column to orchestrate the composite diagram element.

Step 3 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-225 Flow variables to be added

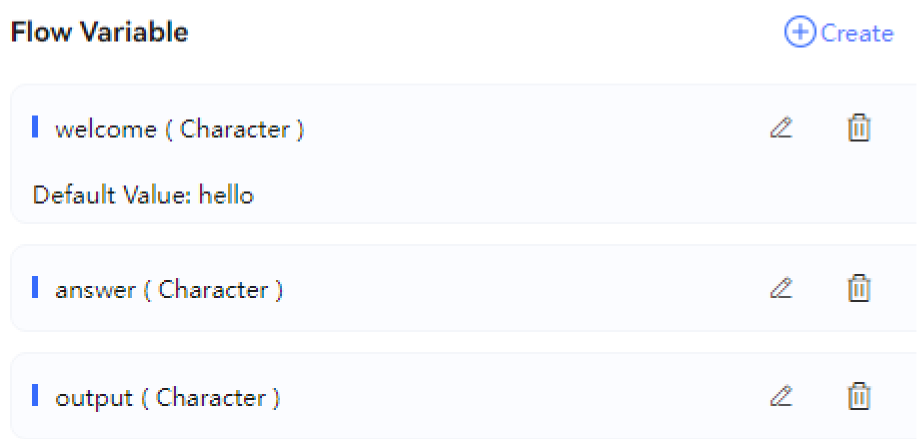
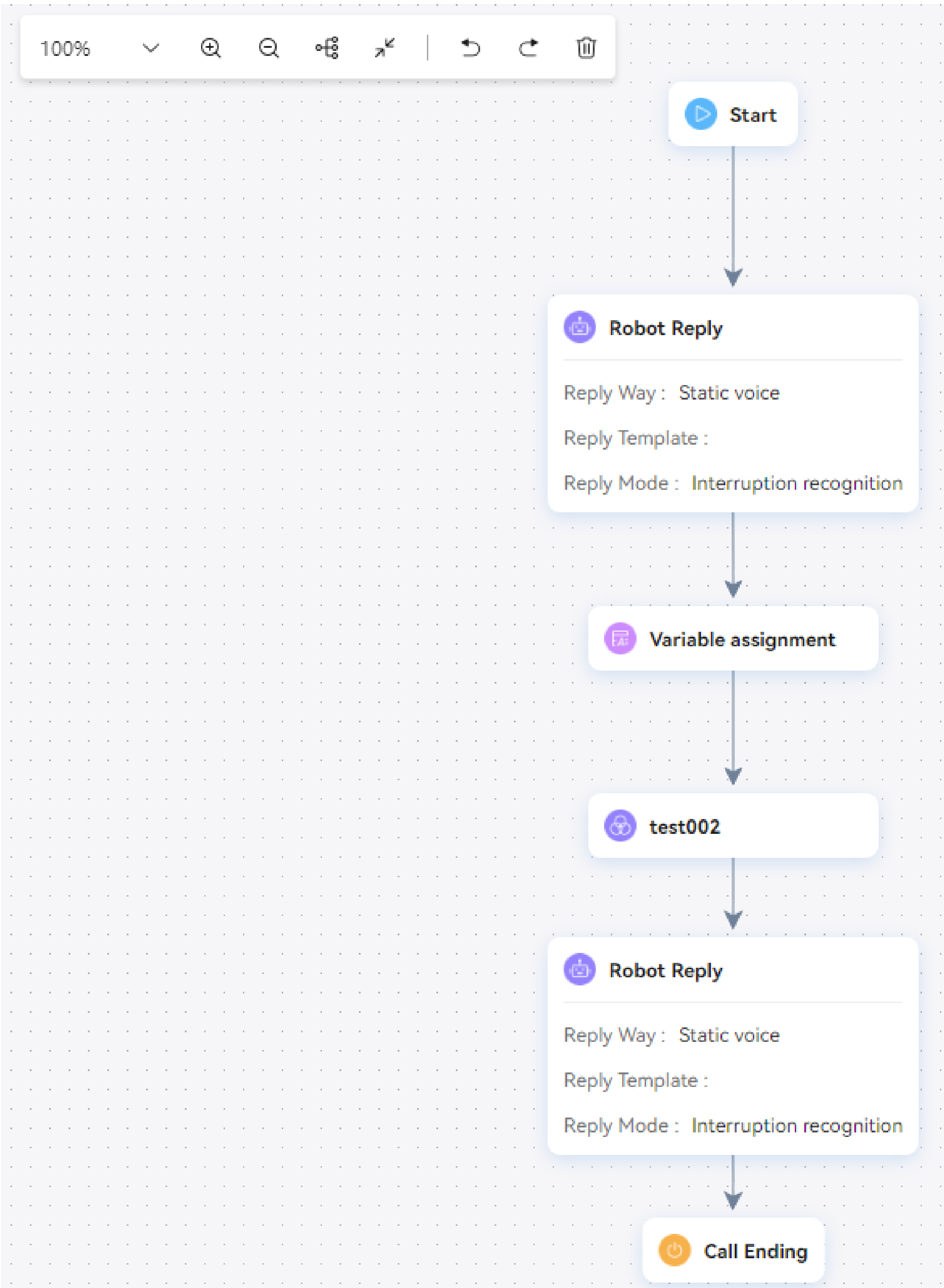


Figure 2-226 Flow orchestration example (composite diagram element)



Set the input parameter of the composite diagram element to **FLOW.answer** to transfer the customer answer to the composite diagram element.

3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot.

If the dialog with the robot is normal, the composite diagram element is configured successfully.

----End

Avatar Reply

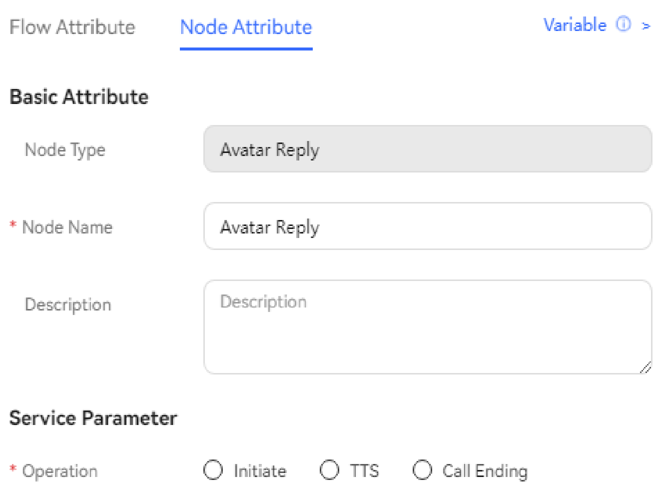
This diagram element is used to configure virtual humans who respond to customers in intelligent video customer service. It can be used to play virtual human videos to customers in flows.

Diagram Element

Parameter Description

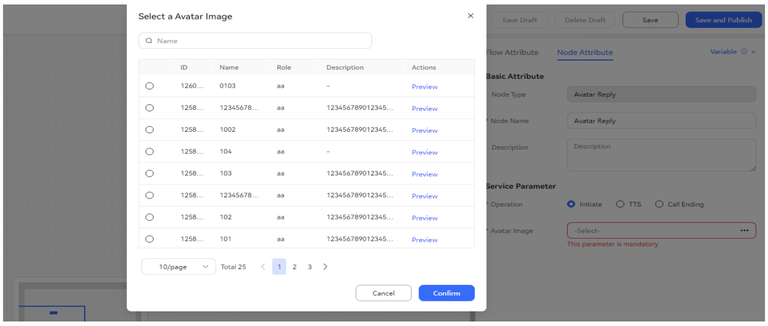
- **Node Name**: name of a node.
- **Description**: details of a node.
- **Operation**: The options are **Initiate**, **TTS**, and **Call Ending**.

  Figure 2-227 Setting Operation for the Avatar Reply diagram element

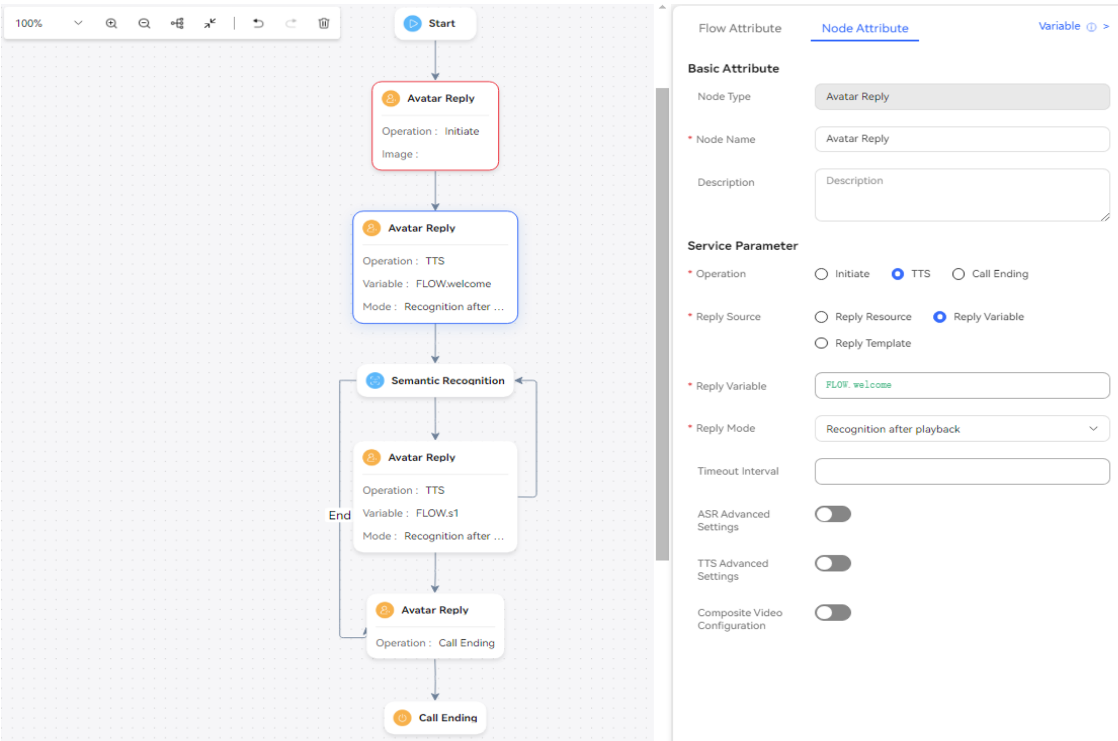
  – **Initiate**: A session with the virtual human service is initiated. You need to specify the virtual human to be used.
  – **TTS**: The configured text is provided for the virtual human service for video synthesis and playback. Variables can be added to the reply text, and the virtual human service dynamically plays a voice based on the return values of the variables.
  – **Call Ending**: The session with the virtual human service is ended.
- **Avatar Image**: This parameter is displayed when **Operation** is set to **Initiate**. Select a virtual human configured on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Virtual Human** page.

Figure 2-228 Selecting a virtual human



- **Reply Variable**: This parameter is displayed when **Operation** is set to **TTS**. Enter the text variable to be used by the virtual human to reply.

Figure 2-229 Selecting TTS



a. **Reply Template**: This parameter is displayed when **Operation** is set to **TTS**. Select a template whose **Type** is **TTS** under **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Resource Template**.

b. **Reply Variable**: This parameter is displayed when **Operation** is set to **TTS**. Set **Reply Variable** to a variable of the **Character** type.

c. **Reply Resource**: This parameter is displayed when **Operation** is set to **TTS**. Select a text resource whose **Status** is **Approved** under **Configuration Center** > **Resource Management** > **Audio and Video**.

- **Reply Mode**: This parameter is mandatory. The options are as follows:
  - **Playback only**: Only the voice or video is played, and customer input does not need to be received. Generally, this option is selected for static voice playback.

- **Interruption recognition**: The customer needs to answer by voice. Generally, this option is selected for replying to text.
- **Interruption by key presses**: The keys pressed by the customer need to be obtained. If **Reply Mode** of the **Robot Reply** diagram element is set to **Interruption by key presses** and the key interaction result needs to be obtained, the **Robot Reply** diagram element cannot be directly connected to the **Call Ending** diagram element, and the **Key Recognition** and **Semantic Recognition** diagram elements cannot be directly connected before the **Call Ending** diagram element.
- **Recognition and key presses**: Both voice and key information can be received. The information received first is used for matching.
- **Recognition after playback**: The system starts to identify the voice or video only after the voice or video is played. If a customer speaks during the playback, the system does not receive the voice.
- **Recognition and key presses after playback**: The system starts to identify the voice or video and collect digits only after the voice or video is played. If a customer speaks or presses a key during the playback, no information can be received. If a customer speaks or presses a key after the playback, the information that is received first is used for matching.
- **No interruption after digit collection**: Keys can be pressed when the voice or video is played, but the playback is not interrupted.
- **Custom Variable Value**: whether voice playback can be interrupted. If voice playback can be interrupted, set **Minimum Voice Playing Duration**.

  String **true** -- Voice playback can be interrupted during recognition, and the minimum voice playback duration can be passed.

  String **false** -- Recognition is performed after voice playback.

- **Timeout Interval**: timeout period, in seconds. If this parameter is not set, the default value **15** is used. If the duration exceeds the value of this parameter, the system determines that timeout occurs. The value range of this parameter varies with vendors. Currently, the maximum value is **180**.
  - If **Reply Mode** is set to **Recognition after playback**, the duration starts from the time when the TTS voice playback ends to the time when the recognition stops.
  - If **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, the duration starts from the time when the voice playback ends. For example, if a customer does not speak after the TTS voice playback ends, the robot goes to the next diagram element when the timeout period ends.
  - If **Reply Mode** is set to **Playback only**, the timeout period does not take effect.

NOTE

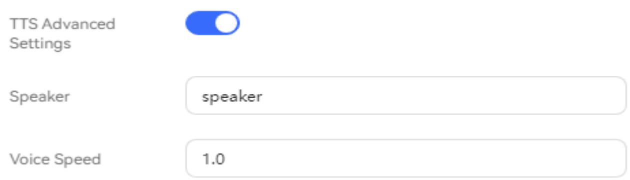
Pay attention to the setting of the timeout period in the following scenarios: long TTS voice playback, many keys (such as an ID card) to be pressed by a customer, and many opinions to be said by a customer. When **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, if the timeout period is short, the recognition may start before the voice playback ends, or the recognition may end before the customer completes key pressing. If the timeout period is long, there may be a long-time silence after the customer completes key pressing, and a timeout notification is displayed after a long time.

Robot Message Reply Timeout Processing

- **waitFlag**: session identifier. If the value of **timeout** is less than the remaining timeout period of the current session, the value of **waitFlag** is **true**. Otherwise, the value is **false**.
- **waitTimeout**: message timeout period.
- **waitBeginTime**: When the value of **waitFlag** is **true**, the value of **waitBeginTime** is set to the current time.
- When the value of **waitFlag** is **true**, reply timeout is processed. When the value of **waitFlag** is **false**, the original message processing logic is used.
- Processing logic: After a message times out, the CC-Messaging triggers the timeout flow and pushes the robot response to the customer.

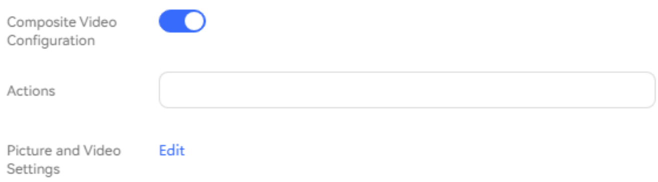
- **ASR Advanced Settings**: The options are **Enable** and **Disable**. The default value is **Disable**.
  - **Recognition Type**: The option is **Common**. The default value is **Common**. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **Subscriber Silence Timeout Interval**: The default value is **100**, in seconds. The value ranges from 0 to 32000. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **Recognition Timeout Interval**: The default value is **200**, in seconds. The value ranges from 0 to 600. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **Subscriber Pause Timeout Interval**: The default value is **500**, in milliseconds. The value ranges from 300 to 2000. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **ASR Extended Parameter**: Enter the data required by the ASR business on the IVR side, for example, the vendor information. The value is returned to the IVR system using the **vendor** parameter of the dialog interface.
- **TTS Advanced Settings**: The options are **Enable** and **Disable**. The default value is **Disable**.

Figure 2-230 TTS Advanced Settings



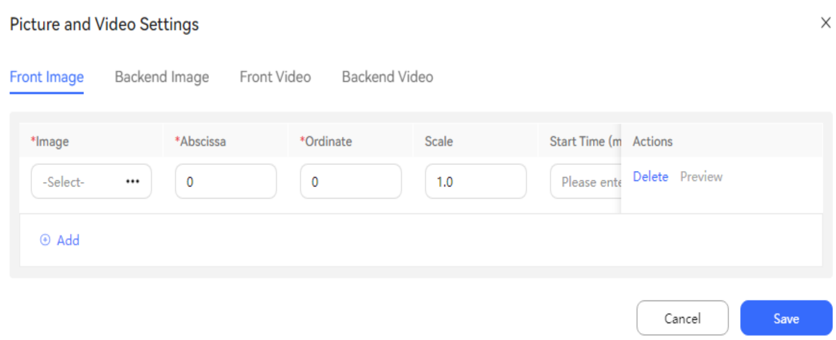
  - **Speaker**: Enter the speaker to be used by the virtual human. This parameter is available when **TTS Advanced Settings** is enabled.
  - **Voice Speed**: Enter a value ranging from 0.5 to 1.5. Only one decimal place is supported. **1.0** indicates the normal voice speed. **0.5** indicates the slowest voice speed, and **1.5** indicates the fastest voice speed. This parameter is available when **TTS Advanced Settings** is enabled.
- **Composite Video Configuration**: Enable or disable this function. By default, this function is disabled.

Figure 2-231 Composite Video Configuration



- **Actions**: Enter the action to be used by the virtual human. This parameter is available when **Composite Video Configuration** is enabled.
- **Picture and Video Settings**: Configure **Front Image**, **Backend Image**, **Front Video**, and **Backend Video**.

Figure 2-232 Picture and Video Settings



  - **Front Image**: Select the foreground image used during virtual human video synthesis. A maximum of five foreground images can be configured for a diagram element.
    - **Image**: Select a 2D virtual human image configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
    - **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
    - **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
    - **Scale**: Enter the zoom ratio of the image to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.
    - **Start Time (ms)**: Enter the time when the image starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.
    - **Display Duration (ms)**: Enter the duration for displaying the image. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.
  - **Backend Image**: Select the background image used during virtual human video synthesis. A maximum of five background images can be configured for a diagram element.

- **Image**: Select a 2D virtual human image configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
- **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Scale**: Enter the zoom ratio of the image to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.
- **Start Time (ms)**: Enter the time when the image starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.
- **Display Duration (ms)**: Enter the duration for displaying the image. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.

– **Front Video**: Select the foreground video used during virtual human video synthesis. Only one foreground video can be configured for a diagram element.

- **Video**: Select a 2D virtual human video configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
- **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Scale**: Enter the zoom ratio of the video to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.
- **Start Time (ms)**: Enter the time when the video starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.

– **Backend Video**: Select the background video used during virtual human video synthesis. Only one background video can be configured for a diagram element.

- **Video**: Select a 2D virtual human video configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
- **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Scale**: Enter the zoom ratio of the video to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.

- **Start Time (ms)**: Enter the time when the video starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.

Condition Branch Description

Table 2-97 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.

Using the Diagram Element

- Click the diagram element or drag it to the canvas. Before configuring virtual human reply parameters, you need to maintain virtual humans in advance. Then, you can select one of them in the **Service Parameter** area.

Typical Application Scenario

The following describes how to use the **Avatar Reply** diagram element to play a welcome tone to customers.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-233 Adding a flow variable

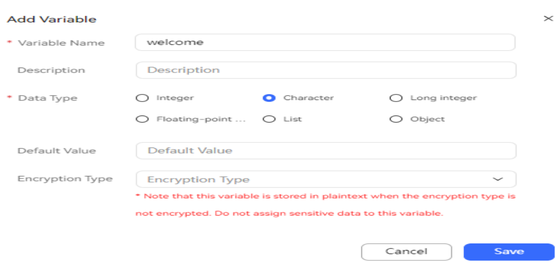
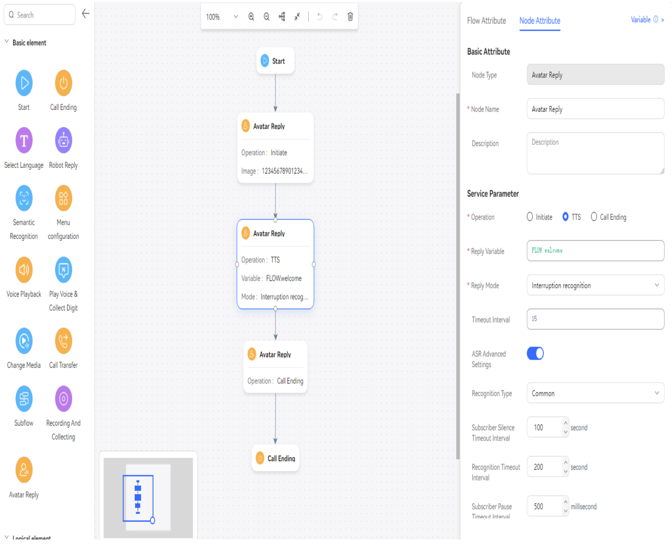


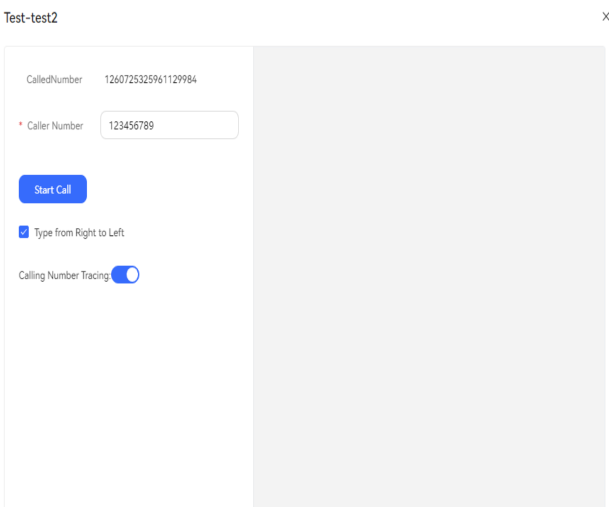
Figure 2-234 Flow orchestration example



3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot automatically answers the video path generated by the virtual human service, the configuration is successful.



----End

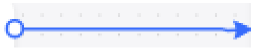
Connection Lines Between Diagram Elements

The connection line indicates the execution sequence of a flow with its arrow direction.

Appearance

- The following figure indicates that no node is selected.

- The following figure indicates that nodes are selected and the connection is successful.



Parameter Description

- **Branch Condition**: branch condition corresponding to the current flow connection line.

  Except the preset timeout or unmatched condition, other conditions are the branch conditions configured by the diagram element in the previous step.

  The following table describes the preset branches.

Table 2-98 Preset branches

Name	Description	Usage Method
timeout1	First timeout	This branch condition is triggered when a third party system (for example, the IVR) determines that a timeout occurs in receiving the customer feedback and sends a message to the OIAP, indicating that the value of **input** is **timeout**. This branch is generally used on the connection line between the **Semantic Recognition** diagram element to the subsequent node, indicating that semantic recognition times out before a response is received from the customer.
timeout2	Second timeout	During a call, **timeout2** is triggered when **timeout1** occurs for the second time. During script flow design, a flow retry is required when the first timeout occurs. If the second timeout occurs, the current step is skipped and the subsequent steps are performed.
nomatch1	First recognition failure	**nomatch1** is triggered in either of the following scenarios: • The **Semantic Recognition** diagram element does not match a result (that is, the diagram element returns the command word of an unknown intention). • A third-party system (for example, the IVR) returns a message in which the value of **input** is **nomatch**. In this scenario, the ASR system fails to recognize the intention and sends a failure response to the IVR.

Name	Description	Usage Method
nomatch2	Second recognition failure	During a call, **nomatch2** is triggered when **nomatch1** occurs for the second time.
error3	Third error	If the trigger condition corresponding to **timeout1** and **nomatch1** occur for the third time during a call, **error3** is triggered. If the number of error times does not need to be accumulated, use the **Error Count Clearance** diagram element to clear the number of error times before using this condition.
SYSERROR_INTERFACE	Business interface invoking failure	This branch condition is triggered if an error occurs when the **Business Interface Invocation** diagram element is used to invoke a third-party interface. This branch is generally used on the connection line between the **Business Interface Invocation** diagram element and subsequent node.
SYSERROR_INNER	ODFS internal error	This branch condition is triggered when other unknown errors occur in the ODFS.
slientInsertReply	Direct reply by silent agents	This branch condition can be used only when the **Semantic Recognition** diagram element of the silent agent system is configured. By using this diagram element, agents can directly answer the call and continue to execute other expected business flows.

- **Description**: details of the current branch.

Using Connection Lines

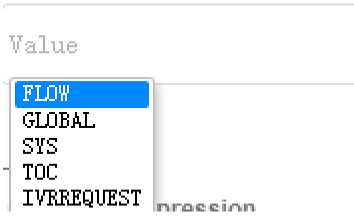
Each diagram element in a flow must be connected, except the **Call Ending** diagram element in special scenarios.

2.6.2.5.2 Parameters

Parameters can be set for other diagram elements except **Start** and **Flow transfer** diagram elements. Two types of parameters are preset in the system, that is, system variables and slot variables in intentions. You can directly enter a system variable in a text box. You need to add a specified prefix to a slot variable in a text box.

The variables are set as follows:

1. Move the cursor to the text box for variable input, and select a prefix of the desired variable that is associated by the text box.



- **FLOW**: flow variable, which is valid only in one flow.
- **GLOBAL**: global variable, which needs to be preset by choosing **Resource Management** > **Global Variable** and is valid in the entire session instance of a flow.
- **SYS**: system variable, which is preset and usually obtained from public data in the system and sessions, such as the system time and access code.
- **TOC**: intention variable. Parameters returned by the **Semantic Recognition** diagram element are valid only for the diagram element. If you want to use the parameters later, assign values to flow variables and transfer them to subsequent nodes.
- **IVRREQUEST**: IVR request variable, which is transferred using the OIAP dialog interface when the IVR flow invokes an intelligent flow.

2. Manually enter a period (.) after the selected prefix, move the cursor to the period, and select a desired parameter from the associated parameters.

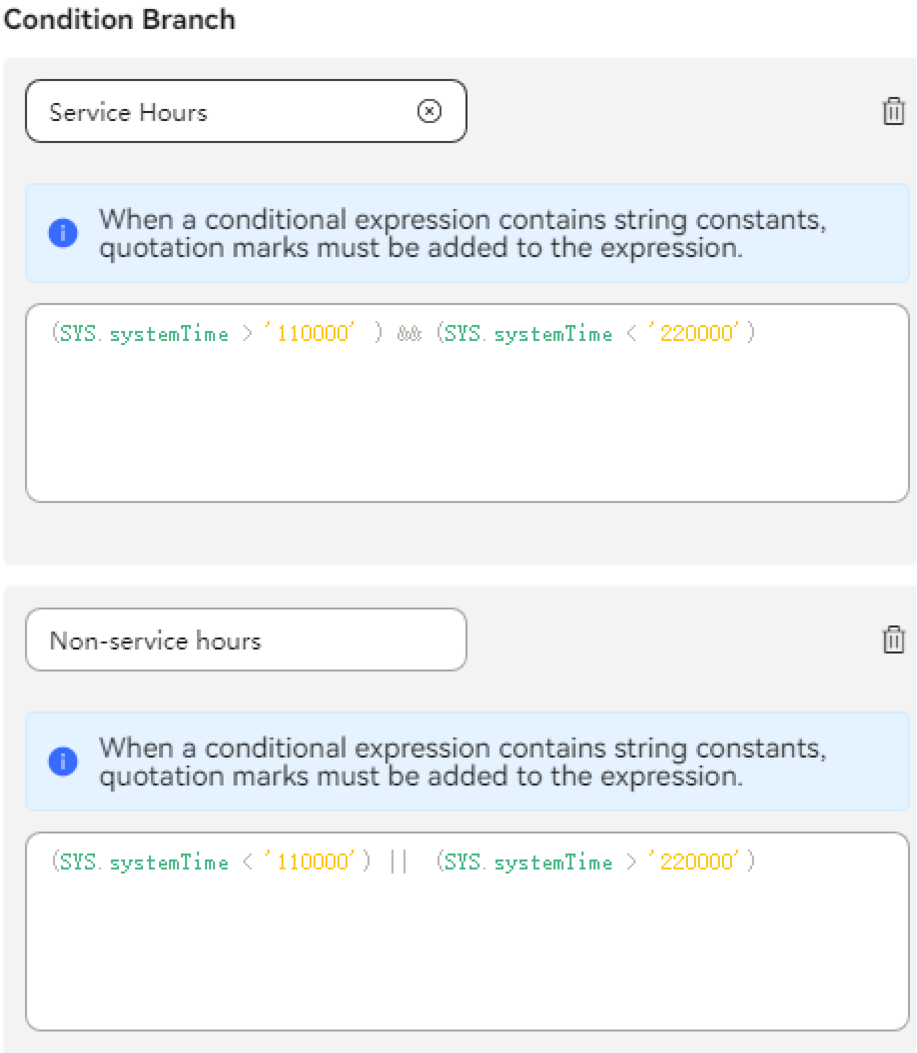
System Variable (SYS)

In general, preset system variables are obtained from the public data such as the system time and access code in the system environment and session.

Parameter	Description
SYS.systemDate	System date. The value is a character string. The value format is *YYYYMMDD*, with four digits for the year, two digits for the month, and two digits for the date. If the number of digits is insufficient, use 0 for padding. For example, April 12, 2019 can be expressed as **20190412**.
SYS.systemMonth	System year and month. The value is a character string. The value format is *YYYYMM*, with four digits for the year and two digits for the month. If the number of digits is insufficient, use 0 for padding. For example, April 2019 can be expressed as **201904**.
SYS.systemTime	Current system time. The value is a character string. The value format is *HHmmss*, with two digits for each of the hour (24-hour format), minute, and second. If the number of digits is insufficient, use 0 for padding. For example, 16:00 can be expressed as **160000**.

Parameter	Description
SYS.callingNumber	Customer phone number. When a call is connected to the AICC, this parameter indicates the calling number. When a call is made by the AICC, this parameter indicates the called number. Both the calling number and called number are customer phone numbers. The value is a character string. The number is transferred by an IVR flow.
SYS.calledNumber	Access code. The value is a character string. The access code is transferred by an IVR flow, and can be viewed on the web application server (WAS) console of the computer telephony integration (CTI) platform.
SYS.realCalledNumber	Access code configured on the **Called Party** page for the flow, that is, the hotline number dialed by the flow.
SYS.callId	Session ID on the ODFS. The value is a character string. The ID is transferred by the IVR flow, that is, **IVRREQUEST.call_id**.
SYS.cti_callid	CTI call ID transferred by the IVR flow, that is, **IVRREQUEST.cti_callid** on the IVR side.
SYS.tenantId	Current tenant ID. The value is a character string.
SYS.language	Current customer language. The value is a character string. To support multiple languages, assign a value to this variable. For example, assign *en_US* for English.
SYS.timeStamp	Timestamp, which is a character string. Total number of seconds from 1970-01-01 00:00:00 (GMT) (Beijing time 1970-01-01 08:00:00) to the current time.
SYS.callMediaType	Call media type. ● **1**: voice ● **3**: voice and video
SYS.currentTime	Current system time, which is in *yyyyMMddHHmmss* format.
SYS.createTime	Call start time.

Expressions that contain parameters comply with JavaScript syntax, and the result is of the boolean type. For example, in the **Batch Judgment** diagram element, you can determine whether the current time is within or beyond the service time using the following expressions.



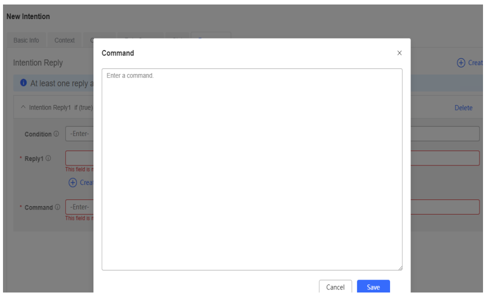
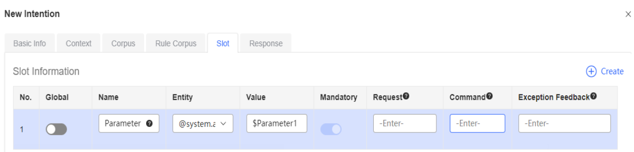
- **Service Hours**: **(SYS.systemTime > '110000') && (SYS.systemTime < '220000')**
- **Non-service hours**: **(SYS.systemTime < '110000') || (SYS.systemTime > '220000')**

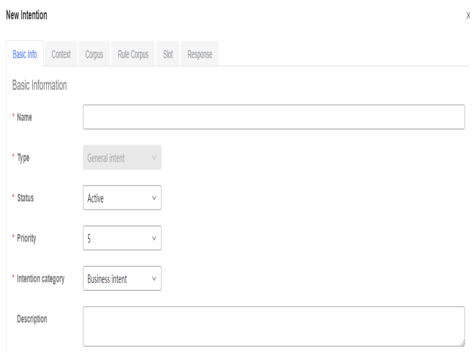
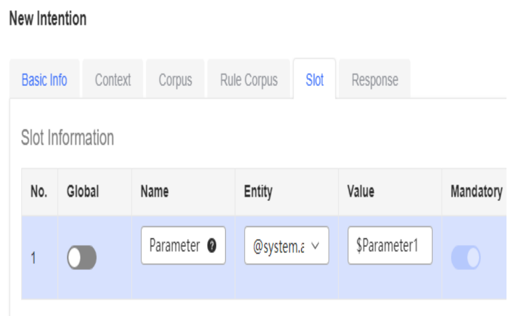
Intention/Slot Variable (TOC)

You can use a parameter for value assignment or judgment in the semantic recognition service diagram element. This parameter is valid only in the current diagram element. If you want to use it in subsequent diagram elements, define a flow variable and assign a value to it. The following table describes the flow variables.

NOTE

The system directly recognizes intention slot variables as those of the character string type. Therefore, use the same type of flow variables when associating the slot variables with flow variables.

Parameter	Description
TOC.ChatBotIntentCode	Code of a matched intention in semantic recognition. The value is a character string. The following ChatBotIntentCodes are preset in the system and can be directly used: ● **systemQA** Generally, you can obtain the value of this parameter to determine whether the correct intention is matched. 
ChatBotRespContent	Reply for the intention matched in semantic recognition, including the reply configured in the slot and response.  

Parameter	Description
TOC.ChatBotScenario-Name	Name of the intention that is matched after the semantic recognition is executed. The value is a character string. For example, you can set **TOC.ChatBotScenarioName** to **Seat Type** in the following scenario. 
TOC.ChatBot*Slot name*	This parameter is the slot parameter set in the intention. The value is a character string. You can use the intention to view the slot parameters of the intention. Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Intention Management**, select a domain from the first drop-down list, click the name link, and then click the **Slot** tab to view the slot variable names in the **Name** column. For example, to obtain the slot value in the following intention, you can set it as follows: **TOC.ChatBotsitType = "Suite"** 

Parameter	Description
TOC.ChatBotResponse	This parameter returns all the content in the recognition interface. An example structure is as follows: **{"intents":[{"simQuestions":[],"scenarioType":"normal","scenarioStatus":"finish","confidence":1.0,"responses":["Balance"] ,"priority":0,"params":{},"scenarioName": "Call fee query 2","commands":["21312","TEXT"]}],"statusCode":200}** To obtain similar questions, use **TOC.ChatBotResponse.intents[0].simQuestions**.
TOC.DialogAnalysis	This parameter returns all content processed by the conversation analysis diagram element. The structure is as follows: Sentiment analysis function response example: {"Intend":"","call_script":[],"call_script_matchedstep":"systemQA","role":"","sensitive_word":{},"sentiment_analysis":"negative","sentiment_analysis_score":0.0} Q&A search function response example: {"Intend":"","call_script":[],"call_script_matchedstep":"systemQA","recomand_KP":[{"answers":["Today iscloudy"],"faqGroupId":13113,"faqGroupName":"Weather","faqId":21304,"prob":24.0,"question":"How's the weather"}],"role":"user","sensitive_word":{},"sentiment_analysis_score":0.0} Intent recognition function response example: {"Intend":"Buy insurance","call_script":[{"intentcode":"Insurance","intentDsp":"Buy insurance","status":"finished","childintent":[{"intentcode":"Insurance","intentDsp":"Buy insurance","status":"finished"}]}],"call_script_matchedstep":"Insurance","recomand_KP":[],"role":"user","sensitive_word":{},"sentiment_analysis_score":0.0}

Global Variable (GLOBAL)

To define a variable that can be used in different flows, you can add a global variable, for example, **Param1**, under **Resource** > **Variable**.

The following variable data types are supported:

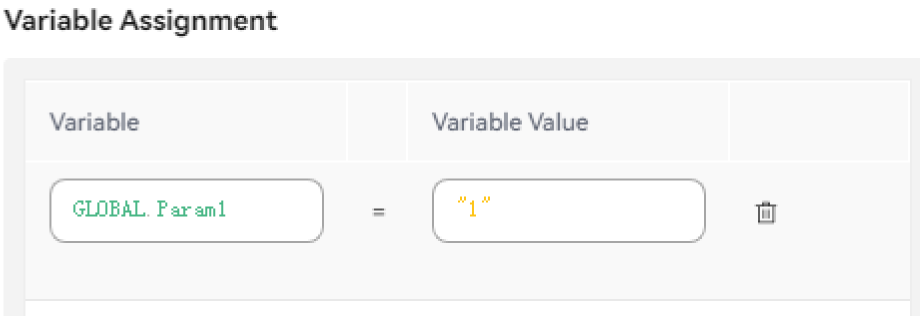
- **Integer**
- **Character**

- **Long integer**
- **Floating-point number**
- **List**
- **Object**

You can use this variable in the flow variable definition area and **Semantic Recognition**, **Interface Invoking**, and **Robot Reply** diagram elements. The format is as follows:

GLOBAL.*Variable name*

Example: **GLOBAL.Param1**



NOTE

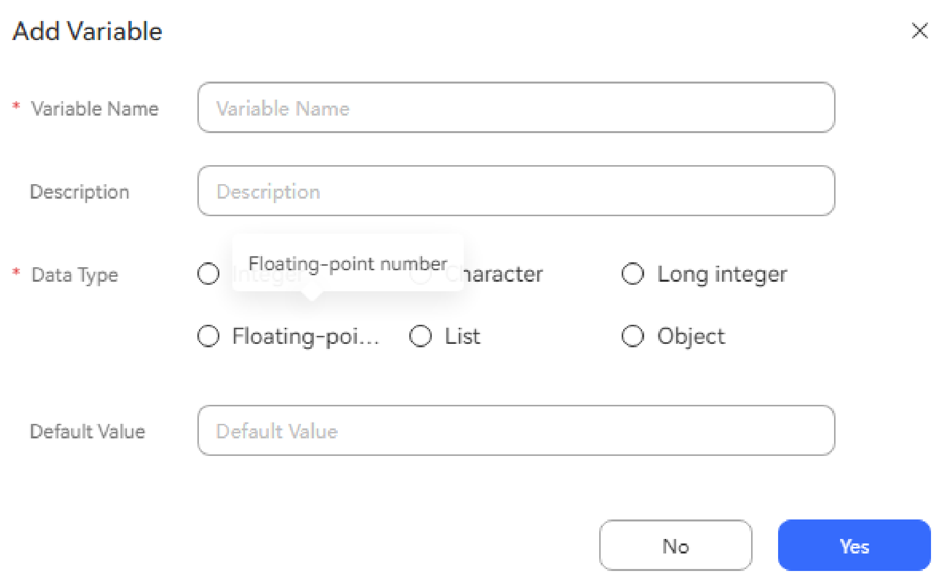
In the attribute names in the response, the data type of the value that you assign to the parameter must match the data type set in the **Variable Management**. If the value is of the character type, you need to add quotation marks.

Flow Variable (FLOW)

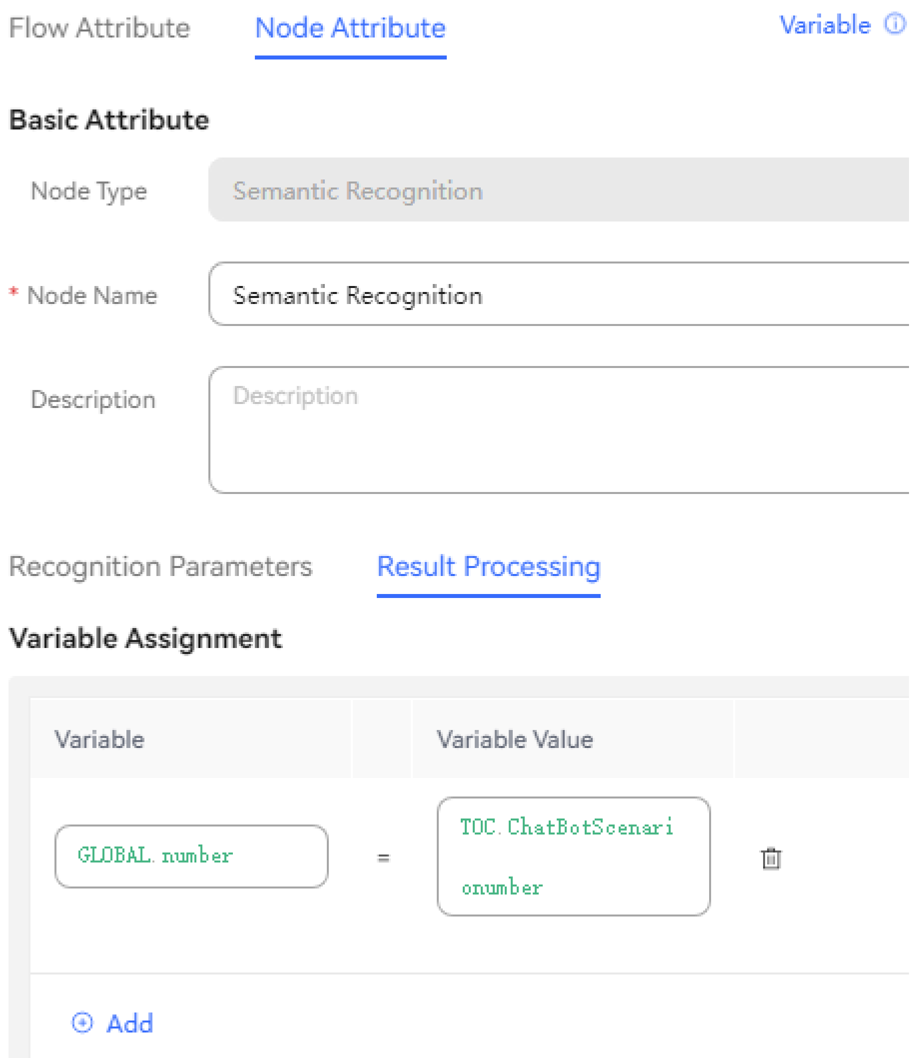
A cache variable that you add to a flow is called a flow variable. The variable can be used in the subsequent nodes of the flow.

Flow variables are represented by **FLOW.Flow variable name**. In the TTS template or SMS template, you need to use **${FLOW.Flow variable name}** to specify parameters.

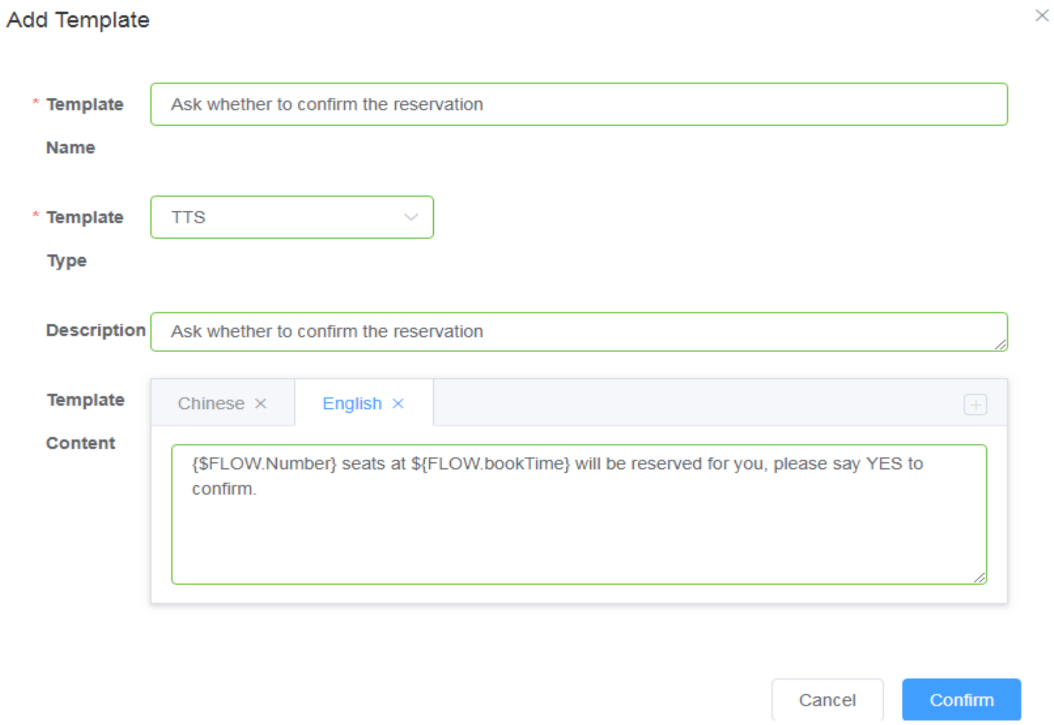
For example, you can define the following variables in a flow.



You can assign values to flow variables in the **Semantic recognition** diagram element.



The following figure shows the reply to a customer in the SMS template after the reservation is successful.



IVR Request Variable (IVRREQUEST)

The OIAP provides IVR interfaces for the IVR to invoke. Therefore, during flow orchestration, fields in IVR requests can be directly used as variables.

The following describes the method.

Parameter	Description
IVRREQUEST.cti_callid	Call ID of the CTI which a call is connected to and transferred by Huawei IVR. In other scenarios, this parameter is left empty. The value can contain a maximum of 32 characters. Currently, this parameter is reserved.

Parameter	Description
IVRREQUEST.input	Dialog interaction result. ● Voice recognition result or text input. The voice recognition result is the text converted from the voice. The text input result is the text content. ● Voice key result, which is the key value, for example, **1** and **201801**. ● **playover**: voice playback completed ● **timeout**: timeout ● **nomatch**: recognition failure or key pressing failure ● **sys_err**: system exception ● **hangup**: hangup ● **recordend**: recording ended If the result is **hangup**, the hangup response of the ODFS can be triggered. The value can contain a maximum of 1024 characters.
IVRREQUEST.IACmd	Field dedicated for intelligent match and intelligent case filling. ● This parameter must be set to **match** when intelligent match is used. ● This parameter can be set to any of the following values when intelligent case filling is used: **match**: A case filling request is submitted. **rematch**: Re-identify an event when the classification of the identified event is incorrect. **confirm**: When an agent selects a field, the system notifies the ODFS that the field has been confirmed.
IVRREQUEST.TextSource	Source of the request text. ● This parameter specifies whether the input text is from an agent or a subscriber when **IACmd** is set to **match** (same for intelligent match and intelligent case filling). This parameter can be set to **operator** or **user**. **operator**: agent **user**: customer ● The name of the field selected by the agent is transferred when **IACmd** is set to **confirm**, for example, object level 2. ● This parameter is optional when **IACmd** is set to **rematch**.
IVRREQUEST.transin_data	Associated data parameters agreed by the access party and the OIAP, for example, data packet parameters transferred by the IVR.

Parameter	Description
IVRREQUEST.begin_play	Voice playback start time.
IVRREQUEST.end_play	Voice playback end time.
IVRREQUEST.call_id	Unique call ID, which is the same as the value of **userid** and is used by the flow. The value can contain a maximum of 64 characters.
IVRREQUEST.inter_idx	Number of consecutive interactions with a subscriber, which is recorded on the ODFS side.
IVRREQUEST.feedback	Satisfaction. The options are **1** (satisfactory) and **0** (unsatisfactory). Integer.
IVRREQUEST.feedbackContent	Dissatisfaction reason. If the feedback is satisfactory, leave this parameter empty.
IVRREQUEST.channelType	Type of the channel through which a customer accesses the system. The options are **WEB** (web), **INSTAGRAM** (Instagram), **TELEGRAM** (Telegram), **WECHAT** (WeChat), **FACEBOOK** (Facebook), **TWITTER** (X (Twitter)), **EMAIL** (email), **LINE**, **WHATSAPP** (WhatsApp), **5G** (5G RCS), and **SMS**.
IVRREQUEST.emailTitle	Subject of the email received during email channel access.
IVRREQUEST.ieValue	The IE information transmitted in the flow can be obtained. Currently, only the **User To User** option is available.

2.6.2.5.3 TUC Interfaces

This section describes the interfaces used by the TUC.

/chatbot/rest/tuc/v1/nlp/detectRegularEntity

Function

Rule (address) entity recognition interface.

Input Parameters

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The option is **zh_CN**.

Parameter	Type	Mandatory (Yes/No)	Description
sentence	String	Yes	Recognition text.

Output Parameters

Parameter	Type	Description
addr1	List<String>	User-defined address entity.
addr2	List<String>	User-defined address entity (layer 2).

Request Example

```
{
  "language": "${language}",
  "sentence": "${sentence}"
}
```

/chatbot/rest/tuc/v1/nlp/identify

Function

Language identification interface.

Input Parameters

Table 2-99

Parameter	Type	Mandatory (Yes/No)	Description
text	String	Yes	Text information entered by a customer.

Output Parameters

Parameter	Type	Description
returnCode	String	Result code.
returnMsg	String	Return information.
params	LangIdOutputParams	Language recognition result.

LangIdOutputParams is described as follows.

Parameter	Type	Description
language	String	Language. The options are as follows: **zh_CN** **en_US** The following are minority languages. To use these languages, you need to download the minority language recognition model. **ar** **es_ES** **pt_BR** **th_TH** **fr_FR**
score	Float	Confidence.

Request Example

```
{
    "callId": "${businessReqId}",
    "provId": "fangyg",
    "busiType": "0",
    "params": {
        "text": "${text}"
    }
}
```

The values of **callId**, **provId**, and **busiType** are automatically generated by the system.

/chatbot/rest/tuc/v1/recommendFaq

Function

FAQ recommendation interface.

The recommended knowledge list is matched based on the text in the request.

Input Parameters

Table 2-100

Parameter	Type	Mandatory (Yes/No)	Description
user	String	Yes	ID of the user who initiates the question.
sentence	String	Yes	Sentence that needs to match the recommended FAQ. The description cannot exceed 1024 characters.
language	String	Yes	Language. The options are as follows: • **en_US**: English • **ar**: Arabic • **es_ES**: Spanish • **zh_CN**: Chinese • **fr_FR**: French
threshold	Double	No	FAQ confidence threshold. Default value: **0**. If the value is a number, the system returns only the FAQs whose confidence is greater than the value.

Output Parameters

Parameter	Type	Description
recommends	List [FaqAnswer]	Returned FAQ result set.

FaqAnswer is described as follows.

Parameter	Type	Description
faqGroupId	Integer	FAQ group ID.
faqGroupName	String	FAQ group name.
faqId	Integer	FAQ ID.
question	String	Question.
answers	List <String>	Answer list.
prob	Double	Confidence. The value is a probability greater than 0.

Request Example

```
{
    "user": "${user}",
    "sentence": "${sentence}",
    "language": "${language}",
    "threshold": "${threshold}
}
```

/chatbot/rest/tuc/v1/qualityInspection/qiOnline/recognize

Function

Online inspection interface.

Input Parameters

Table 2-101

Parameter	Type	Mandatory (Yes/No)	Description
role	String	No	Role. The options are **staff**, **customer**, **operator**, and **user**.
beginTime	long	No	Start time.
endTime	long	No	End time.
callId	String	Yes	Call ID.
content	int	Yes	Description.
language	int	Yes	Language. The options are **zh_CN** and **en_US**.

Output Parameters

Parameter	Type	Description
role	String	Role.
emotion	EmotionResult	Recognition type.
dialogRules	List<DialogRule>	Dialog rule.
silenceRules	List<SilenceRules>	Silence rule.
speedRules	List<SpeedRules>	Speed rule.
interposalRules	List<InterposalRules>	Interruption rule.

EmotionResult is described as follows.

Parameter	Type	Description
score	int	Score.
emotionType	String	The value can be **positive** or **negative**.

DialogRule is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	A maximum of 128 characters are allowed.
description	String	A maximum of 1024 characters are allowed.
severity	String	Rule type. The options are **normal** and **critical**.
min	int	Minimum number of dialog logics. The value ranges from 1 to 100.
score	int	Rule score. The value ranges from –100 to 100.
method	String	The rule is positive or negative. The options are **positive** and **negative**.
callBegin	long	Call start time.
callEnd	long	Call end time.

SilenceRules is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	Rule name.
score	int	Score. The value ranges from 0 to 100.
silenceSeconds	int	Silence duration. The value range is [1, -].
silenceTimes	int	Number of silence times. The value range is [1, -].
exception	SilenceException	Expression between groups.
callBegin	long	Dialog start time.
callEnd	long	Dialog end time.

SpeedRules is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	Rule name (a maximum of 64 characters).
minSpeed	int	Minimum speed. The value ranges from 1 to 220.
maxSpeed	int	Maximum speed. The value range is [1, -].
score	int	Score. The value ranges from –100 to 0.
callBegin	long	Call start time.
callEnd	long	Call end time.

InterposalRules is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	A maximum of 128 characters are allowed.

Parameter	Type	Description
score	int	Rule score. The value ranges from –100 to 0.
interposalTimes	int	Interruption times. The value ranges from 1 to 10000.
interposalSeconds	int	Interruption duration. The value ranges from 1 to 10000.
callBegin	long	Call start time.
callEnd	long	Call end time.

Request Example

```
{
      "role": "${role}",
      "beginTime": "${beginTime}",
      "endTime": "${endTime}",
      "callId": "${callId}",
      "content": "${content}",
      "language": "${language}"
}
```

/chatbot/rest/tuc/v1/nlp/feedback

Function

Satisfaction feedback interface.

Input Parameters

Parameter	Type	Mandatory (Yes/No)	Description
accessCode	String	Yes	Access code.
callId	String	Yes	Call ID.
interactId	String	Yes	Interaction ID.
satisfaction	int	Yes	Satisfied or not.
reason	String	No	Dissatisfaction reason.

Output Parameters

Parameter	Type	Description
errorCode	String	Error code.

Parameter	Type	Description
errorMsg	String	Error information.

Request Example


```
{
    "accessCode": "${accessCode}",
    "callId": "${callId}",
    "interactId": "${interactId}",
    "satisfaction": "${satisfaction}",
    "reason": "${reason}"
}
```


/chatbot/rest/tuc/v1/nlp/textClassify

Function

Text classification interface.

Input Parameters

Table 2-102 Request input parameters

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The option is **zh_CN**.
text	String	Yes	Recognition text.

Output Parameters

Parameter	Type	Description
results	List<TextLabel>	For details, see **Table 2-103**.

Table 2-103 TextLabel description

Parameter	Type	Description
label	String	Label.
probability	Double	Confidence.

Request Example

```
{
   "language": "${language}",
   "text": "${text}"
}
```

/chatbot/rest/tuc/v1/nlp/detectEntity

Function

Entity recognition interface.

Input Parameters

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The options are as follows: **zh_CN** **en_US** **ar** **es_ES** **pt_BR** **th_TH** **multi** **fr_FR**
sentence	String	Yes	Recognition text.

Output Parameters

Parameter	Type	Description
entityMsgV2List	List <EntityMsgV2>	For details, see **Table 2-104**.
count	Integer	Number of identified entities.

Table 2-104 EntityMsgV2 description

Parameter	Type	Description
FORMAT_RAW	String	Format.
id	Integer	ID.

Parameter	Type	Description
citation	String	Reference name of an entity, for example, reference name of an address in a system entity (**@system.address**).
type	Integer	Entity type. ● **-1**: system or environment entity, not a user entity ● **0**: common entity ● **1**: composite entity ● **2**: rule entity ● **3**: entity identified by the LODAS
userEntity	Boolean	Whether the entity is a user entity.
envEntity	Boolean	Whether the entity is an environment entity.
beginIndex	Integer	Start sequence number in the input statement when the entity value is identified.
endIndex	Integer	End sequence number in the input statement when the entity value is identified.
values	Map <String, String>	Identified entity value pair. The value is in *Entity type*:*Entity value* format. Example: **"@system.address": "Yuelu District, Changsha City, Hunan Province"**
formats	List <String>	List of reference formats that identify the entity. For example, in the value **["raw","province"]**, **"raw"** indicates the original value, and **"province"** indicates the province.
synonyms	List <String>	Synonym.

Request Example

```
{
    "language": "${language}",
    "sentence": "${sentence}"
}
```

/chatbot/rest/tuc/v1/qualityInspection

Function

Intelligent training interface. After the training model is deployed and trained on the LODAS, the business interface in the intelligent IVR is invoked to send the user voice text information to the LODAS and obtain the scoring result from the intelligent engine. With the help of intelligent capabilities, an integrated system is built to implement capabilities such as customer chatbot simulation call training, automatic evaluation of reply accuracy, and automatic evaluation of operation accuracy. The following are implemented to improve work efficiency from the perspectives of employees, systems, and operations: pre-job tests and appraisals for new employees, training and appraisals for key and difficult business capabilities, job rotation training and appraisals for on-the-job employees, and reinstatement training and appraisals for employees awaiting job assignment.

Input Parameters

Table 2-105 Parameters in the request body

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The options are as follows: **zh_CN**: Chinese **en_US**: English
channelType	String	Yes	Inspection type. Training scoring: **exam**.

Parameter	Type	Mandatory (Yes/No)	Description
speeches	JSON string	Yes	Dialog content to be scored. If **channelType** is set to **exam**, the value of this parameter is the question ID and agent's answer. The following is an example. **"speeches": "{\"examID\":\"jsex001\",\"speech\":\"******* \"}"** Method of using variables: **"speeches": "{\"examID\":\"${examID}\",\"speech\":\"${speech}\"}"**
callTime	Long	Yes	Dialog timestamp, accurate to seconds. In the training scoring scenario, set the **timestamp** to **-1**, which is meaningless.

Output Parameters

Table 2-106 Parameters in the response body

Parameter	Type	Description
examResponse	ExamResponse	Training scoring result, which is returned during training scoring.

Parameter	Type	Description
qiResponse	QiResponse	Inspection score result, which is returned for common inspection. (In the inspection scoring scenario, this parameter is not used currently.)

Table 2-107 Description of the **examResponse** field

Parameter	Type	Description
examId	String	Question ID.
score	Integer	Exam score (excluding sensitive words).
answerRules	List <Object>	Answer rules and score details.
sensitiveWordRules	sensitiveWordRuleMatch	Sensitive words involved in answers and points deducted.

Table 2-108 Description of the **answerRules** field

Parameter	Type	Description
positiveAnswer	String	Answer to the positive assessment point.
positiveWeight	Float	Weight of the positive assessment point.
positiveScore	Float	Score of the positive assessment point.
negativeAnswer	String	Answer to the negative assessment point.
negativeWeight	Float	Weight of the negative assessment point.
negativeScore	Float	Score of the negative assessment point.

Table 2-109 Description of the **sensitiveWordRules** field

Parameter	Type	Description
id	String	Sensitive word ID.

Parameter	Type	Description
name	String	Content of sensitive words.
score	Integer	Sensitive word score.
beginTime	Long	Start timestamp of the training content, accurate to seconds.
endTime	Long	End timestamp of the training content, accurate to seconds.
speechId	Integer	Training content ID.

Request Example

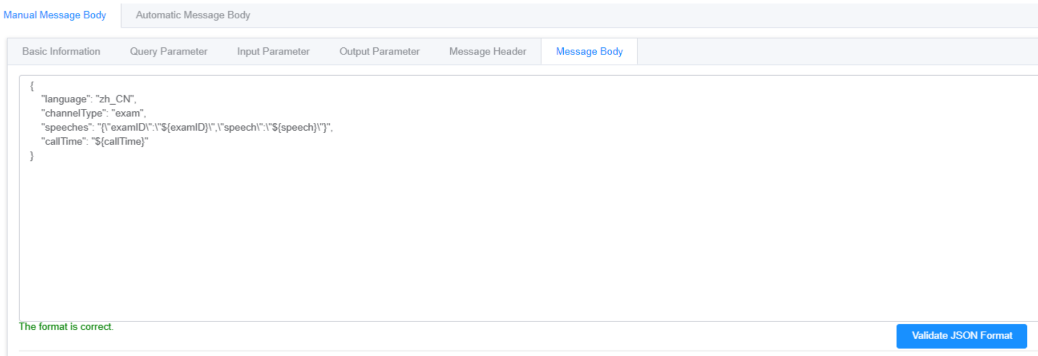

```
{
    "language": "zh_CN",
    "channelType": "exam",
    "speeches": "{\"examID\":\"${examID}\",\"speech\":\"${speech}\"}",
    "callTime": "${callTime}"
}
```

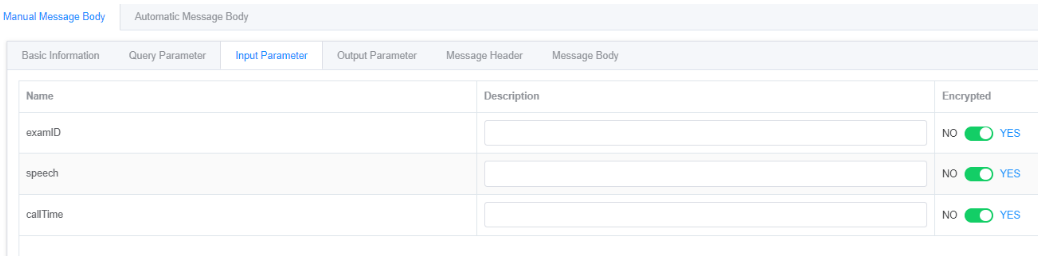

Response Example


```
{
    "examResponse": {
        "examId": "TQ5",
        "score": 80.0,
        "answerRules": [
            {
                "positiveAnswer": "Positive answer of No.18",
                "positiveWeight": 0.5,
                "positiveScore": 40.0,
                "negativeAnswer": null,
                "negativeWeight": 0.0,
                "negativeScore": 0.0
            },
            {
                "positiveAnswer": "Positive answer of No.18",
                "positiveWeight": 0.5,
                "positiveScore": 40.0,
                "negativeAnswer": null,
                "negativeWeight": 0.0,
                "negativeScore": 0.0
            }
        ],
        "sensitiveWordRules": {
            "sensitiveWordRuleMatch": []
        }
    },
    "qiResponse": null
}
```


Input Parameter Configuration Example

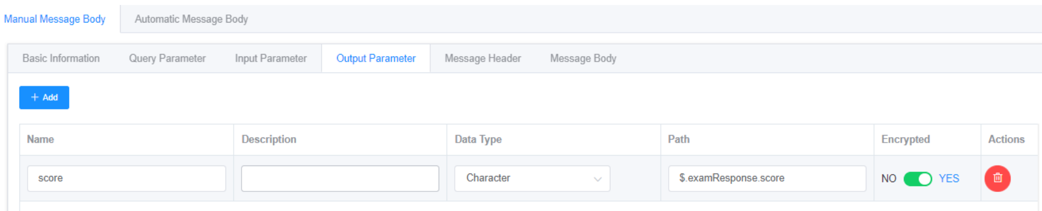
In the manually entered message body, enter a request example. The **${***Variable name***}** variable is automatically displayed on the **Input Parameter** tab page.





Output Parameter Configuration Example

Parameter	Path	Description
score	$.examResponse.score	Exam score (excluding sensitive words). This parameter is returned during training scoring.



2.6.2.5.4 Built-in Functions

During intelligent IVR flow orchestration, built-in functions can be used to split and truncate variables in the flow based on site requirements.

- When the following built-in functions are used for multiple operations, parentheses must be added to subexpressions.
- In conditional expressions, == can be used for judgment, which applies only to strings and numbers and does not apply to objects or lists (except for null judgment).

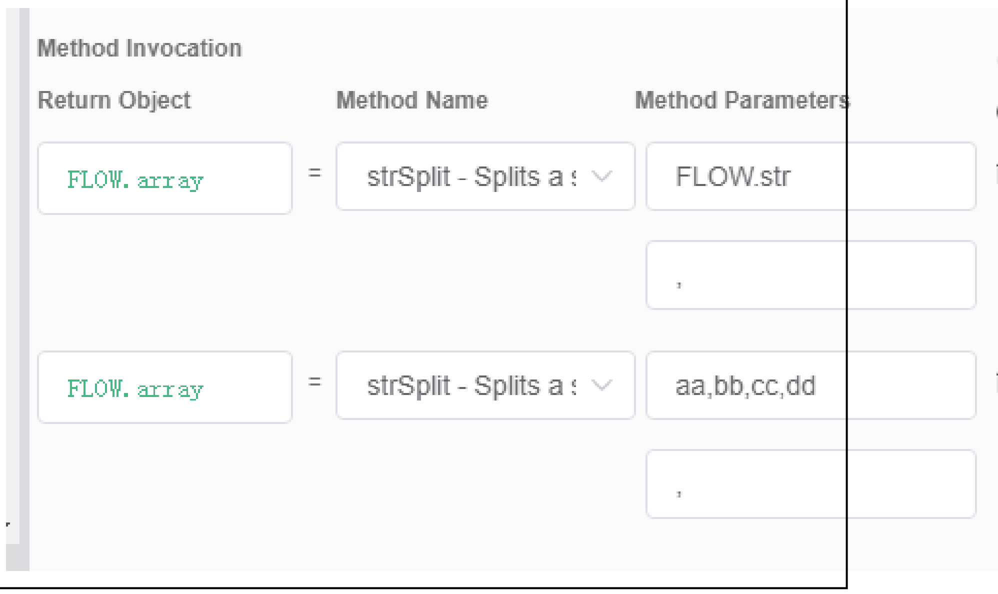
Table 2-110 Built-in functions

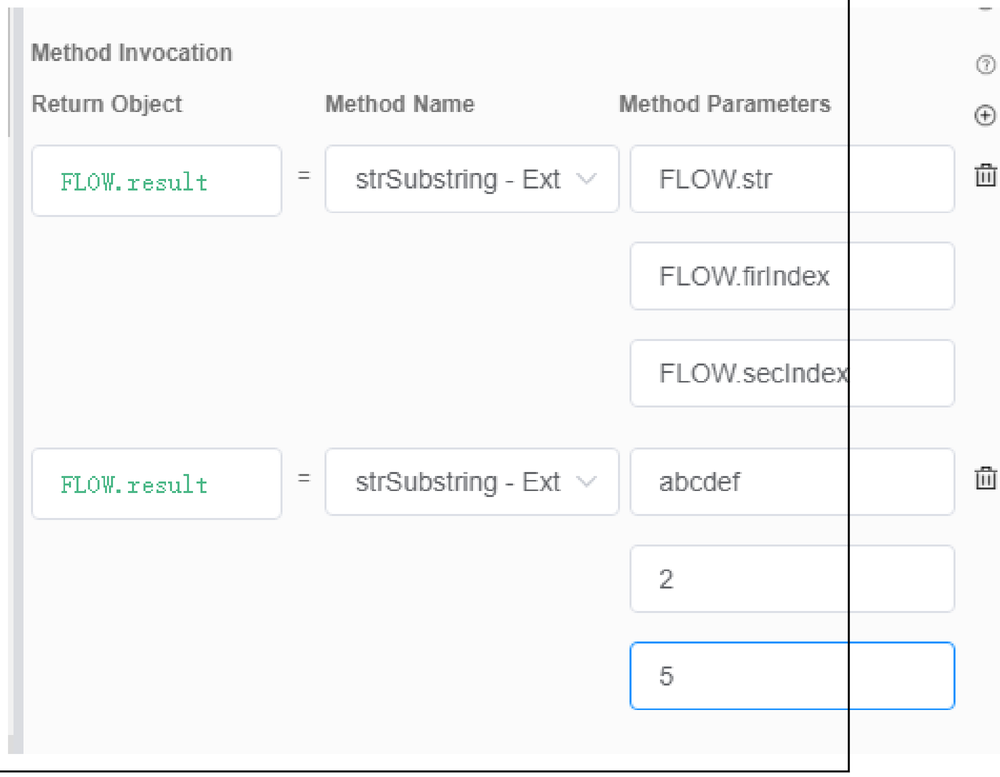
Function	Description
length()	Obtains the length of a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.length()** expression to obtain the string length of the flow variable **Answer**. The result is **5**.
size()	Obtains the number of elements in a variable of the array or object type. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **[1,2,3,4,5]**, you can use the **FLOW.Answer.size()** expression to obtain the number of elements of the flow variable **Answer**. The result is **5**. **NOTE** For an object or array defined by a flow variable, if no default value is set and no value is assigned, the value is not null and the size is 0.
divideString (index, "*Separator*")	Splits a string. ● **index**: Sequence number of the character used for the splitting. The value starts from 1. ● *Separator*: If the separator is a regular special character, such as a period (.), dollar sign ($), plus sign (+), vertical bar (|), or asterisk (*), the separator must be enclosed in square brackets, for example, **FLOW.*XXX*.divideString(index,"[+]")**. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **{"UniqueID":"123","ServiceID":"1234","orderid":"12345"}**, you can use the **FLOW.Answer.divideString(3,",")** expression to obtain **"orderid":"12345"** in the value. **NOTE** If the value of a list or object uses square brackets or periods and this built-in function needs to be invoked, the value must be cached to a flow variable of the string type before the invocation.
substring(beginIndex, endIndex)	Truncates a string. ● **beginIndex**: Start position of the truncation. The value starts from 0. The value **0** indicates the first character. ● **endIndex**: End position of the truncation, excluding the character specified by **endIndex**. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **"orderid":"12345"**, you can use the **FLOW.Answer.substring (11, 16)** expression to obtain the **12345** in the value.

Function	Description
startsWith("xxx")	Checks whether a variable starts with a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.startsWith("a")** expression to check whether the value starts with **a**. The result is **yes**. Generally, this function is used in conditional expressions.
endsWith("xxx")	Checks whether a variable ends with a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.endsWith("e")** expression to check whether the value ends with **e**. The result is **yes**. Generally, this function is used in conditional expressions.
Null check	Checks whether a variable is null. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **null**, you can use the **FLOW.Answer==null** or **FLOW.Answer!=null** expression to check whether the flow variable **Answer** is null.
+	The following addition operations are supported: ● String + String = Combined string ● String + Integer = Combined string ● Integer + Integer = Addition calculation result Example: If there are flow variables **Str** and **Num**, the value of **FLOW.Str** is **123**, and the value of **FLOW.Num** is **123**, you can use the **FLOW.Str+FLOW.Num** expression to obtain the string **123123**.
/	Divides a number. Example: If there are flow variables **Num1** and **Num2**, you can use the **FLOW.Num1/FLOW.Num2** expression to assign the result to another flow variable **result**, which must be of the floating-point number type.

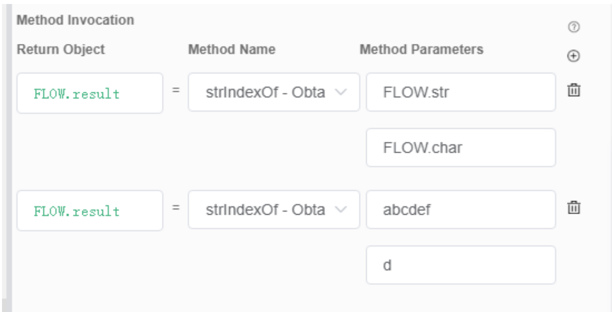
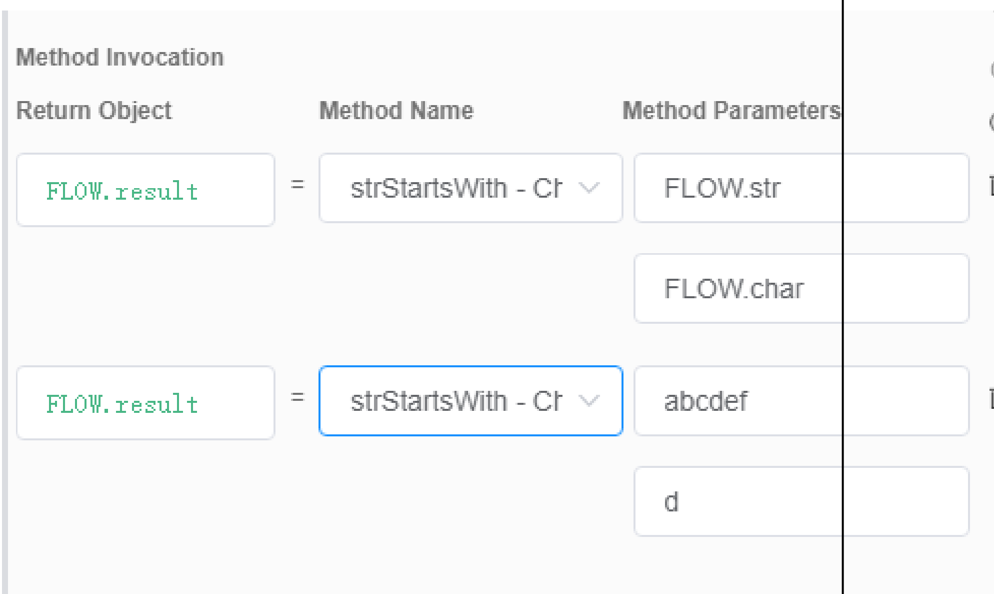
Function	Description
put()	Adds an attribute to an object. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack"}**, you can use **FLOW.person.put("age","18")** in the cache variable area to add the **age** attribute to **FLOW.person**. You can cache the result **{"name":"Jack","age":"18"}** to any variable of the object type. If a flow variable **FLOW.age** of the integer type whose value is **18** is available, you can also use **FLOW.person.put("age",FLOW.age)** to add an attribute. The result is **{"name":"Jack","age":"18"}**. **NOTE** In **FLOW.person.put(***key***,***value***)**, both *key* and *value* can be variable names. If *value* is a constant, the attribute value is of the string type by default regardless of whether double quotation marks are added. If *value* is a variable, the data type of the attribute value depends on that of the variable.
add()	Adds an element to a list. Example: If a flow variable **FLOW.arrayList** is of the list type and the value is **[1]**, you can use **FLOW.arrayList.add(2)** in the cache variable area to add an element whose value is **2** to the end of **FLOW.arrayList**. You can cache the result **[1,"2"]** to any variable of the list type. If a flow variable **FLOW.num** of the integer type whose value is **18** is available, you can also use **FLOW.arrayList.add(FLOW.num)** to add an element. The result is **[1,18]**. **NOTE** In **FLOW.arrayList.add(***value***)**, *value* can be a variable name. If *value* is a constant, the attribute value is of the string type by default regardless of whether double quotation marks are added. If *value* is a variable, the data type of the attribute value depends on that of the variable.

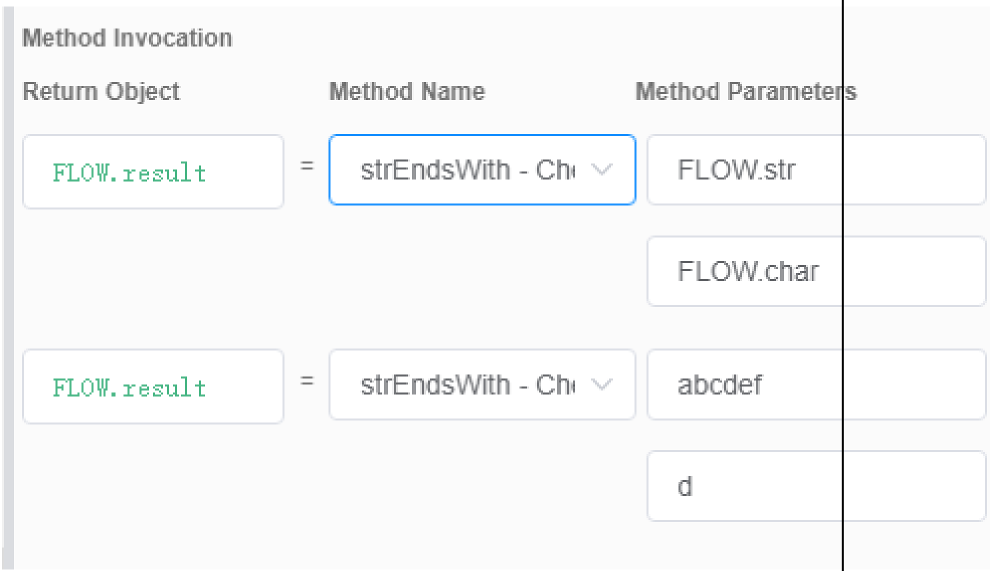
Table 2-111 String operation methods

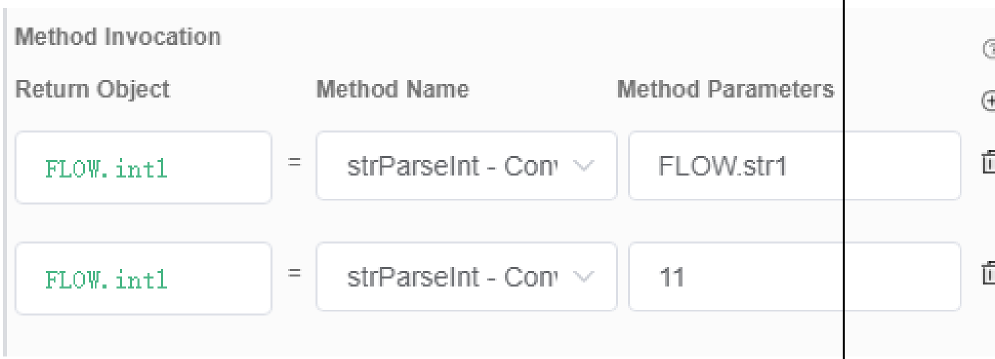
Function	Description
strSplit()	Splits a string based on a separator. The return object is the string array generated after splitting. There are two parameters: string to be split and separator. Example: If a flow variable **FLOW.str** is of the string type and the value is **"aa,cc,dd,ee"**, you can invoke this method in the method invocation area to split the string based on a separator (**,**). You can cache the splitting result to any variable (**FLOW.array**) of the list type. You can assign values to the method parameters using variables or manually. You do not need to add quotation marks when entering values for the method parameters (the same below). 

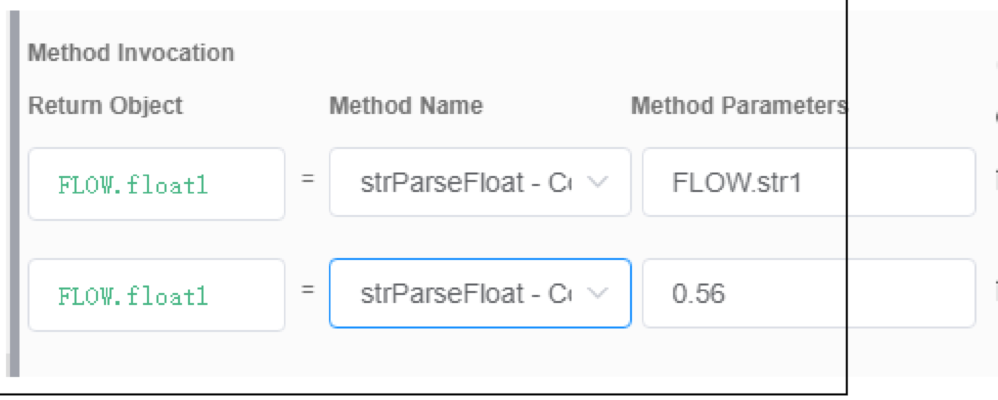
<table>
<tr><th>Function</th><th>Description</th></tr>
<tr><td>strSubstring( )</td><td>
Extracts a substring.
The return object is the extracted substring. There are three parameters: string to be truncated, start index (integer), and end index (integer). (The indexes start from 0, and the character with the end index is excluded.)
Example:
If a flow variable FLOW.str is of the string type and the value is "abcdef", you can invoke this method in the method invocation area to extract a substring based on indexes. You can cache the truncation result to any variable (FLOW.result) of the string type. You can assign values to the method parameters using variables or manually.


</td></tr>
</table>

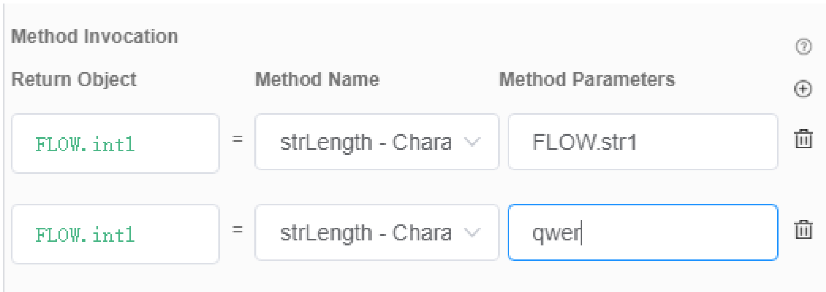
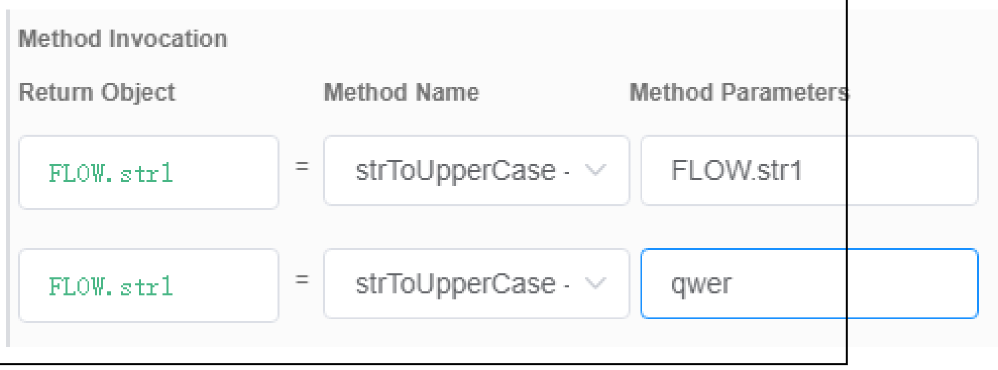
Function	Description
strIndex0f()	Obtains the index of the first occurrence of a specified string. The return object is an index, which is an integer. There are two parameters: string to be searched and specified string. Example: If a flow variable **FLOW.str** is of the string type and the value is **"abcdef"**, you can invoke this method in the method invocation area to obtain the index of the first occurrence of a specified string. You can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign values to the method parameters using variables or manually. 
strStartsWit h()	Checks whether a string starts with a prefix. The return object is the check result. The value is **0** or **1**. There are two parameters: string to be checked and prefix (string). Example: If a flow variable **FLOW.str** is of the string type and the value is **"abcdef"**, you can invoke this method in the method invocation area to check whether the string starts with a prefix. You can cache the check result to any variable (**FLOW.result**) of the integer type. You can assign values to the method parameters using variables or manually. 

Function	Description
strEndsWith()	Checks whether a string ends with a suffix. The return object is the check result. The value is **0** or **1**. There are two parameters: string to be checked and suffix (string). Example: If a flow variable **FLOW.str** is of the string type and the value is **"abcdef"**, you can invoke this method in the method invocation area to check whether the string ends with a suffix. You can cache the check result to any variable (**FLOW.result**) of the integer type. You can assign values to the method parameters using variables or manually. 
strParseJSON()	Converts a JSON string to an object. The return object is the JSON object generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.strJson1** is of the string type and the value is **{"a":"1","b":"2"}** in JSON format, you can invoke this method in the method invocation area to convert the string to an object. You can cache the result to any variable (**FLOW.obj1**) of the object type. You can assign a value to the method parameter using a variable or manually. 

<table>
<tr><th>Function</th><th>Description</th></tr>
<tr><td>strParseInt()</td><td>
Converts a string to an integer.
The return object is the integer generated after conversion. There is one parameter: string to be converted.
Example:
If a flow variable FLOW.str1 is of the string type and the value is "11", you can invoke this method in the method invocation area to convert the string to an integer. You can cache the result to any variable (FLOW.int1) of the integer type. You can assign a value to the method parameter using a variable or manually.


</td></tr>
<tr><td>strParseFloat()</td><td>
Converts a string to a floating point number.
The return object is the floating point number generated after conversion. There is one parameter: string to be converted.
Example:
If a flow variable FLOW.str1 is of the string type and the value is "0.56", you can invoke this method in the method invocation area to convert the string to a floating point number. You can cache the result to any variable (FLOW.float1) of the floating point number type. You can assign a value to the method parameter using a variable or manually.


</td></tr>
</table>

Function	Description
strLength()	Obtains the length of a string. The return object is the string length, which is an integer. There is one parameter: string whose length needs to be calculated. Example: If a flow variable **FLOW.str1** is of the string type and the value is **"qwer"**, you can invoke this method in the method invocation area to obtain the length of the string. You can cache the result to any variable (**FLOW.int1**) of the integer type. You can assign a value to the method parameter using a variable or manually. 
strToUpperCase()	Converts lowercase in a string to uppercase. The return object is the string generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.str1** is of the string type and the value is **"qwer"**, you can invoke this method in the method invocation area to convert all letters in the string to uppercase letters. You can cache the result to any variable (**FLOW.str1**) of the integer type. You can assign a value to the method parameter using a variable or manually. 

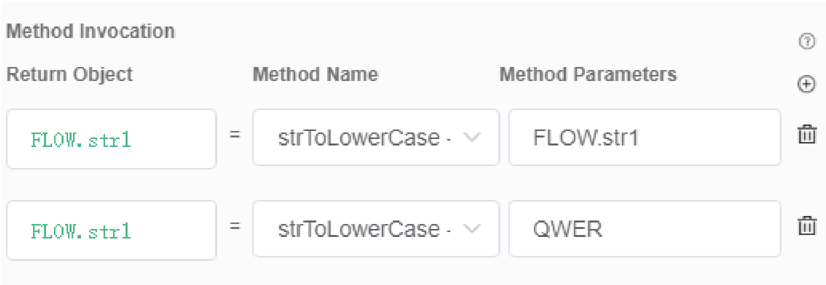
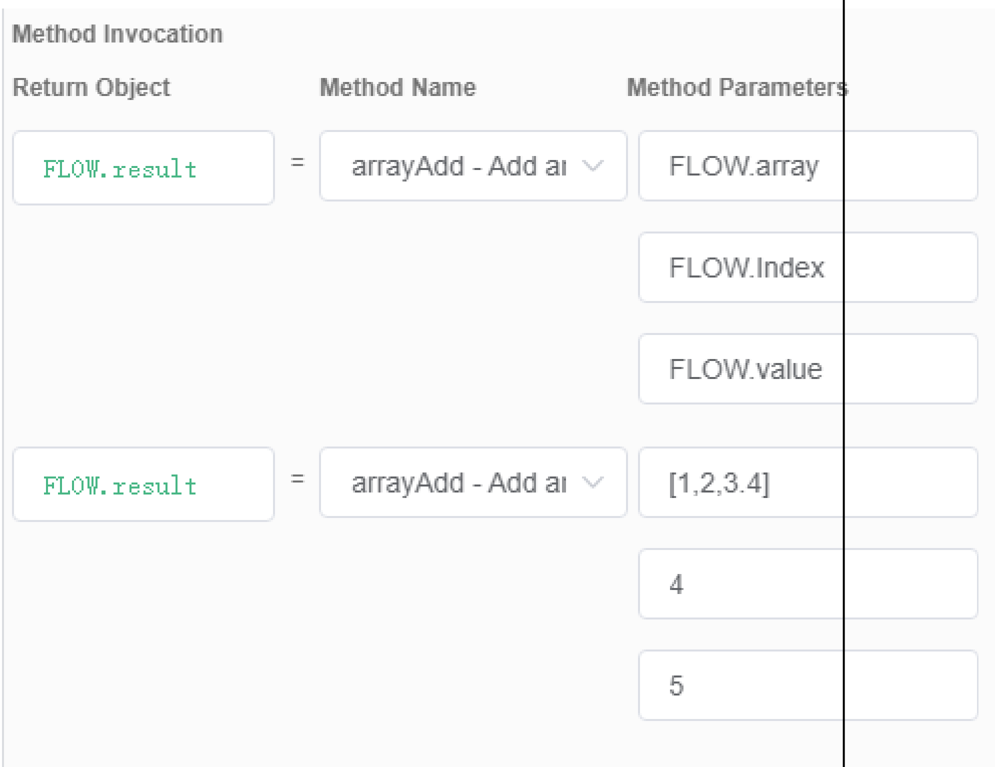
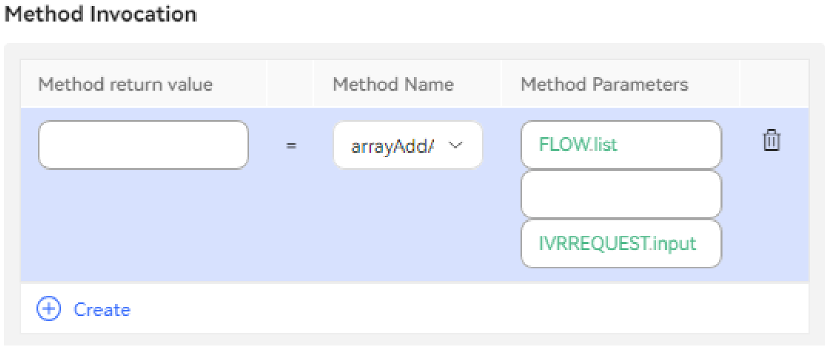
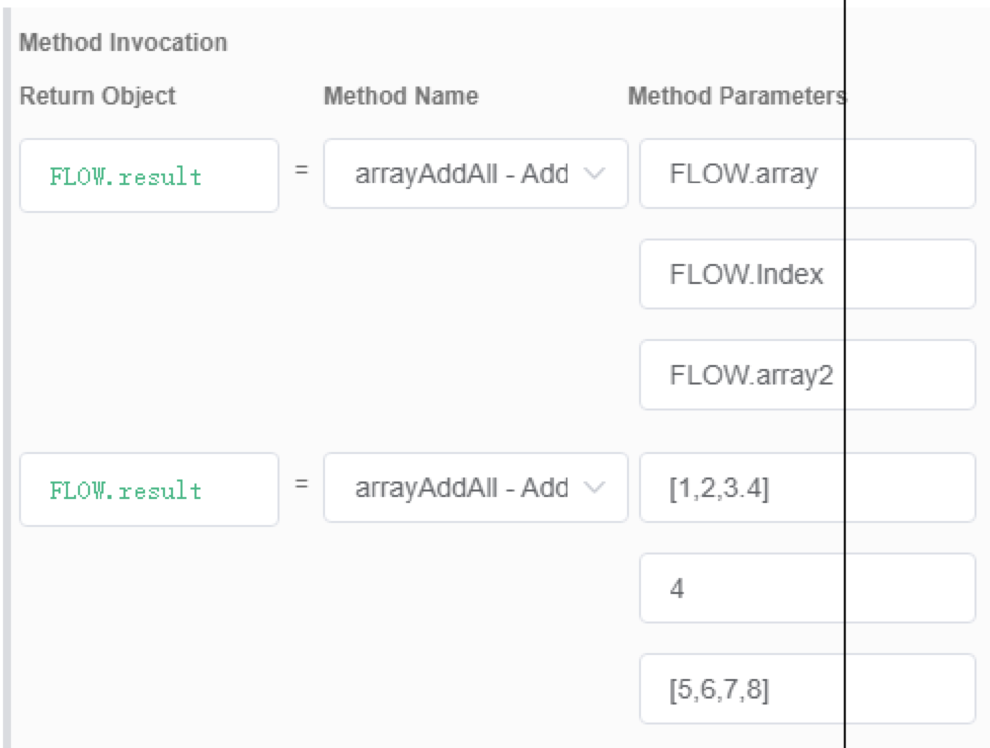
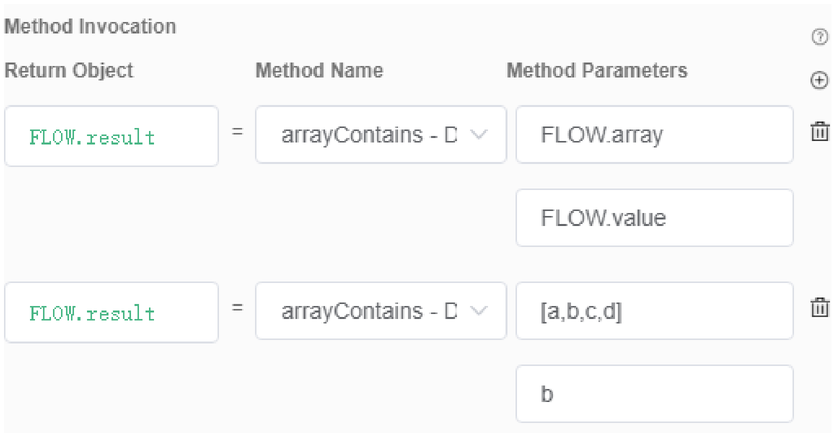
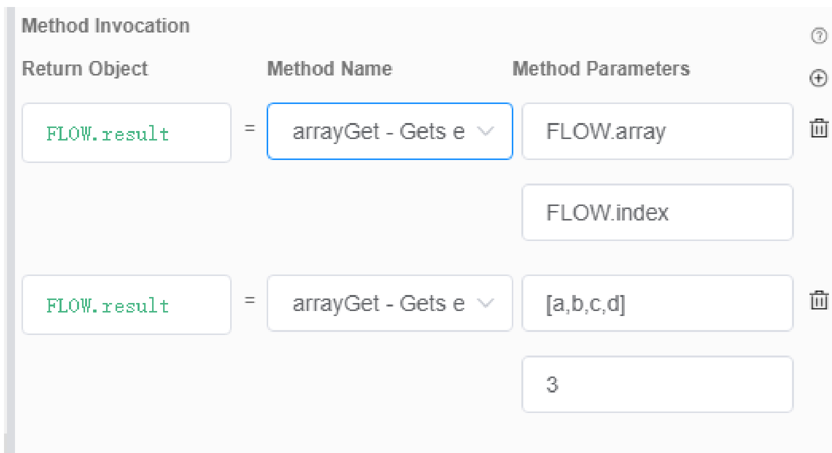
Function	Description
strToLowerCase()	Converts uppercase in a string to lowercase. The return object is the string generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.str1** is of the string type and the value is **"QWER"**, you can invoke this method in the method invocation area to convert uppercase in the string to lowercase. You can cache the result to any variable (**FLOW.str1**) of the integer type. You can assign a value to the method parameter using a variable or manually. 

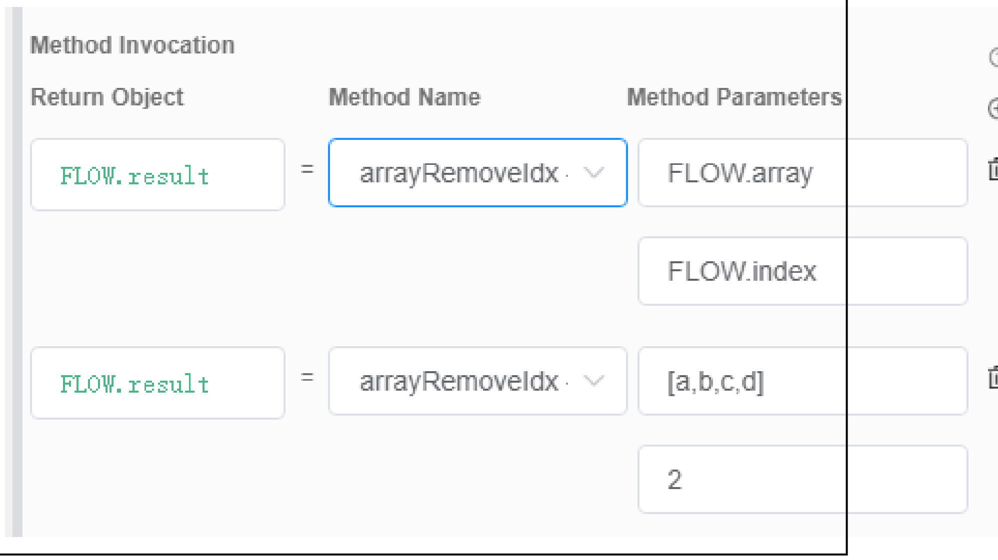
Table 2-112 Array operation methods

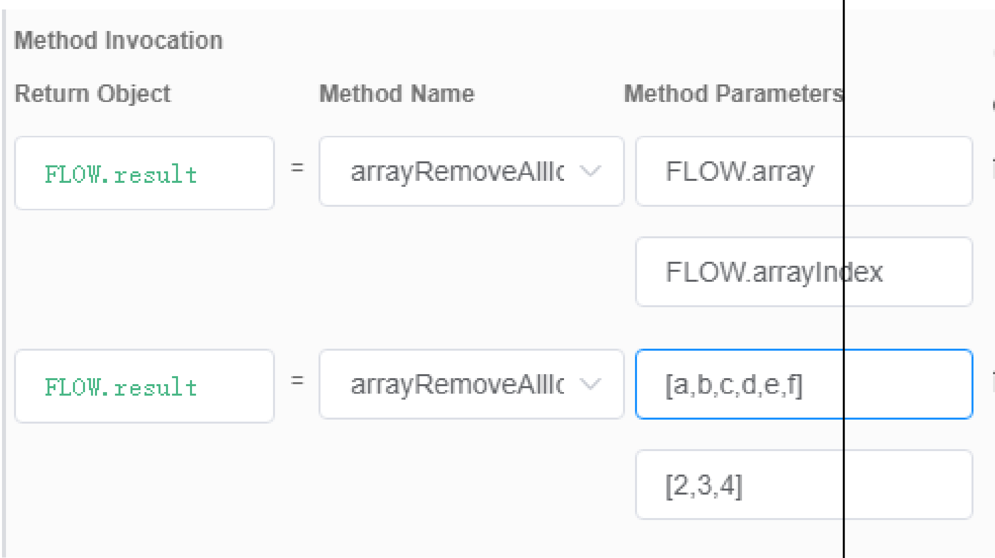
Function	Description
arrayAdd()	Adds an element to an array. The return value of this method is the flag indicating whether the addition is successful. If the addition is successful, **1** is returned. Otherwise, **0** is returned. There are three parameters: array to be modified, position of the addition (the element is added at the end by default if the parameter is left empty), and element to be added. Example: If a flow variable **FLOW.array** is of the list type and the value is **[1,2,3,4]**, you can invoke this method in the method invocation area to add an element to **FLOW.array**. The second parameter specifies the position (index) of the addition. You can cache the addition result to any variable (**FLOW.result**) of the integer type. After the addition is successful, the new value of **FLOW.array** is **[1,2,3,4,5]** and is stored in the cache until the flow ends or the value is changed again. You can assign values to the method parameters using variables or manually.  If you do not need to cache the flag indicating whether the addition is successful and only need to add data at the end of an array, you do not need to enter the return value of the method. In this case, the first method parameter is the array **FLOW.list** to be added, the second method parameter is left empty, and the third method parameter is the element to be

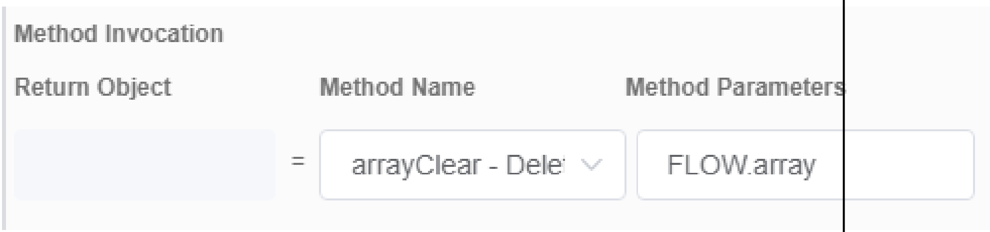
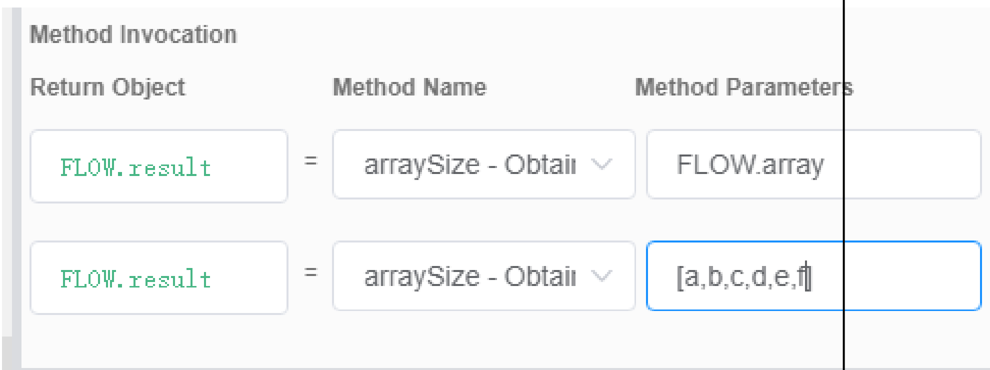
Function	Description
	added. **IVRREQUEST.input** in the following figure is the input of the user. 

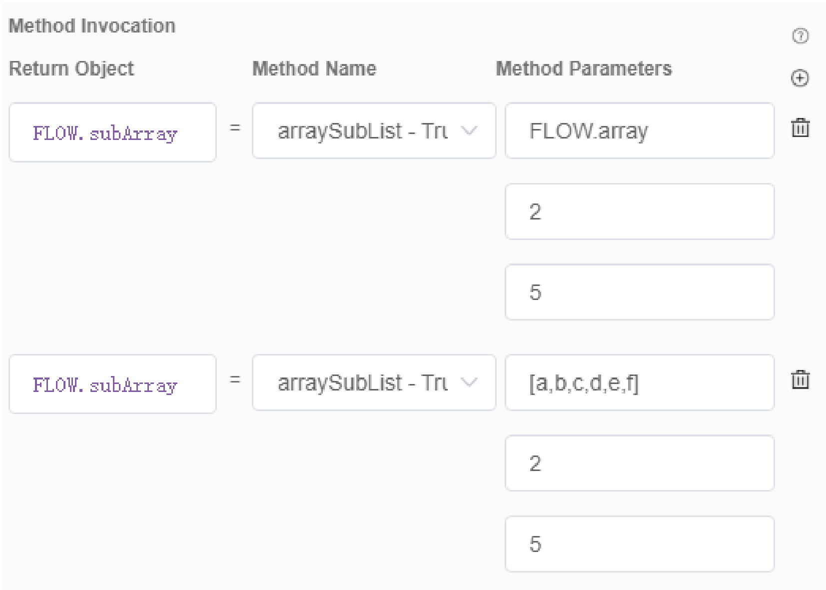
Function	Description
arrayAddAll()	Adds all elements in another set to an array. The return object is the addition result. The value is **1** (addition successful) or **0** (addition failed). There are three parameters: array to be modified, position of the addition (by default, the elements are added at the end), and elements to be added. Example: If flow variables **FLOW.array** and **FLOW.array2** are of the list type and their value are **[1,2,3,4]** and **[5,6,7,8]**, respectively, you can invoke this method in the method invocation area to add elements in another set to **FLOW.array**. The second parameter specifies the position (index) of the addition. You can cache the addition result to any variable (**FLOW.result**) of the integer type. After the addition is successful, the new value of **FLOW.array** is **[1,2,3,4,5,6,7,8]** and is stored in the cache until the flow ends or the value is changed again. You can assign values to the method parameters using variables or manually. 

Function	Description
arrayContains()	Checks whether an element is in an array. The return object is the check result. The value is **0** or **1**. There are two parameters: array to be checked and element. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to check whether an element is in **FLOW.array**. You can cache the return result to any variable (**FLOW.result**) of the integer type. You can assign values to the method parameters using variables or manually. 
arrayGet()	Obtains an element from an array based on an index. The return object is an array element. There are two parameters: array and index. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to obtain an element from **FLOW.array** based on an index. You can cache the return result to a variable (**FLOW.result**). You can assign values to the method parameters using variables or manually. 

Function	Description
arrayRemoveIdx()	Deletes an element from an array based on an index. The return object is the deletion result. The value is **1** (deletion successful) or **0** (deletion failed). There are two parameters: array and index. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to delete an element from **FLOW.array** based on an index. You can cache the deletion result to any variable (**FLOW.result**) of the integer type. After the deletion is successful, the new value of **FLOW.array** is **[a,b,d]** and is stored in the cache until the flow ends or the value is changed again. You can assign values to the method parameters using variables or manually. 

Function	Description
arrayRemoveAllIdx()	Deletes elements corresponding to an index set from an array. The return object is the deletion result. The value is **1** (deletion successful) or **0** (deletion failed). There are two parameters: array and index set. Example: If flow variables **FLOW.array** and **FLOW.indexArray** are of the list type and their values are **[a,b,c,d,e,f]** and **[2,3,4]**, respectively, you can invoke this method in the method invocation area to delete elements from **FLOW.array** based on an index set. The second parameter specifies the index set. You can cache the deletion result to any variable (**FLOW.result**) of the integer type. After the deletion is successful, the new value of **FLOW.array** is **[a,b,f]** and is stored in the cache until the flow ends or the value is changed again. You can assign values to the method parameters using variables or manually.  **NOTE** **FLOW.indexArray** is an index set of **FLOW.array**. Its elements support non-negative integers and cannot exceed the maximum index value of **FLOW.array**.

Function	Description
arrayClear()	Deletes all elements from an array. The return object is void. The text box is dimmed and cannot be edited. There is one parameter: array to be cleared. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to delete all elements from **FLOW.array**. After this method is invoked, the new value of **FLOW.array** is **[]** and is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable. 
arraySize()	Obtains the length of an array. The return object is the array length, which is an integer. There is one parameter: array whose length needs to be calculated. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d,e,f]**, you can invoke this method in the method invocation area to obtain the length of **FLOW.array**. You can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable or manually. 

Function	Description
arraySubList( )	Truncates and returns a part of an array. The return object is a subarray. There are three parameters: array to be truncated, start position of the truncation, and end position of the truncation. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d,e,f]**, you can invoke this method in the method invocation area to truncate a part of **FLOW.array**. You can cache the truncation result to any variable (**FLOW.subArray**) of the list type. The extracted value (**FLOW.subArray**) is **[c,d,e]**, includes the character with the start index, and excludes the character with the end index. You can assign values to the method parameters using variables or manually. 

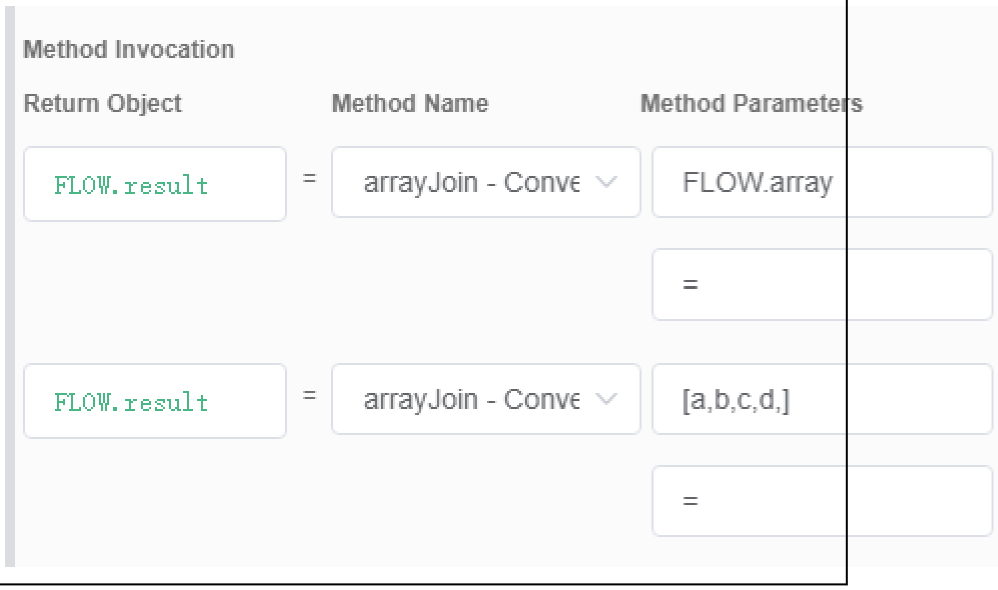
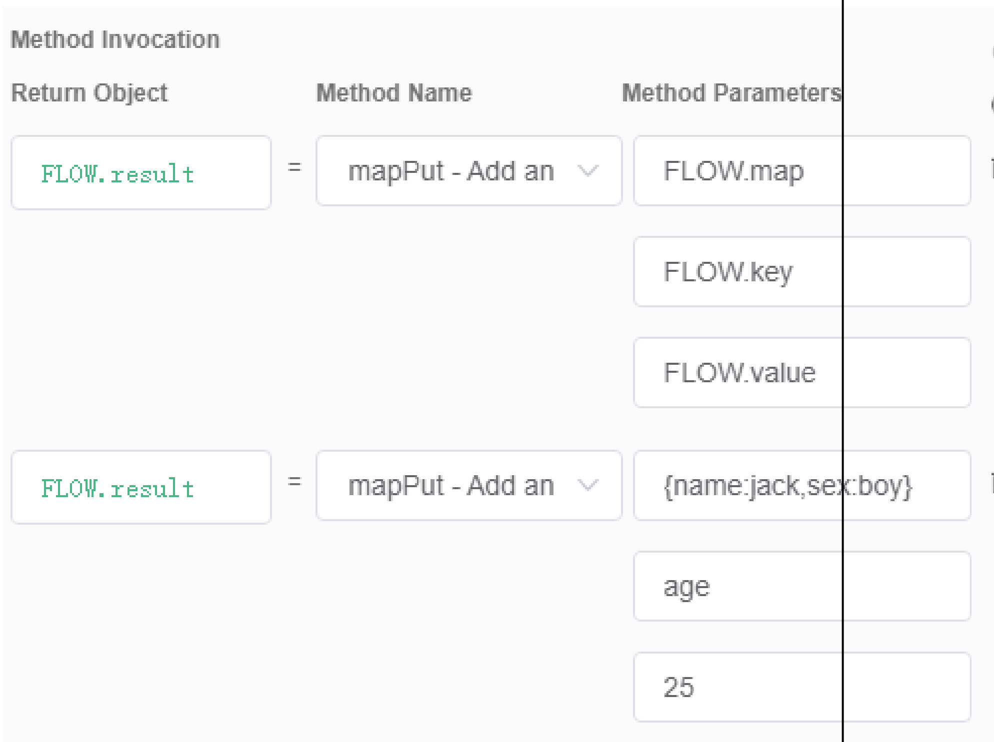
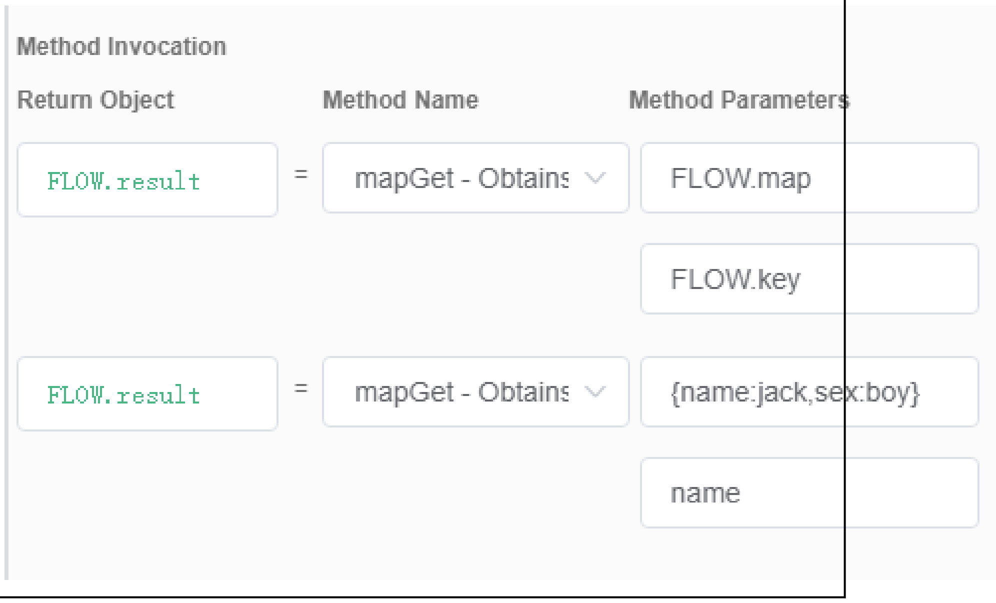
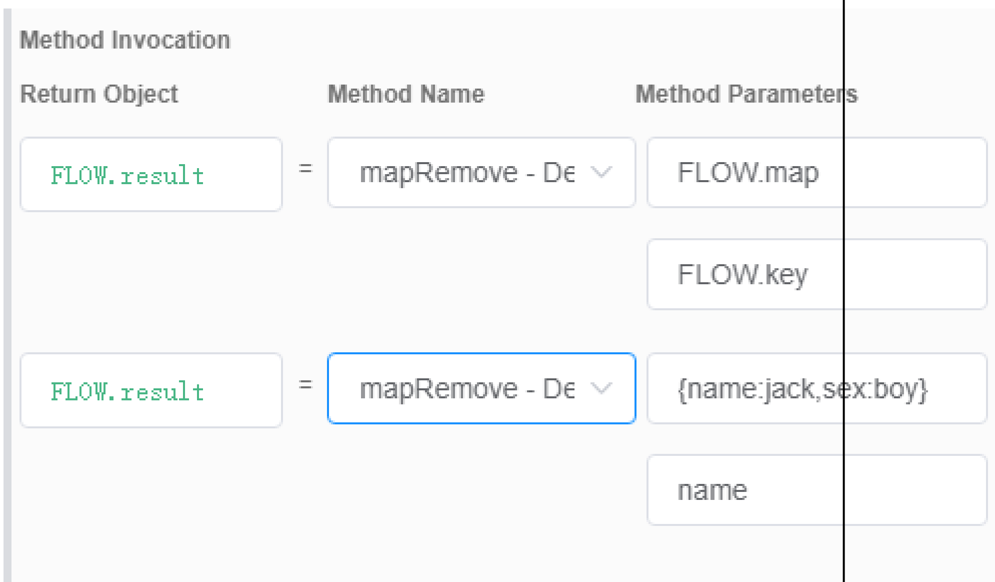
Function	Description
arrayJoin()	Converts an array to a string. The return object is the string generated after conversion. There are two parameters: array to be converted and connection string. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to convert the array to a string based on a symbol. You can cache the conversion result to any variable of the string type (**FLOW.result**). In the following example, the return result is **a=b=c=d**. You can assign values to the method parameters using variables or manually. 

Table 2-113 Map operation methods

Function	Description
mapPut()	Adds an element to a map. The return object is null if the key does not exist or the original value of the object type if the key exists. There are three parameters: map to be modified, key (only the string type is supported), and element to be added. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to add an element to **FLOW.person**. You can cache the addition result to a variable (**FLOW.result**). After the addition is successful, the new value of **FLOW.person** is **{"name":"Jack","sex":"boy","age":"25"}** and is stored in the cache until the flow ends or the value is changed again. You can assign values to the method parameters using variables or manually.  **NOTE** To manually assign values to the parameters of a variable of the object type, the values cannot be enclosed in double quotation marks. To use flow variables to assign values, refer to the preceding example. To add list data to a variable of the object type, the third parameter must be a predefined variable. You cannot directly enter an array in the text box. By default, the value in the text box is of the string type.

Function	Description
mapGet()	Obtains the value of a key in a map. The return object is the value of the key. There are two parameters: map to be processed and key (only the string type is supported). Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to obtain the value of a key in the map. You can cache the obtained result to a variable (**FLOW.result**). You can assign values to the method parameters using variables or manually. 

Function	Description
mapRemove( )	Deletes a key-value pair from a map. The return object is the original value of the key in the map or null if the map does not contain the key. There are two parameters: map to be processed and key (only the string type is supported). Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to delete a key-value pair from the map. You can cache the deletion result to a variable (**FLOW.result**). After the deletion is successful, the new value of **FLOW.person** is stored in the cache until the flow ends or the value is changed again. You can assign values to the method parameters using variables or manually. 

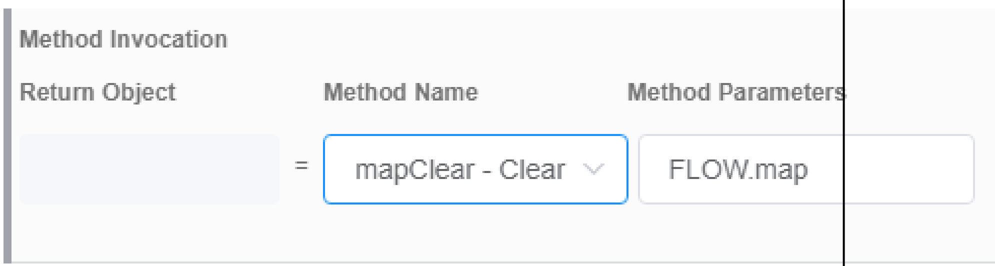
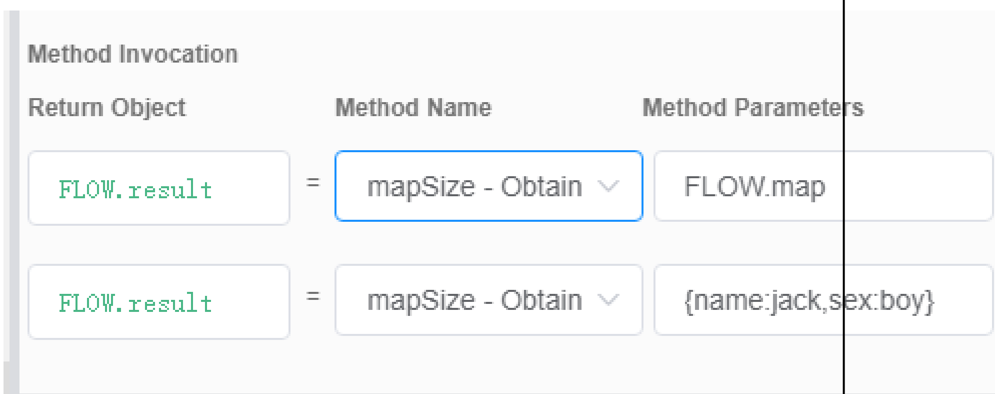
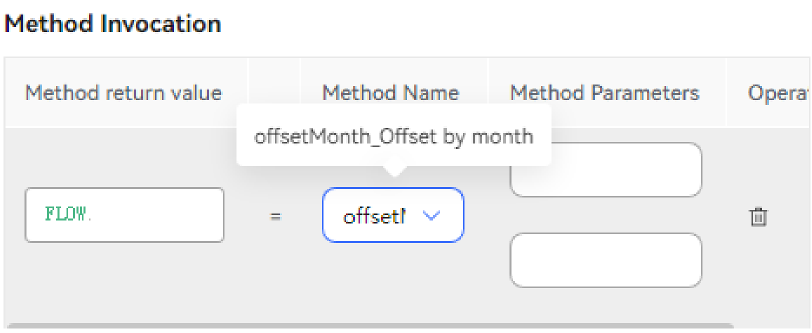
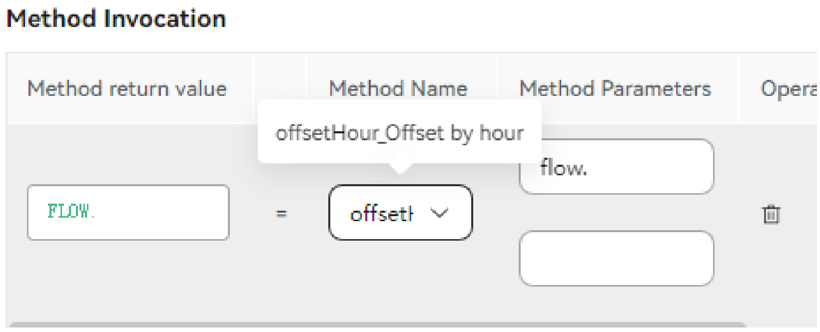
Function	Description
mapClear()	Deletes all key-value pairs from a map. The return object is void. The text box is dimmed and cannot be edited. There is one parameter: map to be cleared. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to clear all key-value pairs from the map. After this method is invoked, the new value of **FLOW.person** is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable. 
mapSize()	Obtains the total number of keys in a map. The return object is the number of keys in the map, which is an integer. There is one parameter: map whose number of keys needs to be calculated. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to obtain the total number of keys in the map. After this method is invoked, you can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable. 

Table 2-114 Data operation methods

Function	Description
offsetMonth( )	Offsets data by month. The return object is the offset data, which is a string. There are two parameters. One is the time variable to be offset, whose value is a string in the format of *yyyyMM*, for example, **202308**. The other is the offset, whose value is an integer and can be negative, for example, **-6** (indicating that the source string is offset six months forward). Example: If a flow variable **FLOW.date** is of the string type and the value is **202308**, you can invoke this method in the method invocation area to obtain the offset date. After this method is invoked, you can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable. 

Function	Description
offsetHour()	Offsets data by hour. The return object is the offset data, which is a string. There are two parameters. One is the time variable to be offset, whose value is a string in the format of *yyyyMMddHHmmss*, for example, **20230808122020**. The other is the offset, whose value is an integer and can be negative, for example, **-6** (indicating that the source string is offset six hours forward). Example: If a flow variable **FLOW.date** is of the object type and the value is **20230831165801**, you can invoke this method in the method invocation area to obtain the offset hour. You can cache the obtained result to a variable (**FLOW.result**). You can assign values to the method parameters using variables or manually. 

2.6.2.6 FAQs

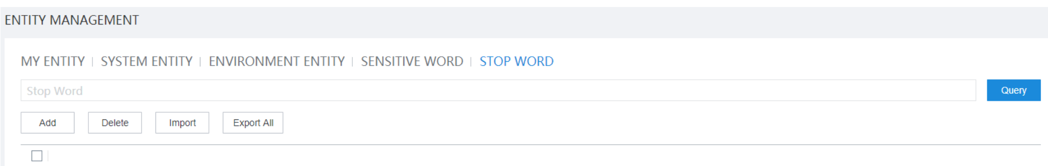
2.6.2.6.1 Why Do I Need to Configure Stop Words?

During the intention configuration, it is found that the **Are you a Robot** corpus is configured in intention A. However, during the actual test, the input **are you a robot** matches other corpuses. Why?

In the system, **Are** is not configured as a stop word, the chatbot restores the word **are** to **be**, and the word form **is** in the corpus is also restored to **be**. As a result, when **are you a robot** is entered, the system matches other intentions based on the corpus. This problem can be resolved by configuring a stop word.

Some words in the actual language have no actual meaning and only serve as a join, for example, be verbs in English. To prevent these words from participating in semantic parsing, you need to add these words as stop words on the **STOP WORD** tab under **Knowledge Management > Entity Management**.

Figure 2-235 Stop word list



2.6.2.6.2 Why Are Some Intentions Matched Despite Low Matching Rates?

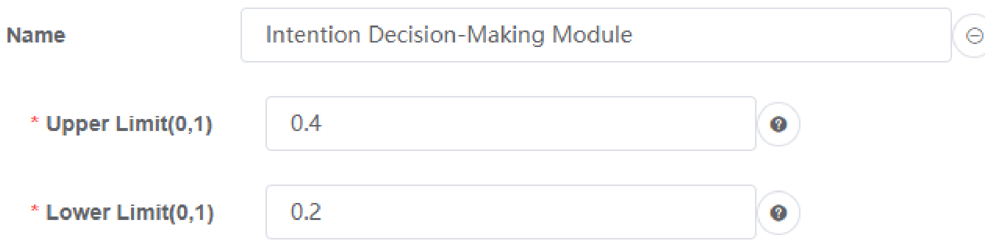
After the information entered by the user is parsed by the TUC, a matching rate is generated. The matching rate is compared with the matching rate threshold defined in the system to determine whether the intention is matched or not.

Configure the matching rate under **System Management >System Configuration > Intelligent Engine Parameter Configuration** > **Intention Parameters**.

NOTICE

Improper settings of intention parameters will cause the semantic recognition module to run abnormally or decrease the accuracy. Therefore, exercise caution when setting intention parameters under the guidance of engineers.

Currently, the intention decision module has two parameters:



If the matching rate is greater than the value of **Upper Limit**, the intention is matched and returned. If the matching rate is less than the value of **Lower Limit**, the intention is regarded as an unknown intention. If the matching rate is between the values of **Lower Limit** and **Upper Limit**, the intentions are also regarded as matched intentions. That is, in the configuration, as long as the intention matching rate is greater than 20%, the intention is matched.

2.6.2.6.3 Why TTS Cannot Identify the Date Format?

Description

During dialog identification in Spanish, the text to speech (TTS) plays a character string in *YYYYMMDD* format (for example, 20190801) as a number instead of as the year, month, and date. This affects the customer experience. Therefore, measures must be taken so that a character string in *YYYYMMDD* format is played as expected.

Analysis

It is found that the obtained ODFS system date **SYS.systemDate** and the obtained TUC slot date entity value are both in *YYYYMMDD* format. They do not support automatic format conversion. Therefore, engineers preliminarily suspect that the TTS system used onsite has a specific requirement on the date format.

According to the interconnection commissioning of the TTS provided by the site, a date string in *YYYY/MM/DD* format (2019/08/01) can be played as expected.

Therefore, the data format needs to be converted before the voice is played to resolve the problem.

Solution

Add a **Business interface invoke** diagram element next to the **Semantic recognition** diagram element, and convert the format of the slot variable value in the **Semantic recognition** diagram element by using the Java string processing function substring().

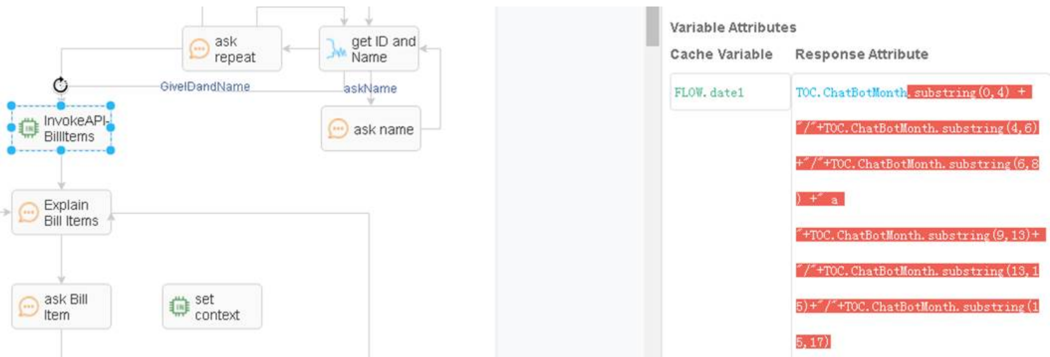
Specific parameter value:

TOC.ChatBotMonth.substring(0,4)+"/"+TOC.ChatBotMonth.substring(4,6)+"/"+TOC.ChatBotMonth.substring(6,8)+ " a "+TOC.ChatBotMonth.substring(9,13)+"/"+TOC.ChatBotMonth.substring(13,15)+"/"+TOC.ChatBotMonth.substring(15,17)

NOTE

Month: slot variable name obtained when the semantic identification diagram element is executed. In the system, it is represented by **TOC.ChatBotMonth**.

For details about how to use slot variables, see **2.6.2.5.2 Parameters**.



2.6.2.6.4 How Do I Configure the Scenario Where Multiple Slots Are Filled Repeatedly?

Description

To enable a customer to interact with the chatbot to order a meal, the system needs to obtain the slot information such as the order date, time, and number of diners. The slot information that has been filled in needs to be updated at any time during the interaction with the robot.

For example, when a customer says "6:00 p.m. tomorrow, three persons", the system needs to record the information in the slots. When the customer changes his or her mind and says "7:00 p.m." during confirmation, the system needs to fill the new time in the slot.

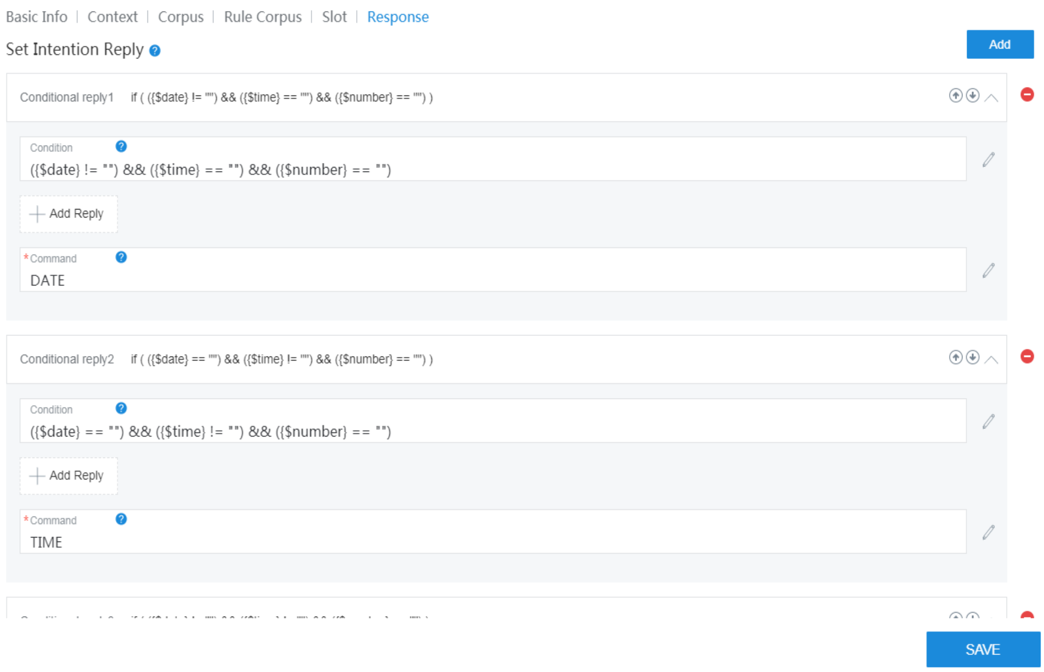
The existing processing mode of the ODFS has the following problem: If the system uses mandatory slot information verification of the intention template, the slot information that needs to be updated cannot be updated immediately. If the system clears the context to fill in the slots again, the slots that do not need to be updated are also cleared.

Solution

Use the following method to support the scenario where a customer changes information repeatedly in multiple rounds of dialogs:

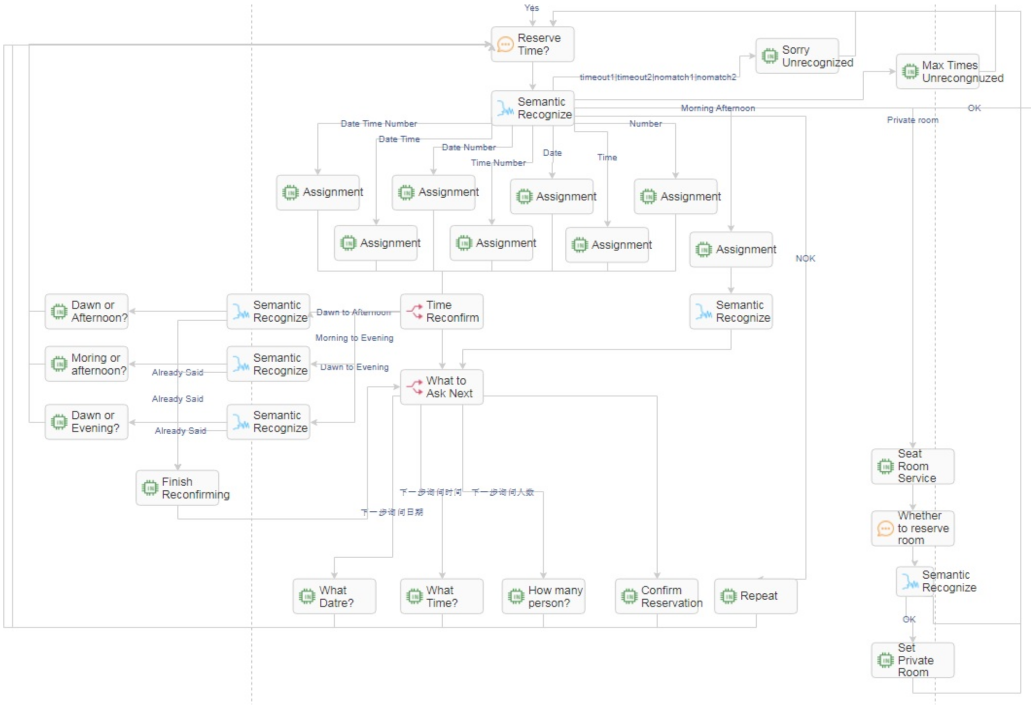
Step 1 During intention template configuration, all slots are made optional slots. In this way, the TUC does not cache the filled slots in an intention. Wait for the next interaction to obtain the information about the next slot. In this way, the problem of failing to update filled slots is avoided.

Step 2 Add the judgment logic for returning different command words based on slot information on the **Response** tab page.



Step 3 On the flow orchestration page, the system determines the branch of the command word returned by the intention based on the flow and plays different voices accordingly.

For each identification interaction, slots are filled. Different intention codes are returned to the dialog flow for one or more slots filled. The dialog flow caches the slot information obtained in each interaction to the flow variables. In this way, the content filled in the slots can be updated according to the information cached by the ODFS each time the identification is performed.



----End

2.6.2.6.5 How Do I Resolve the Problem of Infinite Loop During Interaction Between the IVR and ODFS?

Description

When the voice fails to be played in the IVR dialing test due to reasons such as the TTS connection exception or the file non-existence, the flow ends abnormally. The check of the IVR and ODFS logs shows that the infinite loop may occur. The main symptom is that the TTS keeps reporting the system error.

Analysis

When the IVR fails to play the voice returned by the system, the IVR sends a sys_err request to the OIAP system. The system cannot process the sys_err request again and triggers an exception. However, the system does not find the exception subflow in the dialog flow, and therefore the default abnormal TTS content of the IVR is returned.

The IVR fails to play the default TTS content and continues to send the sys_err request to the OIAP. The OIAP continues to trigger an exception. Even if the customer hangs up, the IVR business fails to capture the hang-up event. The IVR simply continues sending the sys_err request. As a result, an infinite loop occurs.

Based on the preceding analysis, the possible causes are as follows:

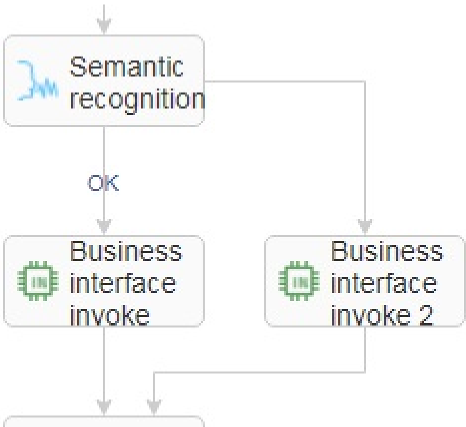
- The sys_err intention is not configured or identified.
- No abnormal condition branch is configured in the dialog flow.

Solution

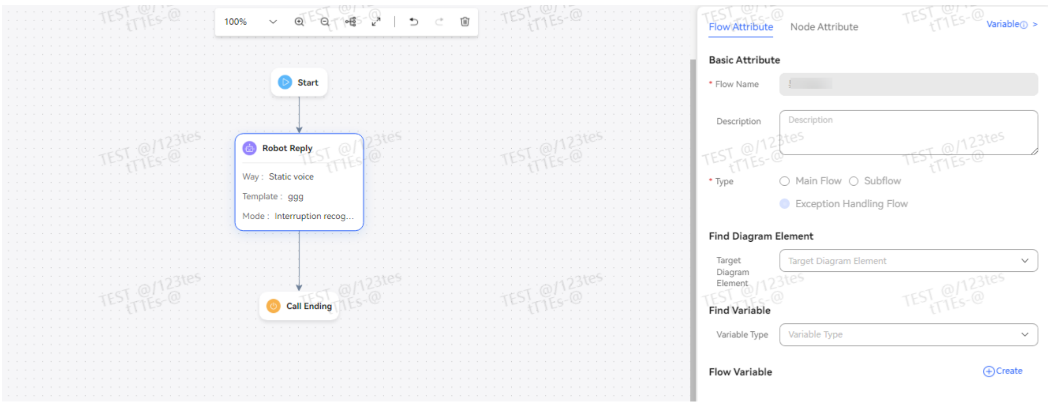
Check the intention templates and dialog flows as follows:

- Check whether the branch judgment is comprehensive.

1. When defining condition branches for diagram elements, ensure that the set of all conditions contains all normal and abnormal scenarios. If some scenarios are omitted, some actual result may fail to match any of the configured branches. If no condition is selected for the subsequent connection line of a diagram element, the connection line is the default branch. The connection line of this branch must be processed.



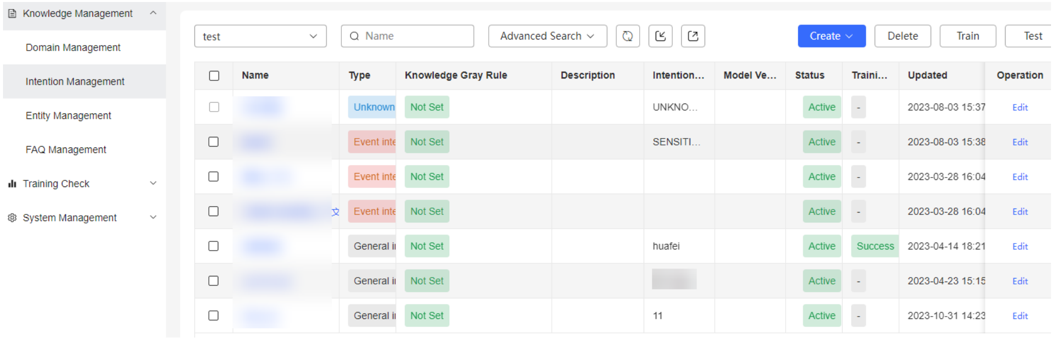
2. An exception subflow needs to be created in the dialog flow. In the subflow, a system exception voice can be simply played. The system only needs to support voice playback and does not need to support key pressing and identification. After the voice is played, the flow ends directly.



- Check whether unknown intentions are configured in the intention template.

  In 8.9.0 and 8.10.0, several common intention templates have been preset in the new domain. Ensure that these templates are not deleted. If no unknown intention exists, configure one and ensure that **Command** on the **Response** tab page of the unknown intention is set to **UNKNOWN_INTENT**, as shown in **Figure 2-236**.

Figure 2-236 Unknown intention configuration page



2.6.2.6.6 How Do I Configure the Number of Voice Recognition Errors in a Flow?

Description

During the semantic identification, the dialog flow provides the default maximum number of errors. The processing mechanism is as follows:

1. If the IVR identification times out, the system records a timeout error.
2. If the IVR identification is incorrect or the intention template rejects the identification, the system records a nomatch error.
3. The OIAP accumulates the total number of timeout errors and rejection errors. When the accumulation reaches three, the OIAP records an error3 condition by default.

NOTE

The accumulation is performed on the same IVR identification diagram element.

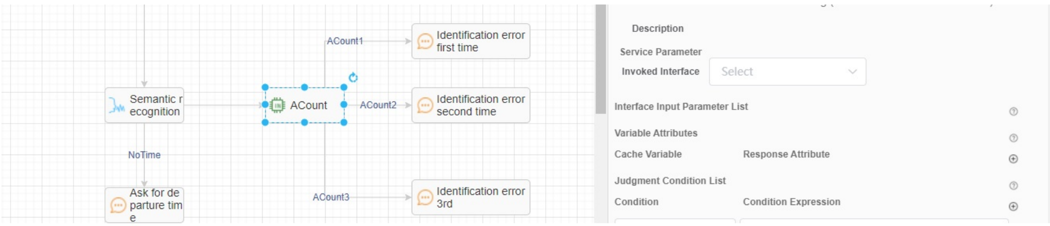
The preceding fixed rules apply only to the same identification scenario. The stop condition is that the total number of timeout errors and rejection errors reaches three.

However, the preceding rule does not apply to the scenarios where the number of timeout errors and the number of rejection errors are counted separately, where the number of errors in more than one identification is counted together, where the errors are accumulated in other error scenarios, or where the number of error times is greater than three.

Solution

If the default rule does not meet requirements, use the business number counting rule as follows:

Use the business interface invoking diagram element to customize counting variables. The levels GLOBAL and FLOW can be selected in different counting scenarios. Different branches can be set for the recognition timeout and rejection scenarios, and the corresponding times accumulation diagram elements can be connected.



The system determines the branch to select based on the error times variable, for example, the branch for playing an error voice or the branch for directly returning and replaying the prompt voice again.

2.6.2.6.7 How Do I Configure an Entity That Matches Any Character String?

The preset entity **system.any** can return only the entire sentence of a subscriber, but cannot return a slot in a sentence. To obtain a slot in a sentence, you need to develop rules. If the programmer says "add a button, 5 cm long, 2 cm high, button name is click", or "add a button, button name is click, 5 cm long, 2 cm high", you can define rules by using rule entities to distinguish whether the button name is "click" or "click, 5 cm long, 2 cm high", and to correctly extract the entity.

2.6.2.6.8 What Causes Incorrect ASR?

1. Mixed accents, for example, a mixed accent of British and American.
2. Poor voice quality due to factors such as packet loss and jitter.

2.6.2.6.9 How Do I Transfer the Disconnection Reason Code to the Specified Business Interface?

When a call is disconnected, a specified interface may be required to report the disconnection reason code. To implement this function, you need to define the specified interface on the **Business Interface** page, create an exception flow, and record the disconnection reason code in the flow using a global variable.

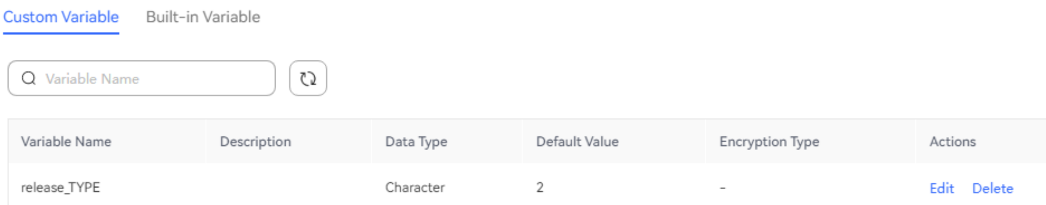
Clarify the types of call disconnection reasons. From the perspective of participants, the reasons can be classified into the following types:

- 1. A customer hangs up the call. Assume that the reason code is **2**.
- 2. The call is disconnected when the flow ends normally. Assume that the reason code is **0**.
- 3. The call is disconnected when the flow ends abnormally. Assume that the reason code is **1**.

This section describes how to configure the flow, variable, and interface to report the three types of disconnection reason codes to the specified interface.

Step 1 Define a global variable to identify the disconnection reason.

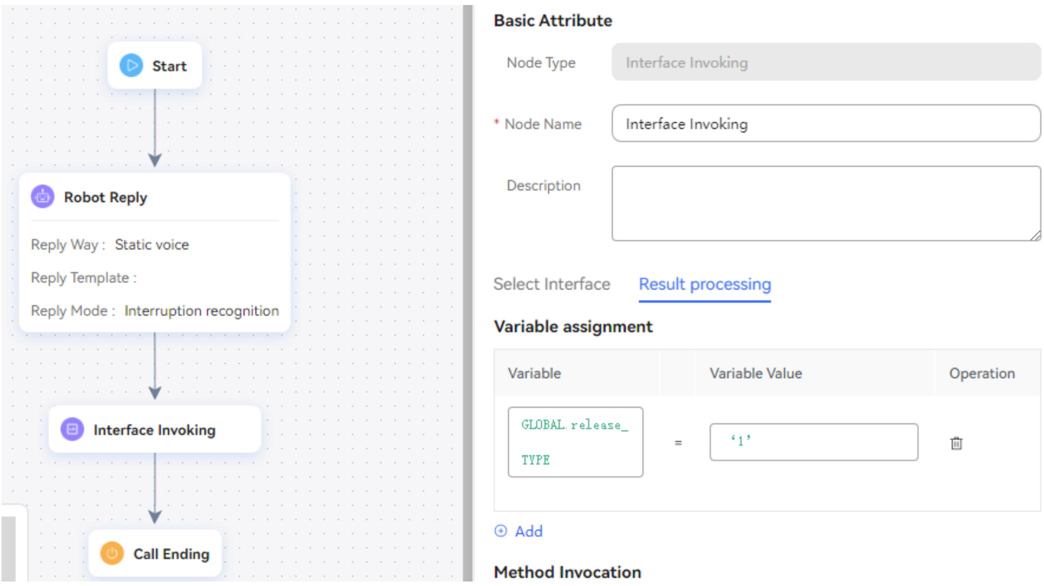
When adding a global variable, specify the default value, which must be the reason code for calls disconnected by customers. For example, set the global variable name, data type, and default value to **release_type**, **Character**, and **2**, respectively, as shown in the following figure.



Step 2 Add an exception flow and set the reason code for abnormal disconnection.

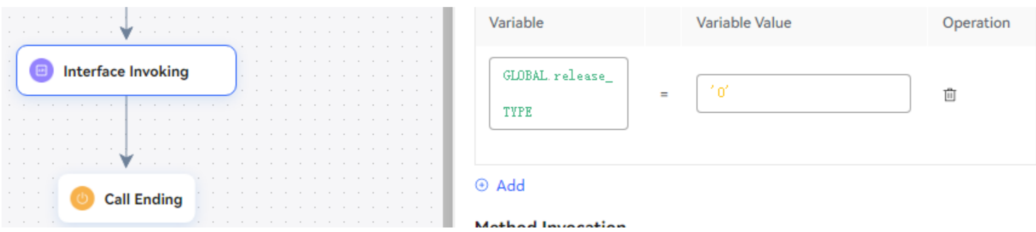
Create a flow by referring to **2.6.2.2.5 Adding Flows** and set **Scenario Type** to **Exception Flow**. Generally, a **Robot Reply** diagram element is required in an exception flow to play etiquette expressions about causing the inconvenience, for example, "Sorry, we are facing some technical issues. Please try after some time. Thank you."

Use the **Interface Invoking** diagram element to assign a value to the global variable, indicating the reason code of abnormal disconnection in the flow. In this example, set the global variable to **1**. Use the **Call Ending** diagram element to end the call in an exception flow.



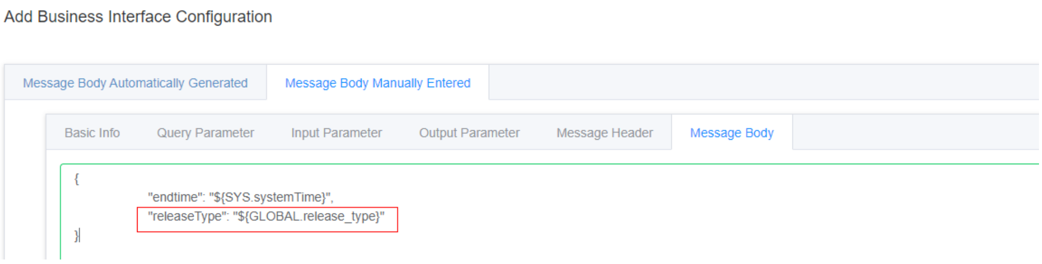
Step 3 Set the reason code of normal disconnection in front of the **Call Ending** diagram element in a normal flow.

You do not need to change the logic of the current normal flow. You only need to add an **Interface Invoking** diagram element in front of the **Call Ending** diagram element in a normal flow and assign a value to the global variable, indicating the reason code of normal disconnection in the flow. In this example, set the global variable to **0**. The following is an example.



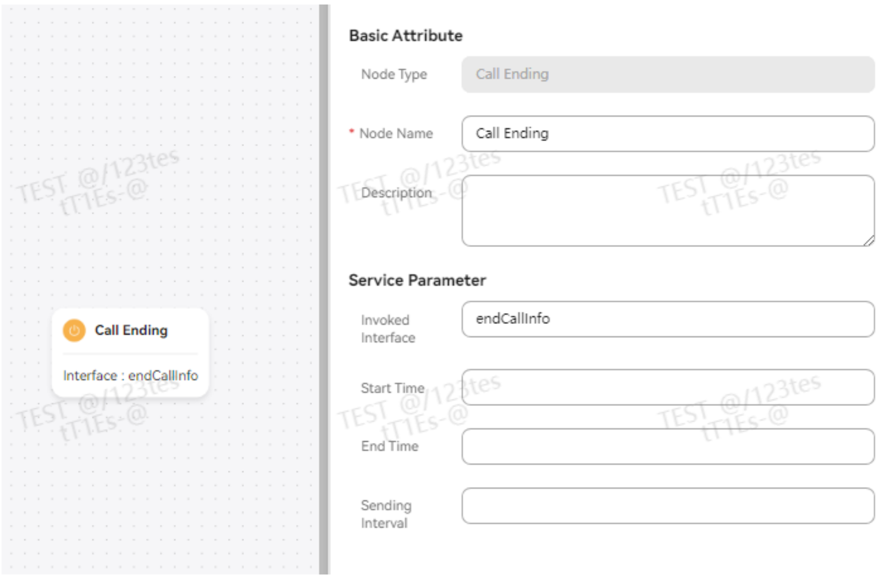
Step 4 Set the parameters for the specified interface.

Add a business interface based on the interface information provided by the business side by referring to section 4.1.1. However, set the preceding variable that indicates the disconnection reason code to the input parameter of the message body in the interface, as shown in the following figure.



Step 5 Invoke the specified interface for the **Call Ending** diagram element in the main flow.

By referring to **Call Ending**, invoke the configured interface for the **Call Ending** diagram element in the main flow to report different reason codes after a flow disconnects a call.



----End

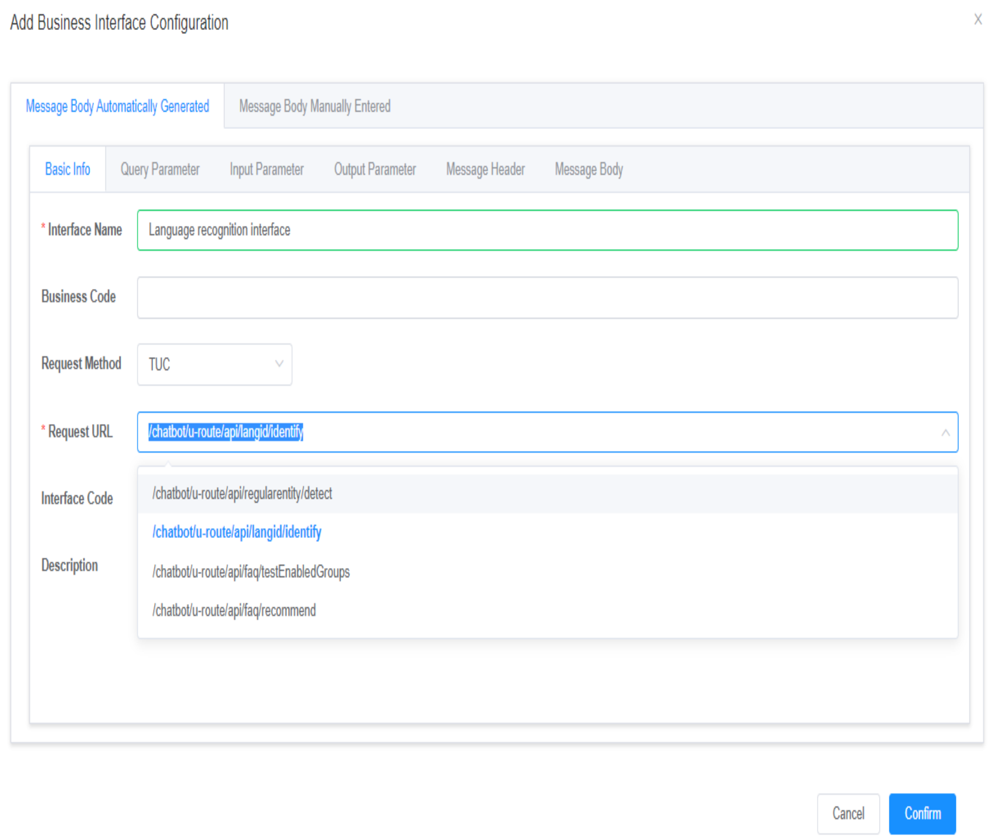
2.6.2.6.10 How Do I Configure the Language Recognition Interface?

The OIAP provides the language recognition interface. You can invoke the interface by configuring the **Business interface invoking** diagram element in a flow. The interface supports Chinese, English, Arabic, and Spanish. When you configure an OIAP multi-language flow, the configuration of the language recognition interface is mandatory.

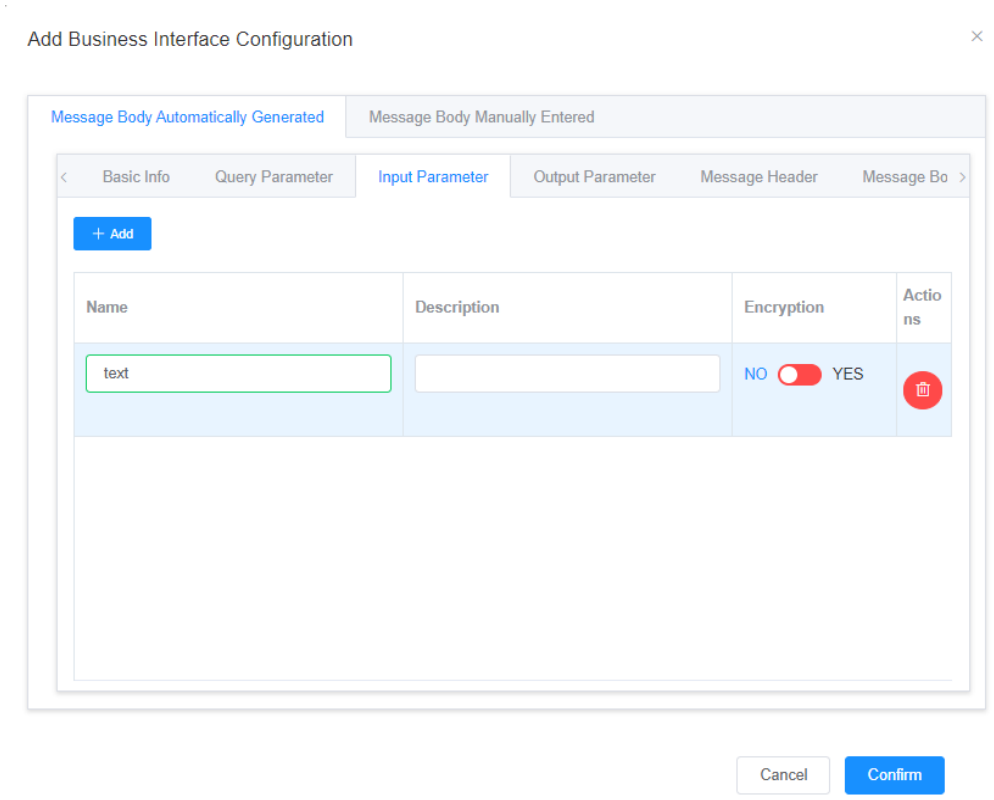
Step 1 Add the language recognition interface to the **Business interface invoking** diagram element.

1. Choose **Resource Management** > **Business Interface** to add an interface. Select **Message Body Automatically Generated**, set **Interface Name**,

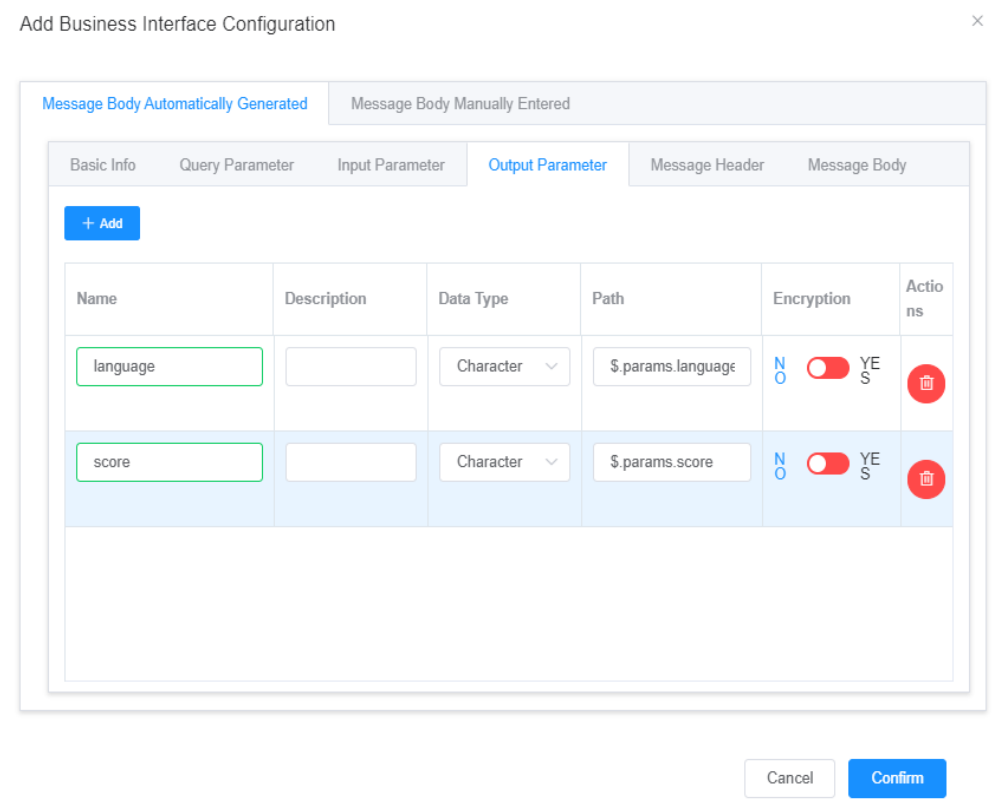
Request Method, and **Interface Code** to **Language recognition interface**, **TUC**, and **/chatbot/u-route/api/langid/identify**, respectively.



2. Enter input parameters, as shown in the following figure.

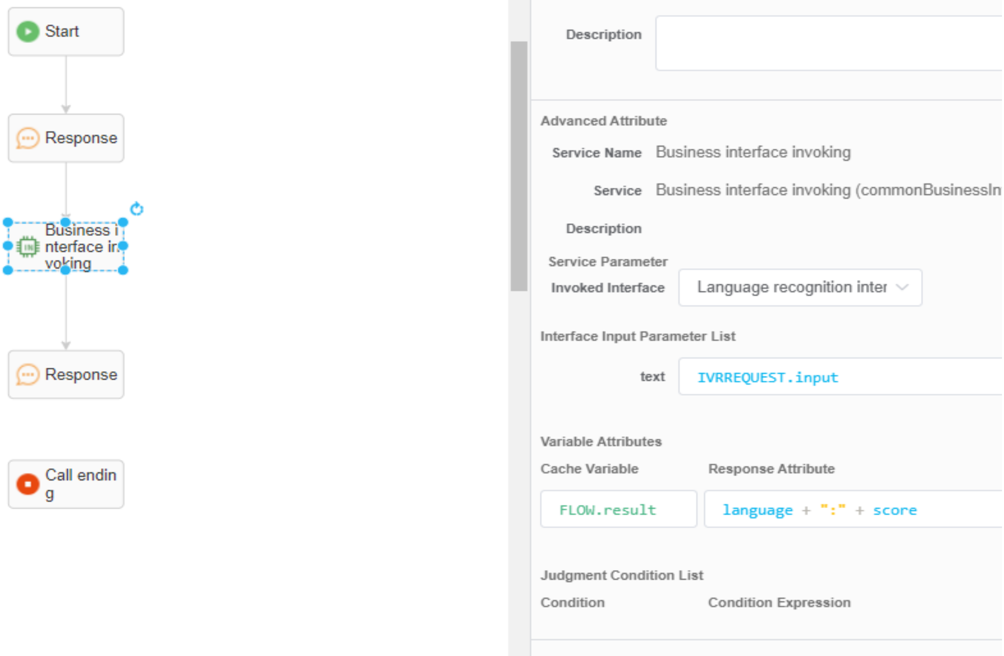


3. Enter output parameters, as shown in the following figure.



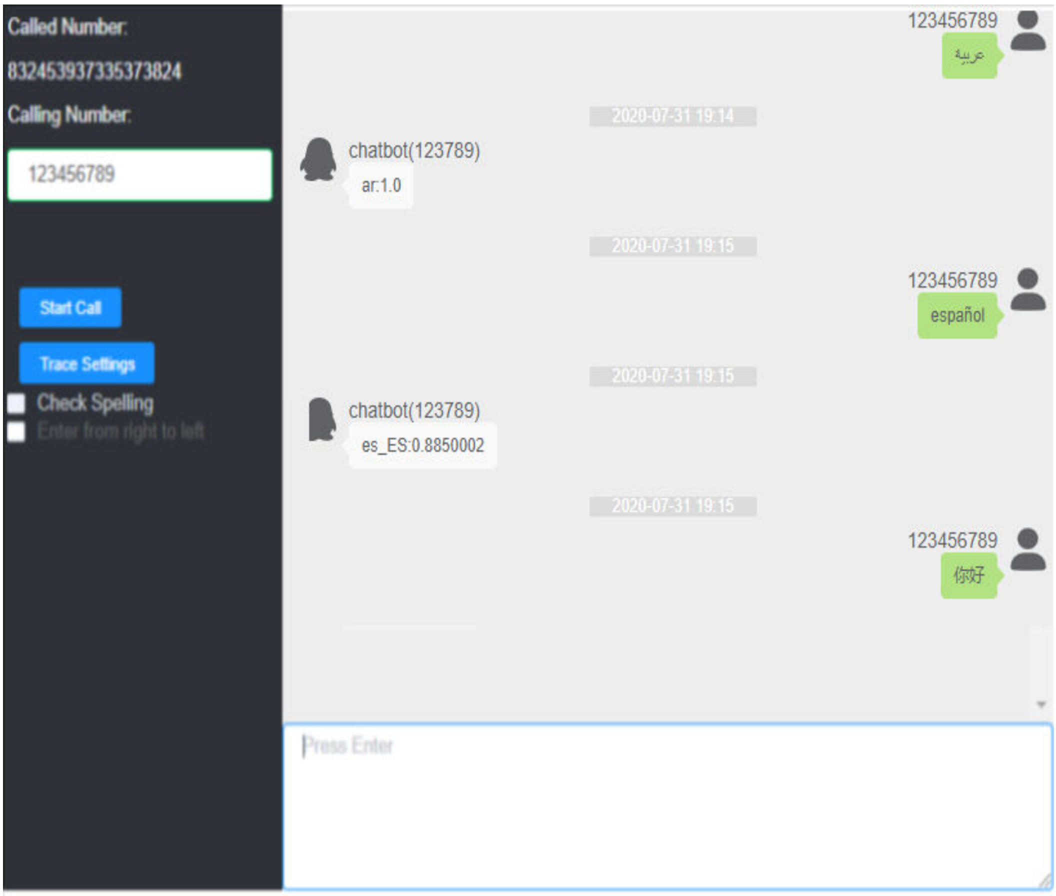
Step 2 Use the language recognition interface in a flow.

Select the **Business interface invoking** diagram element, set **Invoked Interface** in the **Service Parameter** area and **text** in the **Interface Input Parameter List** area to **Language recognition interface** and **IVRREQUEST.input**, respectively. The **language** and **score** output parameters can be directly referenced in the variable.



Step 3 Test result.

The call result is as follows.

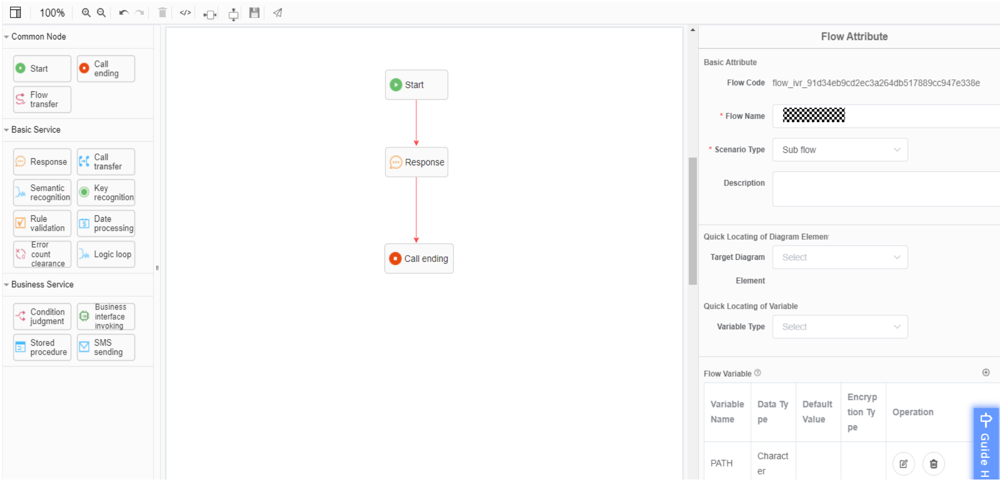


----End

2.6.2.6.11 How Do I Configure Dynamic Flow Variables?

In the integrated environment, when the **Template Type** is set to **Static voice** or **Video file** on the **Resource Template** page, the button **Enable dynamic settings for flow variables** is displayed next to the template type. After the function is enabled, you can enter flow variables in the content text boxes. After the variables are set, their static voice or video file paths can be obtained in the business flow.

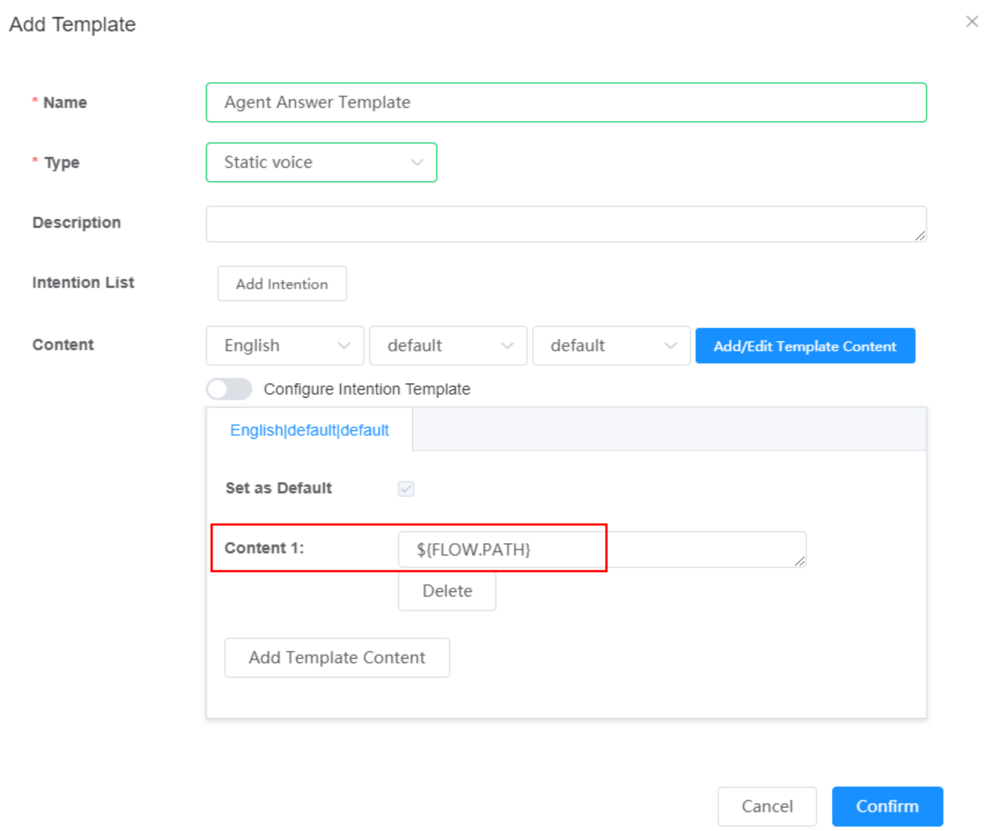
1. Choose **Flow Management > Flow Orchestration** and click **Add** to create a flow. Click ⊕ in the lower right corner, create a flow variable, and click **Confirm**.



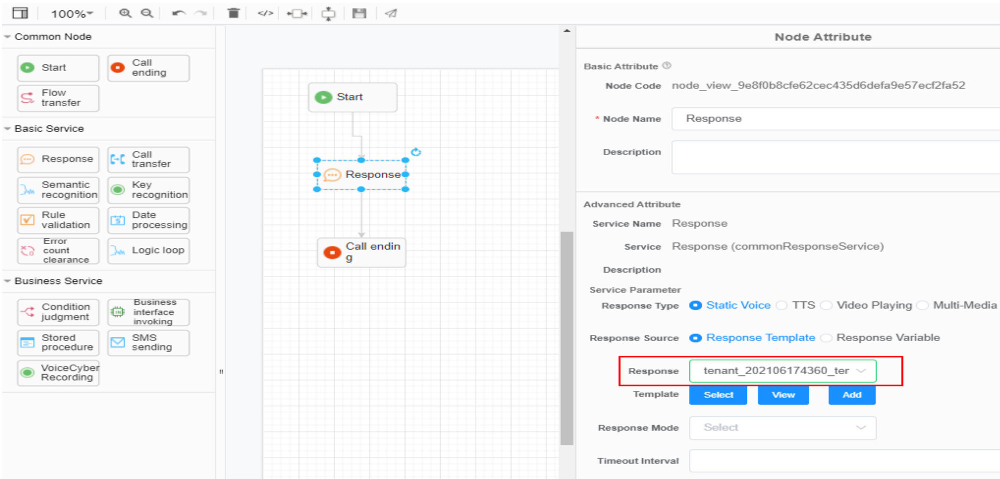
2. Choose **Resource Management > Resource Template** and click **Add** to create a resource template. Enable the **Enable dynamic settings for flow variables** function, enter the flow variable created in the previous step in **Content 1** in the **Template Content** area in the format of *${FLOW. Flow variable name}*, and click **Confirm**.

   NOTE

   Enable dynamic settings for flow variables is displayed only when **Template Type** is set to **Static voice** or **Video file**.



3. Open the flow created in step 1, click the **Response** diagram element, and set service parameters. Select a response type. Select the resource template created in the previous step from the **Response Template** drop-down list box and save the template.



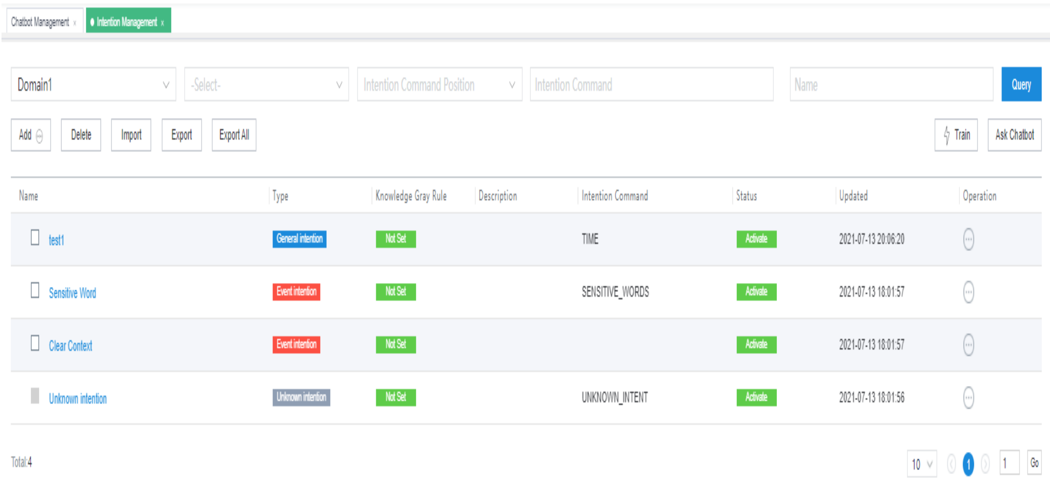
2.6.2.6.12 How Do I Use a Rule Corpus?

As a supplement to common corpuses, rule corpuses are used to identify users' intents based on rules. They have the following features:

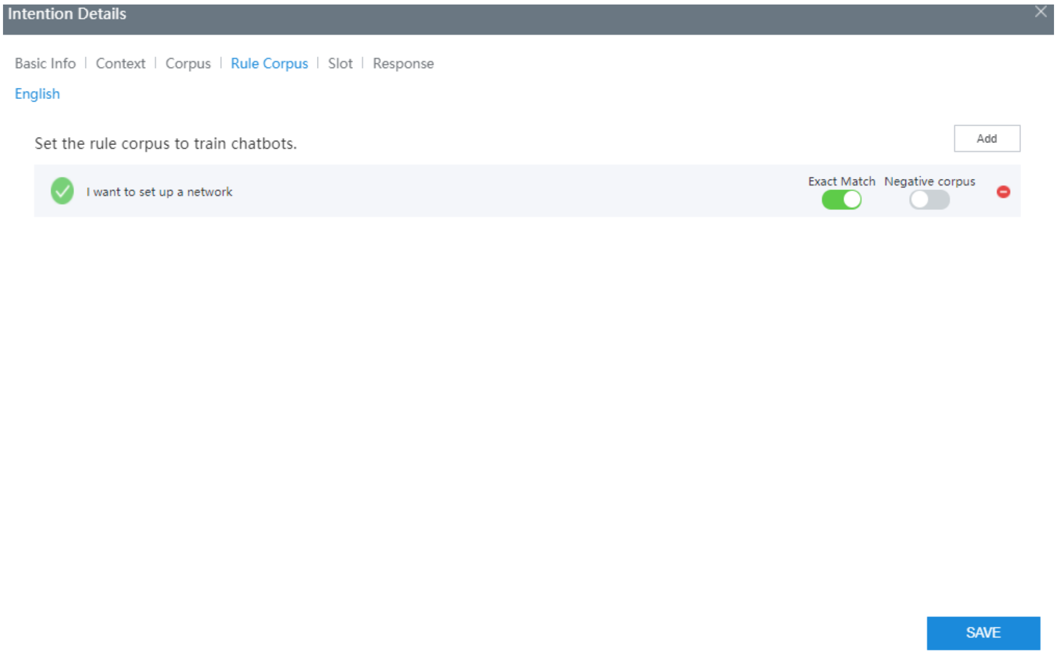
- The configuration is simple, explicit, and flexible, which greatly reduces the threshold for configuring corpuses.
- When there are a large number of intents, misidentification can be effectively prevented.

Procedure

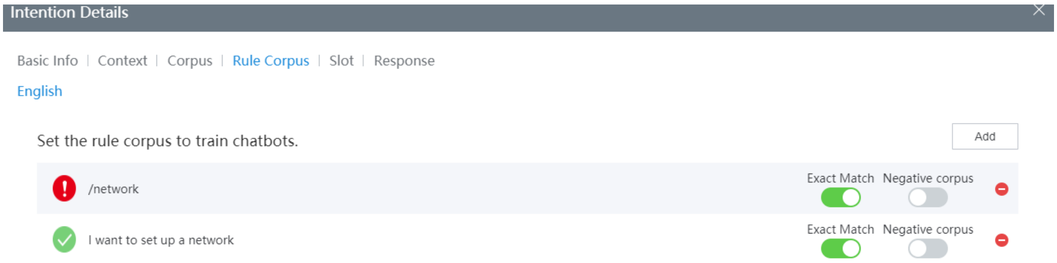
Step 1 The intent management page is displayed.



Step 2 Create an intent or open an existing intent, click the **Rule Corpus** tab, and click **Add** to add a rule corpus.



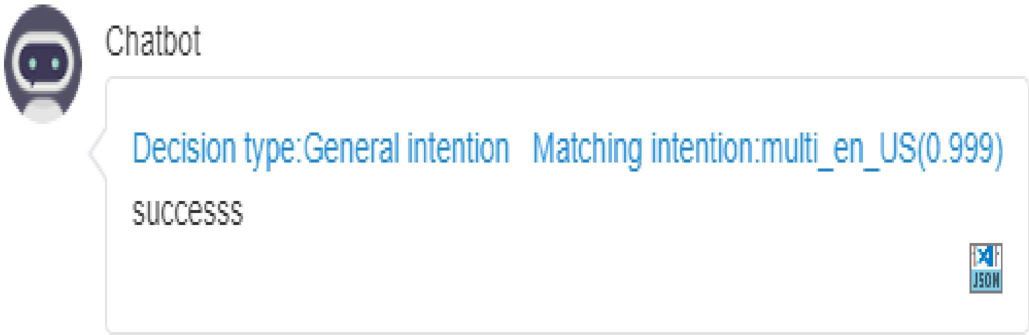
Step 3 The tag on the left of the corpus indicates whether the rule format is correct. If the rule format is incorrect, an error message is displayed.



Step 4 The **Exact Match** button on the right of the corpus can be used to determine whether to perform exact match for the corpus.

Step 5 (Optional) Click **Add** again to add another rule corpus. Click  on the right of the corpus to delete the corpus. Double-click the corpus text to edit the corpus.

Step 6 Test the rule corpus. Chat with the chatbot by text to check whether the configured rule takes effect. When the rule takes effect, the intent confidence displayed in the chat window is an integer greater than or equal to **1**.



NOTE

When both common corpuses and rule corpuses are configured, the system preferentially matches rule corpuses. If no rule is matched, the system matches common corpuses.

----End

2.6.2.6.13 How Do I Assign Values to and Use Lists and Objects?

During flow orchestration, if a reply variable in the **Robot Reply** diagram element, a cache variable (attribute in the response) in other diagram elements, or a variable in a conditional expression needs to operate or use list or object data, you can use the following methods for value assignment and usage.

Methods

- Value assignment: If a flow variable is of the list type, you can assign a value in **["1","2","3"]** format. If a flow variable is of the object type, you can assign a value in **{"keyA":"valueA","keyB":"valueB"}** format. Each element in a list or object can be a list or object.
- Usage
  - If a flow variable **FLOW.arr1** is of the list type and the default value is **["1","2","3"]**, you can use the **FLOW.arr1[0]** expression to obtain the value **"1"** of the first element.

    If a flow variable **FLOW.arr2** is of the list type and the default value is **[[1,2], [3,4]]**, you can use the **FLOW.arr2[1][0]** expression to obtain the value **3** of the first element.
  - If a flow variable **FLOW.obj1** is of the object type and the default value is **{"keyA":"valueA","keyB":"valueB"}**, you can use the **FLOW.obj1["keyA"]** or **FLOW.obj1.keyA** expression to obtain **valueA**.

    If a flow variable **FLOW.obj2** is of the object type and the default value is **{"keyA":"valueA","keyB":{"keyC":"valueC"}}**, you can use the **FLOW.obj2["keyB"]["keyC"]** or **FLOW.obj2.keyB.keyC** expression to obtain **valueC**.

  NOTE

  List or object elements obtained using methods can be properly calculated with other variable values and operated using built-in functions.

2.6.2.6.14 How Do I Parse Call-associated Data?

Description

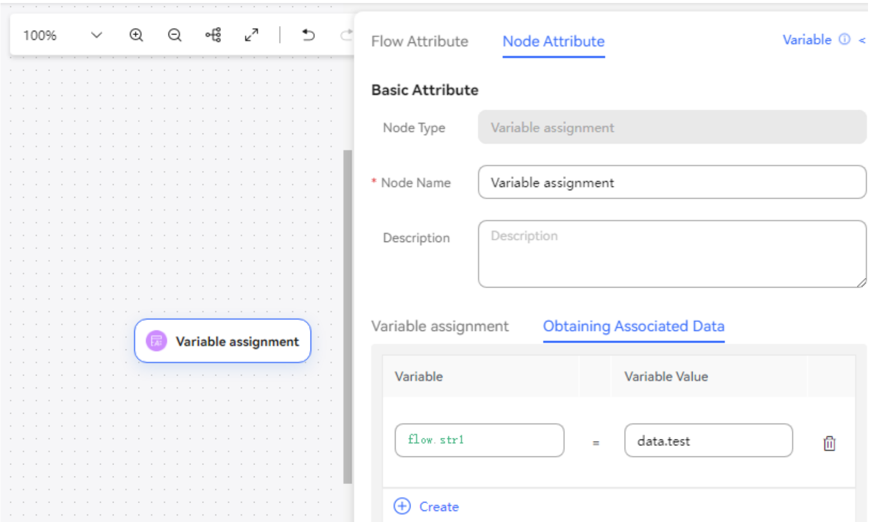
During flow orchestration, the **IVRREQUEST.transin_data** variable is used to obtain the call-associated data string. You can use the following solution to parse the call-associated data.

Solution

Assume that the call-associated data is **{"data":{"test": "Call-associated data test"}}**.

Use the **Variable assignment** diagram element to assign the value of the **test** field in the call-associated data to the flow variable **FLOW.str1**. In this example, the value of **FLOW.str1** is **Call-associated data test**.

Figure 2-237 JSON data invoking



2.6.2.6.15 How Do I Press a Key to Collect Digits or Return to the Upper-Level Menu When the Play Voice & Collect Digit Diagram Element Does Not Support the Asterisk (*) Key?

Description

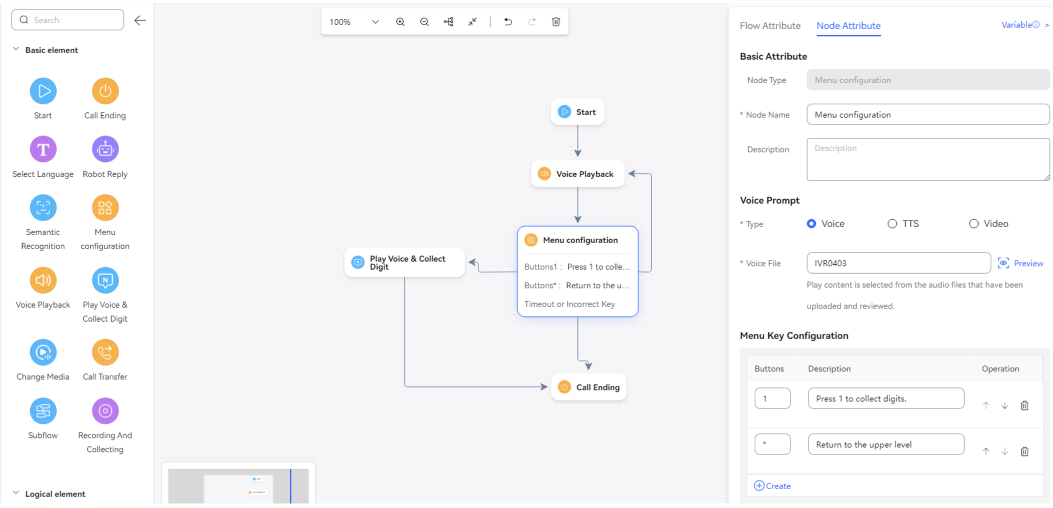
How do I press a key to collect digits or return to the upper-level menu when the **Play Voice & Collect Digit** diagram element does not support the asterisk (*) key?

Analysis

The **Play Voice & Collect Digit** diagram element does not support the asterisk (*) key. To collect digits or return to the upper-level menu, you need to use the **Menu configuration** and **Play Voice & Collect Digit** diagram elements together. Use the **Menu configuration** diagram element to collect the first digit 1, and use the **Play Voice & Collect Digit** diagram element to collect the remaining digits.

Figure 1 shows a flow example when the **Menu configuration** and **Play Voice & Collect Digit** diagram elements are used together to collect the mobile number. After a customer presses **1**, the **Play Voice & Collect Digit** diagram element collects the remaining digits of the mobile number. In this case, the first digit collected by the **Play Voice & Collect Digit** diagram element is actually the second digit of the mobile number (the first digit has been collected by the **Menu configuration** diagram element). Therefore, the timeout of the first key pressing on the **Play Voice & Collect Digit** node is considered as inter-digit timeout, which is controlled by **Timeout interval for digit collection** instead of **Waiting Time for Digit Collection** and **Max. Failure Times**. If key pressing on the **Play Voice & Collect Digit** node times out, the flow completes the collection of digits that have been pressed and goes to the next diagram element. If no key is pressed, the flow also goes to the next diagram element but does not involve the digit collection timeout configuration in the **Advanced Settings** area of the **Play Voice & Collect Digit** diagram element.

Figure 2-238 Play Voice & Collect Digit and Menu configuration used together to collect digits



2.6.3 Operator: Configuring a Common IVR

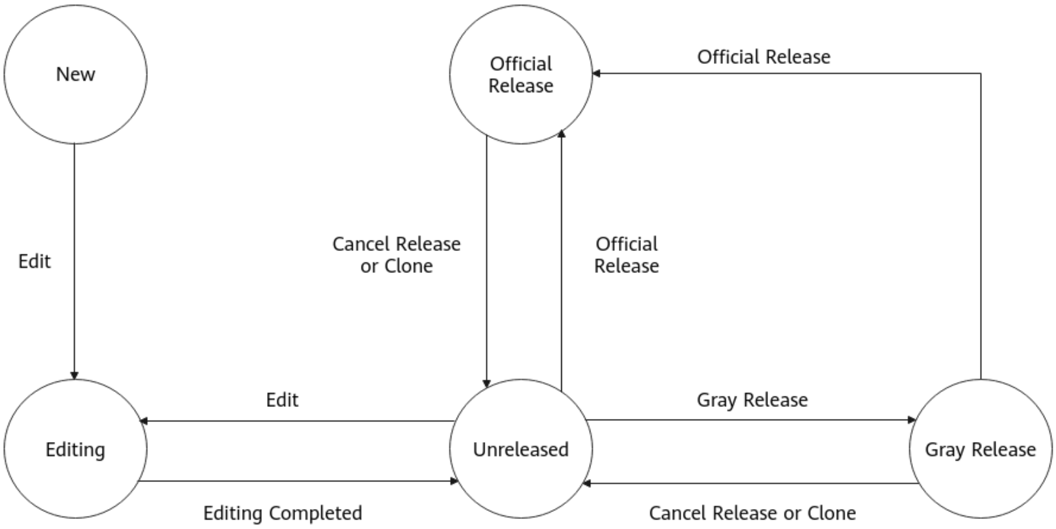
2.6.3.1 Introduction to the IVR Flow

Before configuring an IVR flow, you are advised to understand related concepts, such as flow status and flow operations.

IVR Flow Status

The status transition diagram of an IVR flow describes the IVR flow status and the status transition relationships, as shown in **Figure 1**.

Figure 2-239 Flow status transition diagram



- New

  After a flow is created, it enters the initial state **New**. In this state, the flow can be edited or deleted.
- Editing

  When a flow in **New** or **Unreleased** state is edited, it enters the **Editing** state. In this state, no other operations can be performed on the flow and the flow cannot be operated by other users. When the editing ends, the flow can be published.
- Unreleased

  If the editing ends, the edit page is closed during editing, an exception occurs during editing, or the publishing is canceled for a flow in **Official Release** or **Gray Release** state, the flow enters the **Unreleased** state. An exception can be an editing timeout error caused by network interruption or power outage. By default, if no request is sent on the editing page within 5 minutes, the flow times out.
- Official Release

  After a flow is published successfully, it is in **Official Release** state. A flow in **Official Release** state can be cloned, tested, and canceled.
- Gray Release

  After a flow is published successfully, it is in **Gray Release** state. A flow in **Gray Release** state can be cloned, tested, published, canceled, and viewed. A flow in **Gray Release** state can only be published as an official version.

For all flows, you can view the values of **Type** and **Is Referenced** by clicking **Attribute**. **Table 2-115** describes the operations supported for flows in different states.

NOTE

- For flows in **New** or **Unreleased** state, you can modify **Type** and **Is Referenced** by clicking **Attribute**. If a tenant has a main flow and an exception handling flow, the value of **Type** cannot be changed to **Main flow** or **Exception handling flow** for other flows.
- For a flow in **Official Release** or **Gray Release** state, you can click **Test** to manually configure the operation result on the **Flow Test** page, simulate the execution result of each diagram element in the flow, and test flow status transition.

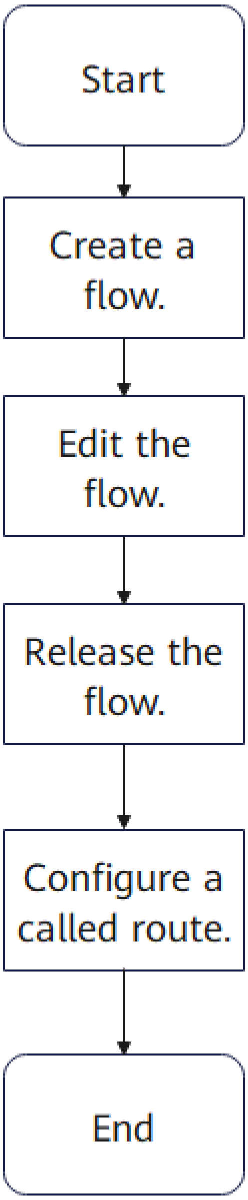
Table 2-115 Flow status and supported operations

Flow Status	Supported Operation
New	Edit and Delete
Editing	Unlock
Unreleased	Release, Edit, and Delete
Official Release	Clone, Test, Cancel Release, and Query Info
Gray Release	Clone, Test, Release, Cancel Release, Details, and Query Info

IVR Configuration Process

You can configure an IVR flow based on the flowchart. **Figure 2-240** shows the editing and handling process of an IVR flow.

Figure 2-240 IVR flow configuration process

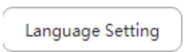


2.6.3.2 Managing Voice and Video Resources

A voice or video file carries a piece of voice content. After a voice or video file is associated with an IVR flow, the system can play voices based on the file after a customer enters the IVR flow in a voice call. To enable voice playback, you need to create a voice or video file in advance based on site requirements.

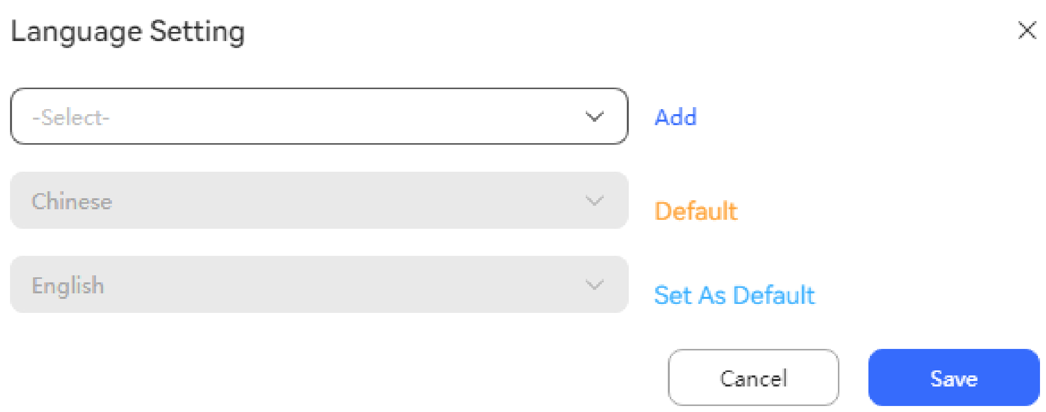
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Audio and Video**.

Step 2 Click 

. The **Language Setting** dialog box is displayed.

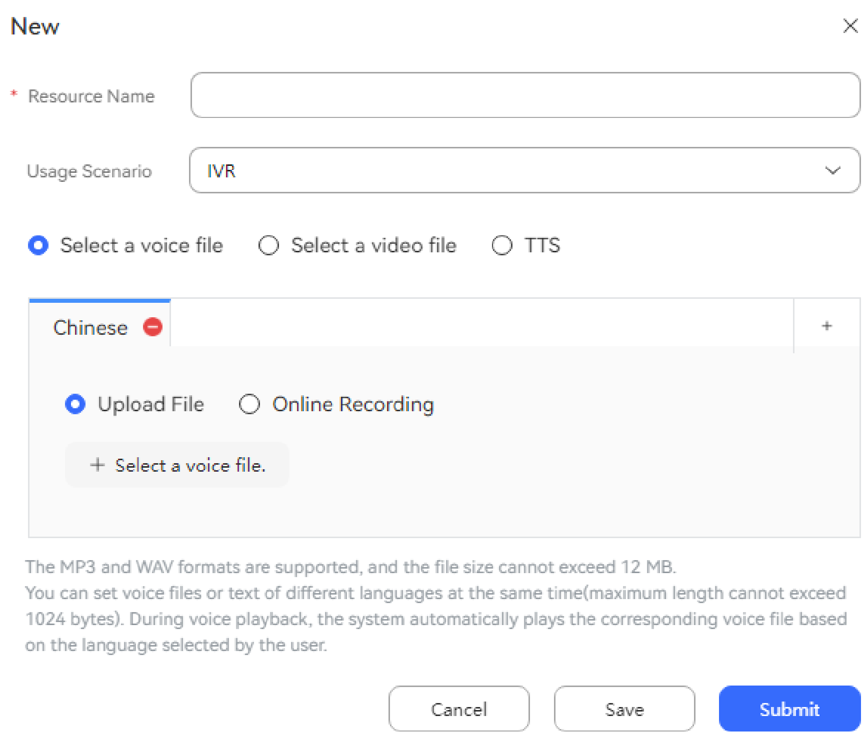
Currently, voice files in the following languages are supported: Chinese, English, Portuguese, Thai, Spanish, French, and Arabic.



1. Select the language to be added and click **Add**. The language is added successfully.
2. Click **Set As Default** to set a language as the default language.
3. Click **Save** to save the language setting.

Step 3 Click 

to create an IVR voice or video file.



- **Name**: file name, which is customized. The value cannot contain special characters.
- **Usage Scenario**: This parameter is used to distinguish uploaded files. The options are as follows:
  - **IVR**: A voice file, video file, or TTS can be created, which is used for flow configuration.

- **tone**: Only a voice file can be created, which is used for agent ringback tone configuration.
- **error**: Only a voice file can be created, which is used for configuration of the **Breakdown Voice** tenant space feature.
- **questionnaire**: A voice file or TTS can be created, which is used for IVR survey configuration.
- **Voice notification**: A voice file or TTS can be created, which is used for interface configuration.
- **before reporting employee ID** and **after reporting employee ID**: Only a voice file can be created, which is used to play the employee ID when a customer is connected to an agent.
- **Virtual Human**: An image or video file can be created, which is used for **Avatar Reply** diagram element configuration (when the **2D Digital Man** feature has been enabled for the tenant).

- Language: Only the default language set in the language configuration is displayed. You can click + to add a language.
- File type
  - **Select a voice file**

    Upload File: The MP3 and WAV formats are supported, and the file size cannot exceed 12 MB. Voice file format: 8-bit, 8 kHz, 64 kbps, mono. You can set voice files or texts in different languages at the same time. The maximum length of a voice file or text is 1024 bytes. During voice playback, the system automatically plays the corresponding voice file based on the language selected by the user.

    Online Recording: The recording duration cannot exceed 2 minutes.

    NOTE

    1. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files. MP3 voice files can be uploaded on the GUI, which are converted to voice files supported by the UAP in the system.
    2. Only voice files are supported for voices before and after the employee ID. The file size cannot exceed 1 MB.

  - **Select a video file**: When **Usage Scenario** is set to **IVR**, the video file to be uploaded must be in 3GP format, and the file size cannot exceed 5 MB. When **Usage Scenario** is set to **Virtual Human**, the video file to be uploaded must be in MP4 format, the file size cannot exceed 5 MB, and the resolution cannot exceed 720p.
  - **Select an image file**: This file type is available only when **Usage Scenario** is set to **Virtual Human**. The image to be uploaded must be in JPG, PNG, or JPEG format, the file size cannot exceed 2 MB, and the resolution cannot exceed 720p.
  - **TTS**: Enter a text to be converted to a voice. The maximum length is 1024 bytes.

    If **Usage Scenario** is set to **Voice notification**, pay attention to the following points:

    - Text: The maximum length is 500 bytes. Variables are supported. The variable values can be filled in by the **templateParams** parameter in the voice notification API (V2.0.0).

Text content requirements:

1) The template content cannot start with a variable.
2) The template content can contain a maximum of 500 bytes.
3) A variable can contain a maximum of 32 bytes. (If a variable contains more than 32 bytes, you are advised to split it into multiple variables.)
4) The following variable formats are supported:

- **${TXT_*Number*}**: String. *Number* indicates the maximum number of characters in the string. For example, **${TXT_9}** indicates a string of a maximum of nine characters.
- **${NUM_*Number*}**: Number. *Number* indicates the maximum number of digits for this variable. For example, **${NUM_6}** indicates a maximum number of six digits.
- **${DATE}**: Date, in the format of *YYYY/MM/DD*. *YYYY* indicates the year, *MM* indicates the month, and *DD* indicates the day. An example is **2017/07/16**.
- **${TIME}**: Time, in the format of *HH:MM* or *HH:MM:SS*. *HH* indicates the hour, *MM* indicates the minute, and *SS* indicates the second. Examples are **14:30** and **14:30:30**.

Template examples:

- Example 1: **Dear ${TXT_8}, your initial password is ${NUM_6}.**
- Example 2: **Please pick up your express delivery before ${TIME} on ${DATE}.**

NOTE

${TIME}** and **${DATE} must be separated by " **on** ".

- **timbre**: Voices can be played based on the selected timbre. The options are **Graceful**, **Mature**, **Soft**, **Sweet**, and **Natural**.
- **speed**: Voices can be played based on the selected speed. The value ranges from –200 to 500.
- **volume**: Voices can be played based on the selected volume. The value ranges from 0 to 100.

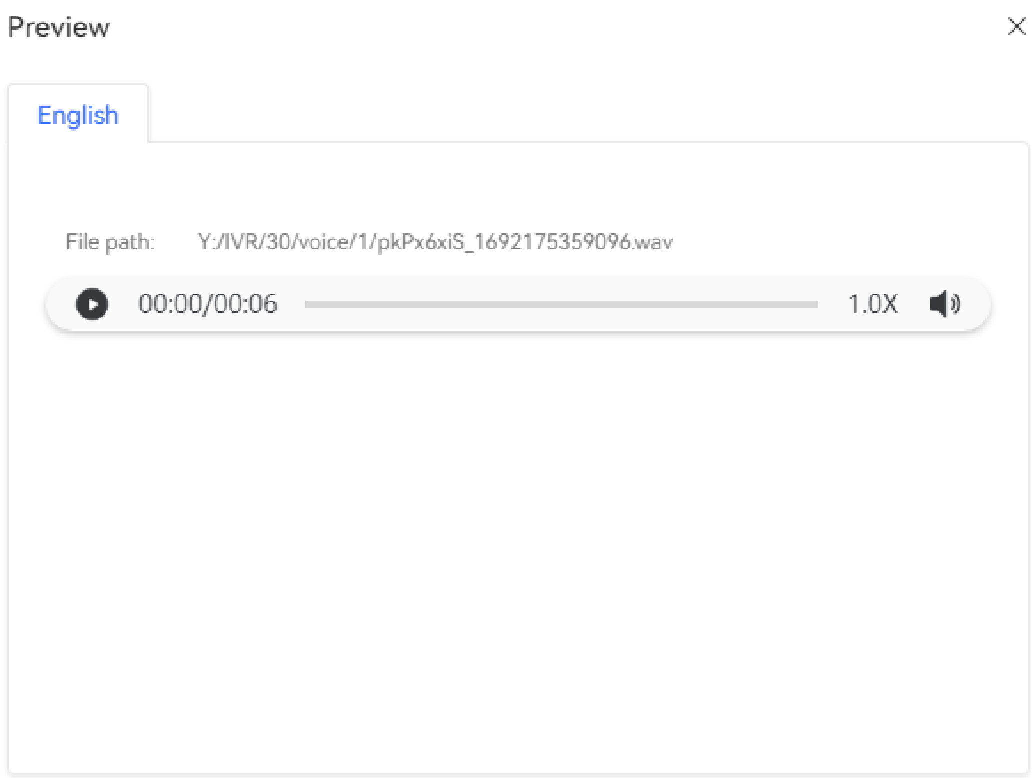
Step 4 Click **OK**.

The submitted voice file or video file is in the **To Review** state. It can be associated with an IVR flow only after being approved.

NOTE

- If **Voice resource review mode** is set to **Auto Pass** for the tenant, the review status automatically changes to **Approved** after the voice resource is uploaded and submitted.
- An IVR voice that has been associated with IVR flow diagram elements cannot be deleted. You can click **View** to view the flows that reference the IVR voice.
- After a tenant expires, the AICC automatically deletes all voice and video files created by the tenant.

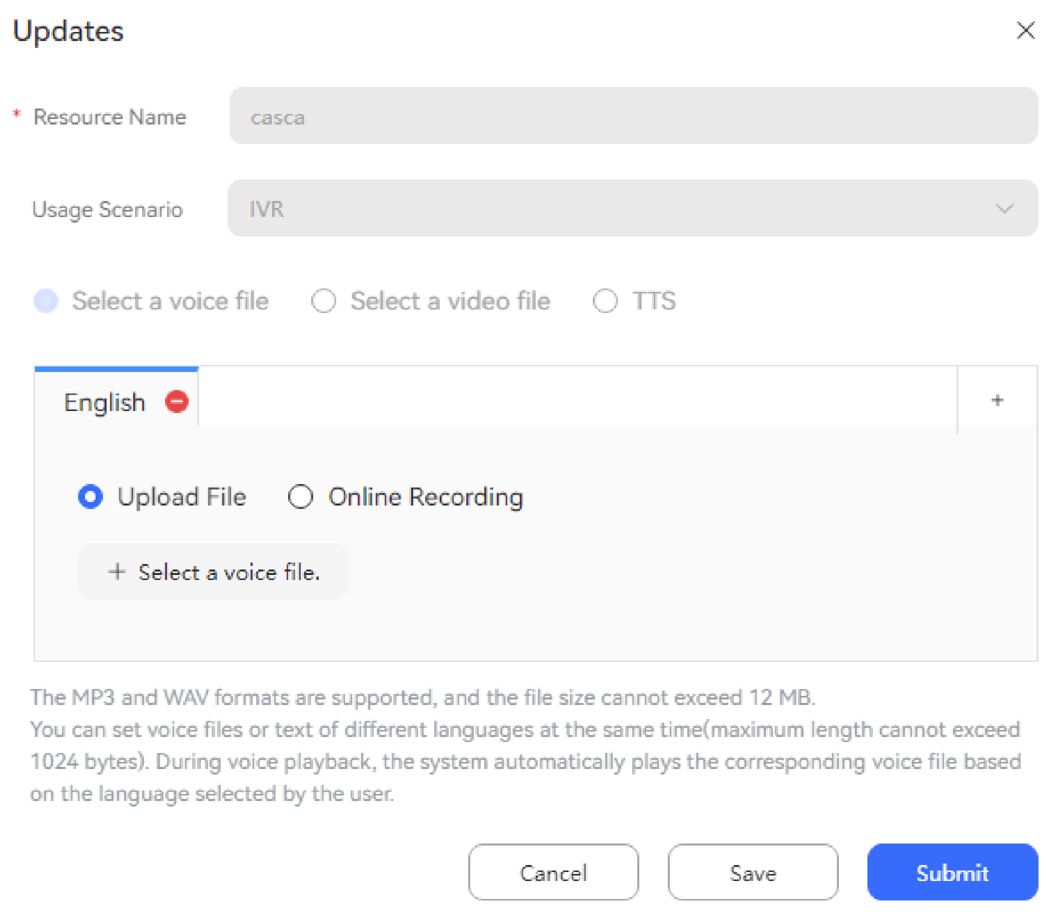
Step 5 Click **Preview**.



1. Click  to play the voice or video file.

Step 6 (Optional) Click **Updates** to update the IVR voice file or video file.

Figure 2-241 Updating the file



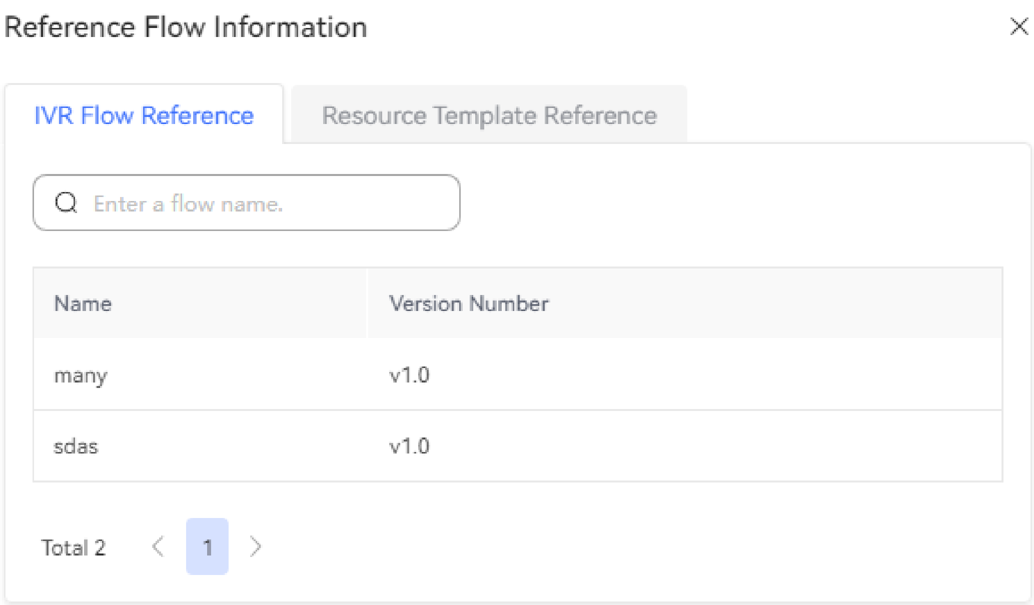
NOTE

- Only approved voice and video files can be updated.
- Voice files whose **Usage Scenario** is **before reporting employee ID** or **after reporting employee ID** cannot be updated.
- After an updated voice or video file is approved, it is synchronized to IVR flows that reference the original voice or video file.

Step 7 (Optional) Different tenants have different requirements for TTS servers from different vendors. A system administrator can create multiple TTS servers. For details, see "Managing Servers" and "Managing TTS and ASR" under "Intelligent Flow Configuration Guide > System Administrator: Managing Tenants and Systems" in *AICC **** Product Documentation *** at the **Huawei support website**.

Step 8 Click **View References**.

You can view the IVR flows or resource templates that reference the resource.



----End

2.6.3.3 Configuring a Common IVR

An IVR flow is a voice transfer flow predefined by a tenant administrator of a tenant space, including the main flow, subflow, and exception handling flow. An agent can select an IVR flow or directly call the called route associated with an IVR flow to transfer a voice call to the IVR flow.

2.6.3.3.1 Creating a Flow

IVR flows are classified into the following types: main flow, subflow, and exception handling flow. This section describes how to create an IVR flow.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Common IVR**.

Step 2 Click 

. In the dialog box for creating an IVR flow, configure IVR flow information.

Figure 2-242 Creating a common IVR

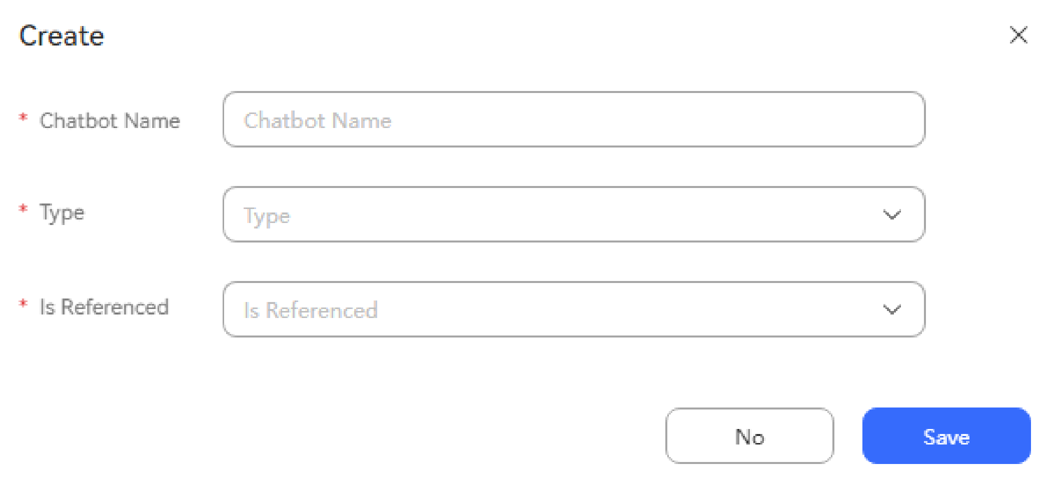


Table 2-116 Parameters in the dialog box for adding a flow

Parameter	Description
Chatbot Name	Robot name, which is used to identify a flow. A voice call can be transferred to an IVR flow based on the flow name.
Type	A tenant administrator can configure only one main flow, one exception handling flow, and one or more subflows. Multiple flow versions can be configured through cloning. Flows are classified into the following types: • **Main Flow**: Flow that an inbound voice call is connected first. It is the main flow involved in voice call transfer. • **Subflow**: Flow used to process a task. After an operation is specified, a customer jumps from the main flow to the corresponding subflow. • **Exception Handling flow**: Flow used to handle an exception that occurs in a voice call.

Parameter	Description
Is Referenced	• **Yes**: An IVR flow can be selected in external access mode. For example, the IVR flow can be selected when you make a call to a called number through the OpenEye or choose **Call Transfer** > **IVR** on the connection bar. • **No**: An IVR flow can be used only for internal IVR flow transfer.

Step 3 Click **Complete** to save the IVR flow information.

Step 4 Repeat **Step 2** to configure IVR subflows and exception handling flows.

Step 5 (Optional) Click a flow record to expand it.

By default, the latest version information about a flow is displayed in the flow list. You can click the flow record to view all version information and supported operations of it, such as edit and delete.

----End

NOTE

- An exception handling flow must be available in the IVR flows.
- A tenant space has only one exception handling flow.

2.6.3.3.2 Editing a Flow

After creating a flow, you need to drag diagram elements provided on the GUI to edit the flow content to implement specific business capabilities.

Prerequisites

- A flow has been created. For details, see **2.6.3.3.1 Creating a Flow**.
- Voice files to be involved in the flow have been configured.

Context

Before editing a flow, you are advised to understand the layout of the flow editing page and the capabilities of each area. **Figure 2-243** shows the flow editing page.

Figure 2-243 Page for editing a flow

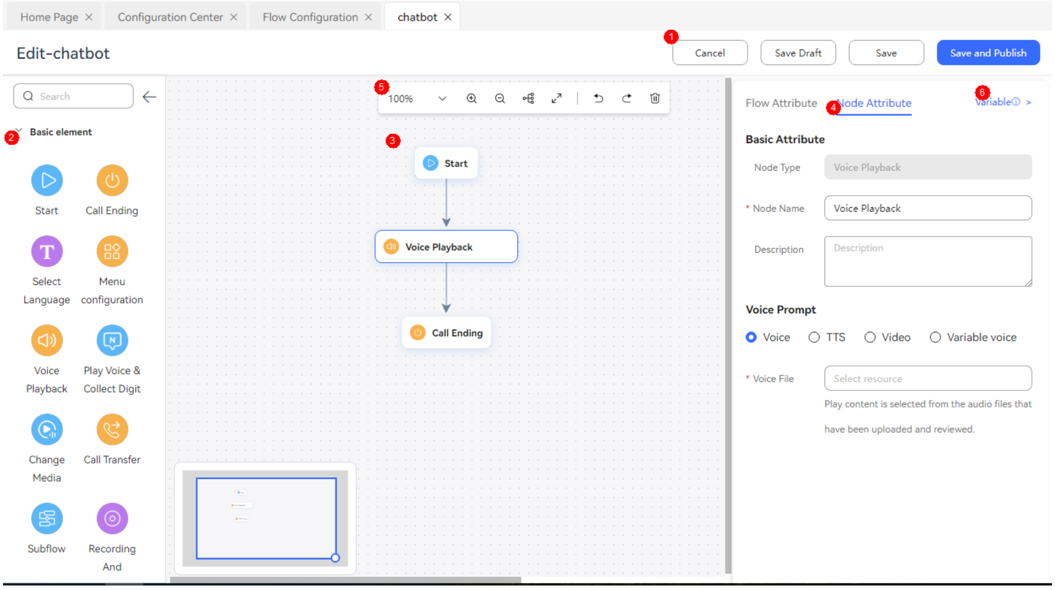
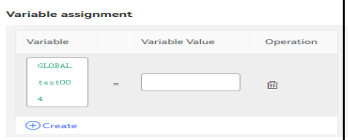


Table 2-117 Introduction to areas on the flow editing page

ID	Area	Description
1	Buttons	Cancel a flow, save a flow as a draft, save data, or save and publish a flow.
2	Diagram element area	Drag diagram elements to the canvas area to edit a flow.
3	Canvas area	Edit an IVR flow.
4	Diagram element parameter area	Set parameters of a selected diagram element.
5	Canvas toolbar	Reset the view, zoom in or out the view, enter the fullscreen mode, undo or redo an operation, or delete a diagram element or line.

ID	Area	Description
6	Variable area	View basic information about flow variables, global variables, system variables, IVR request variables, and intention variables. A variable can be dragged to a variable text box in the diagram element parameter area. Variables can be searched and filtered.  shows a variable text box. Intention variables can be used only in an intelligent IVR.

Scenario

After a voice call is transferred to an IVR flow, the system plays the welcome voice of the customer service hotline, prompts the customer to select a language, and then provides multiple menus for processing different tasks, for example, member information service, timeout, or other keys. When the customer chooses the member information service, the system transfers the call to the corresponding subflow. When the customer input times out or the customer presses other keys, the system plays a voice to notify the customer and ends the flow.

Procedure

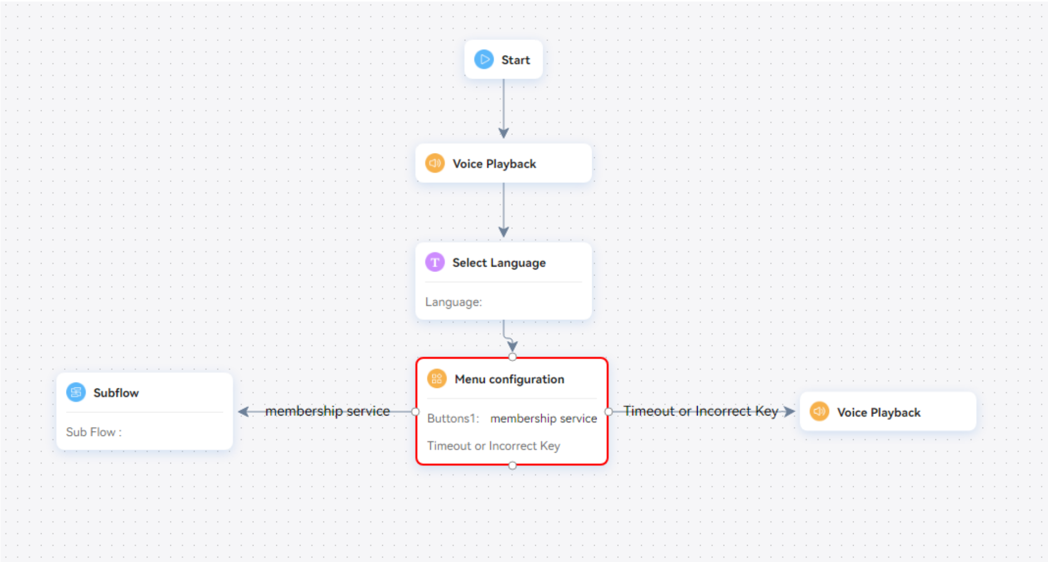
Step 1 Select a flow in **New** or **Unreleased** state, expand the flow information, and click **Edit**.

When the canvas is initialized, a start diagram element and an end diagram element are displayed by default. The start diagram element cannot be deleted. The end diagram element can be deleted. You can also add multiple end diagram elements. Ensure that at least one end diagram element exists in the flow.

Step 2 Drag diagram elements to the canvas area and set diagram element parameters, as shown in **Figure 2-244**.

To connect two diagram elements, move the pointer to the source diagram element. When a dotted-line box is displayed on the diagram element, move the pointer to the target diagram element. Except subflow diagram elements, all other diagram elements must have a default connection line, and the start point and end point of the connection line must be on the diagram element. For details, see **2.6.3.10 Diagram Elements**.

Figure 2-244 Editing a flow



Step 3 After the flow editing is complete, click **Save**. In the success dialog box that is displayed, click **OK** to close the flow editing page.

NOTE

During the flow editing, you can click **Save** to save the edited flow at any time. After the flow editing is complete, you need to close the flow editing page so that you can publish the flow in the flow list.

----End

2.6.3.3.3 Publishing a Flow

A flow that is added or edited can be used only after being published.

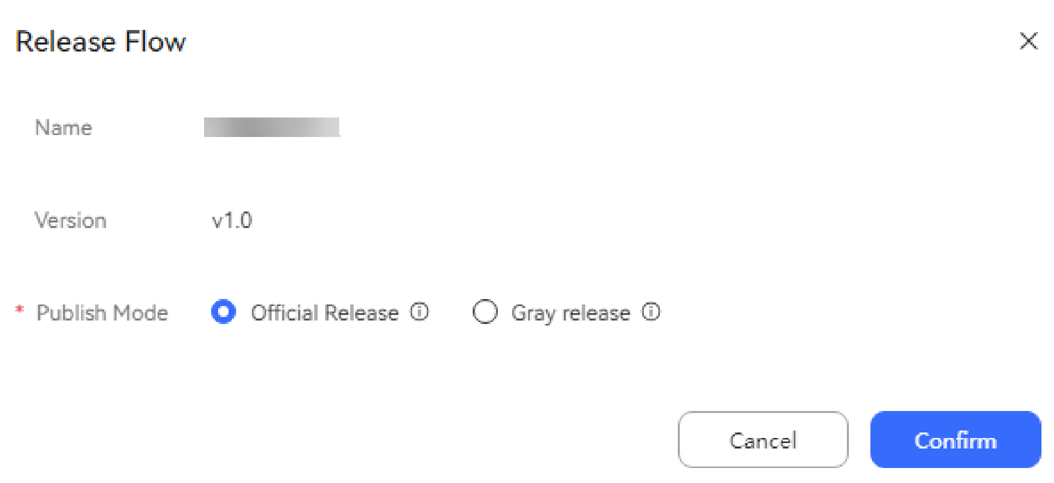
Procedure

Step 1 Select a flow in **New** or **Unreleased** state, expand the flow information, and click **Release**. The **Release Flow** dialog box is displayed.

Step 2 Select a publish mode and click **Confirm**, as shown in the following figure.

Two publish modes are supported: gray release and official release. A flow can have only one official release version and one gray release version.

After a flow is published successfully, the status of the flow is displayed as **Gray Release** or **Official Release** according to the selected publish mode.



The publish modes of an IVR flow are as follows:

- Gray release: You need to configure a gray rule and select the gray rule configured for the current tenant from the drop-down list box. For a flow published in gray release mode, only voice calls from numbers that match the selected gray rule can be transferred to the IVR flow.
- Official release: For a flow published in official release mode, voice calls from all numbers can be transferred to the IVR flow.

NOTE

- After a flow is published, the system automatically allocates an access code to the flow.
- Flows in **Official Release** or **Gray Release** state can be cloned to configure multiple versions. The initial version of a new flow is V1.0. Each time the flow is cloned, the version number increases by 0.1. For example, when a flow is cloned for the first time, version V1.1 is created.
- A flow can have only one official release version and one gray release version. When a cloned version is published, the existing official release version or gray release version is replaced with the current version.
- A published exception handling flow must be available for official release and gray release.
- To cancel the publishing of an exception handling flow, ensure that no published or gray release flow exists.
- Abnormal flows support gray release.

----End

2.6.3.4 Configuring Robot Tracking

After the IVR is referenced by an agent, the agent can view the detailed information about the IVR flow in the contact record.

Prerequisites

A published IVR flow exists, and the **Call Transfer** diagram element has been configured.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **System Settings** and click the **Track Settings** tab.

Step 3 On the **Tracking Robots** tab page, click Create.

Step 4 Select a robot access code and click **Confirm**.

A maximum of 20 robot access codes can be added.

NOTE

If neither the flow access code nor the flow track is configured, the IVR flow is empty in the contact record.

----End

Follow-up Procedure

After the IVR bound to the traced flow access code is used by an agent, choose **Customer Contact History** > **Contact Record**, click the call SN of the corresponding contact record to access the contact record details page, and click **View Current Flow Track** to view the configured flow track details. The traced flow contains call-associated data, which cannot be edited.

2.6.3.5 Configuring a Called Route

A called route refers to the called number associated with an IVR flow and consists of an access code and an extension code. A customer can trigger the IVR flow by directly dialing the called number or connect to the called number of the CEC through the core network. A called number can be associated with only one IVR flow. An IVR flow can be associated with multiple called numbers.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Called Party**.

Step 2 Click **New** and configure called route information, as shown in **Figure 2-245**.

Figure 2-245 Creating a Called Party Configuration

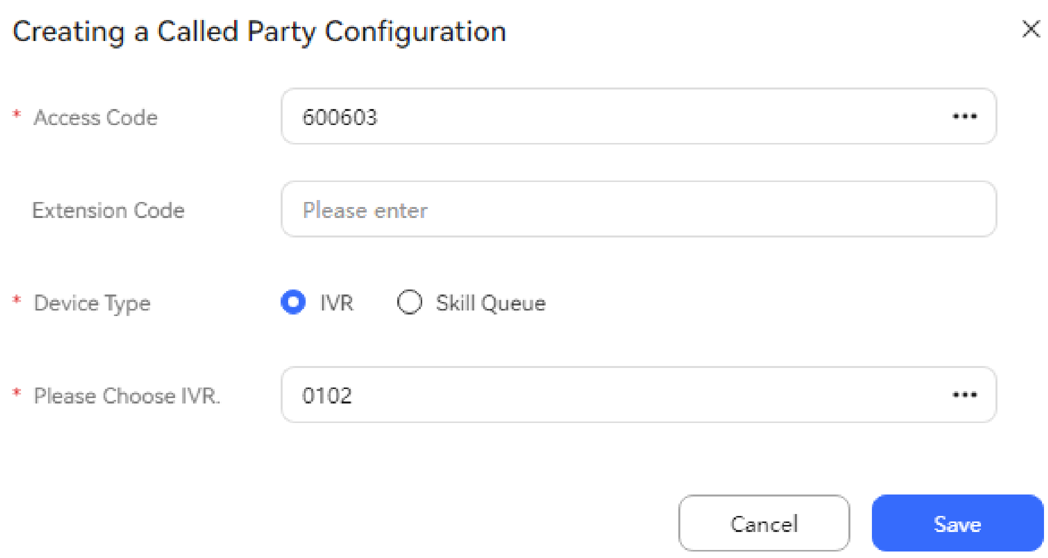


Table 2-118 Key parameters in the Creating a Called Party Configuration dialog box

Parameter	Description
Access Code	A customer can directly dial *Access code*+*Extension code* to access an IVR flow. The available access codes are allocated by the system administrator when the system administrator creates the tenant.
Extension Code	A customer can directly dial *Access code*+*Extension code* to access an IVR flow. An extension code is a string of 1 to 12 characters and can contain only digits, asterisks (*), and number signs (#).
Device Type	Select **IVR** to transfer voice calls to an IVR flow.
Please Choose IVR.	Select a published IVR flow as required.

Step 3 Click **Save**.

The configured flow is automatically synchronized to the intelligent IVR. The intelligent IVR saves the flow information based on the flow access code.

----End

2.6.3.6 Configuring a Flow Track

By adding a calling number and using the OpenEye to call a called route that has been associated with an IVR flow, you can view the track of the flow after the voice is transferred to the IVR, for example, the transition of each diagram element in the flow, for fault locating.

Flow Tracking is a common module. For details, see **2.6.2.2.11 Viewing Flow Tracks**.

2.6.3.7 Configuring IVR Recording

You can configure IVR recording to enable or disable recording in common IVR call flows.

Procedure

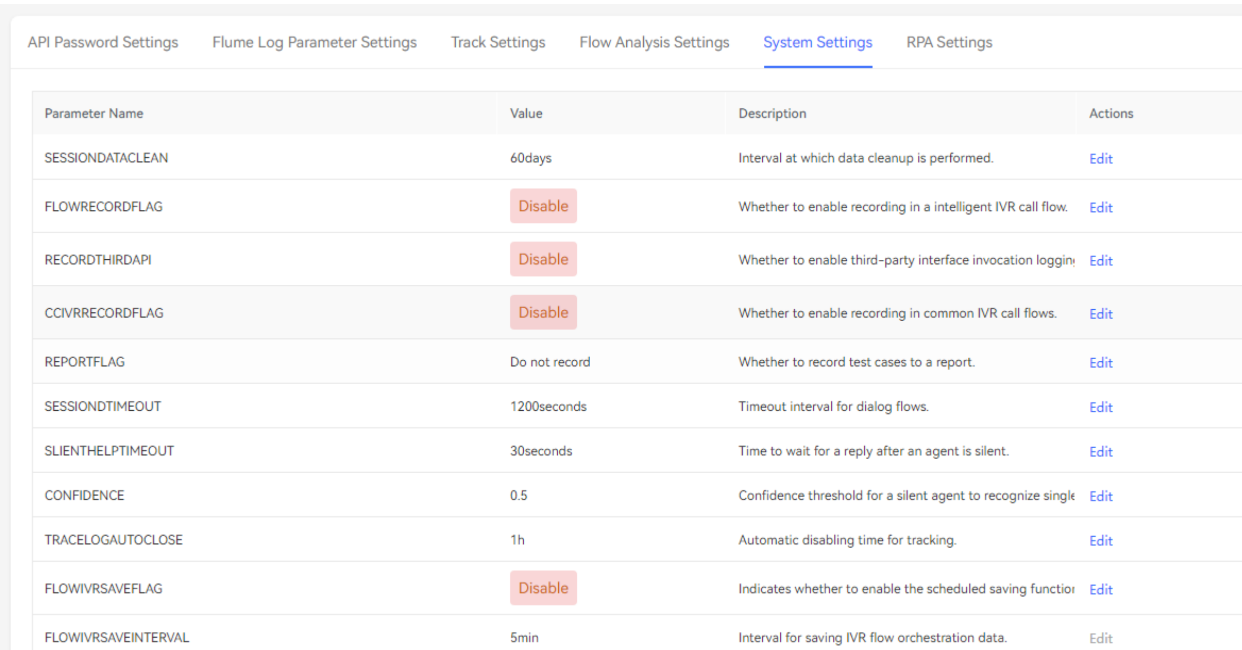
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **System Settings** > **System Settings** and edit the **CCIVRRECORDFLAG** parameter.

Step 3 Set **Value** to **Enable** to enable recording or **Disable** to disable recording.

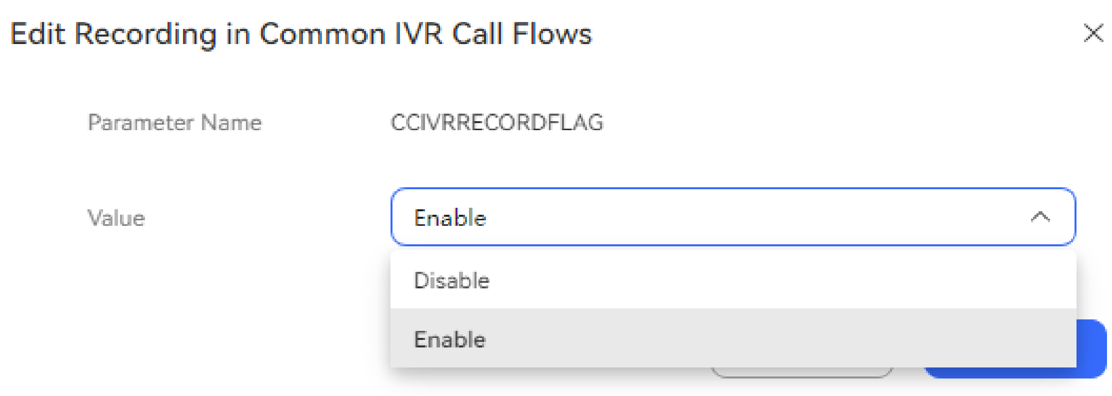
Step 4 Log in to the OpenEye and dial the access code added on the **Called Party** page. If you can hear the tone played by the robot, the call can be completed normally, and the recording file can be obtained from the storage device of the server, the configuration is successful.

Figure 2-246 System parameter for configuring IVR recording


API Password Settings | Flume Log Parameter Settings | Track Settings | Flow Analysis Settings | System Settings | RPA Settings

Parameter Name	Value	Description	Actions
SESSIONDATACLEAN	60days	Interval at which data cleanup is performed.	Edit
FLOWRECORDFLAG	Disable	Whether to enable recording in a intelligent IVR call flow.	Edit
RECORDTHIRDAPI	Disable	Whether to enable third-party interface invocation loggin	Edit
CCIVRRECORDFLAG	Disable	Whether to enable recording in common IVR call flows.	Edit
REPORTFLAG	Do not record	Whether to record test cases to a report.	Edit
SESSIONDTIMEOUT	1200seconds	Timeout interval for dialog flows.	Edit
SLIENTHELPTIMEOUT	30seconds	Time to wait for a reply after an agent is silent.	Edit
CONFIDENCE	0.5	Confidence threshold for a silent agent to recognize single	Edit
TRACELOGAUTOCLOSE	1h	Automatic disabling time for tracking.	Edit
FLOWIVRSAVEFLAG	Disable	Indicates whether to enable the scheduled saving functio	Edit
FLOWIVRSAVEINTERVAL	5min	Interval for saving IVR flow orchestration data.	Edit

Figure 2-247 Selecting Enable for the recording flag



----End

2.6.3.8 Querying Flow Transfer Records

A customer initiates a voice call to an agent. The call is transferred to a third party after a self-service flow is triggered. After the customer is in a call with the third party, the recording is enabled during call. The customer can query the flow transfer record and download the recording to resolve problems.

Prerequisites

- The following configuration has been completed for the self-service flow:

  The **Transfer** diagram element has been configured, **Transfer Configuration** has been set to **Transfer To Third Party**, and **Recording** has been selected.
- The agent must:
  - Have the **Process Transfer Record** menu permission.
  - Have the **Play Recording Online** and **Recording Download** operation permissions.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Transfer Record**.

By default, all flow transfer records of the current tenant are displayed in the list. The records are stored for 90 days by default.

Step 2 Select a flow transfer record and click **Download** or **Play** in the **Recording file** column to obtain the recording file.

NOTE

The downloaded recording file contains personal data. Exercise caution when processing the exported file to prevent personal data leakage and abuse.

The playback and download functions are available only for the current drive letter. For example, if the current drive letter is Y and the drive letter is switched from Y to Z, playback and download will fail. To play and download historical files properly, switch the drive letter from Z back to Y.

----End

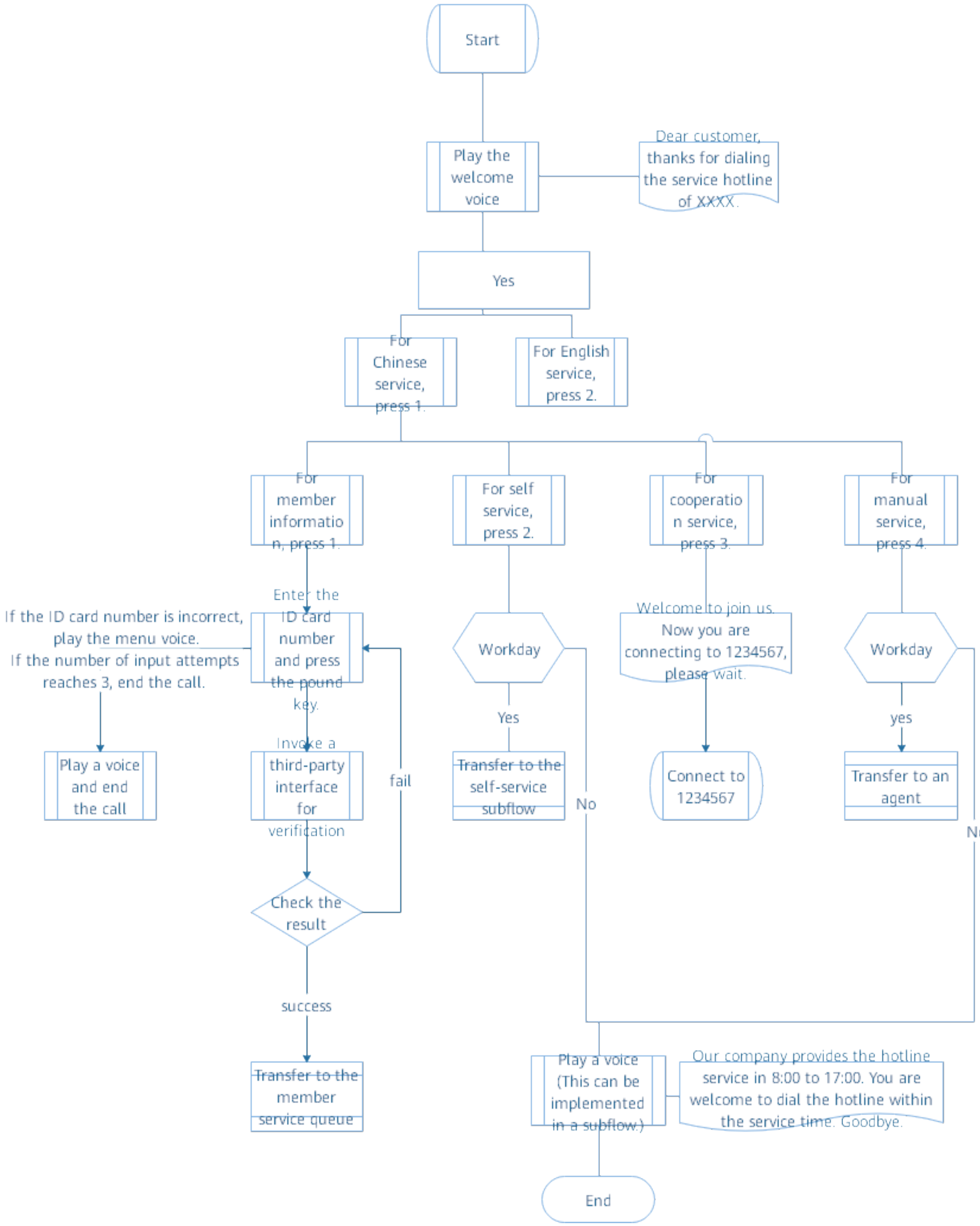
2.6.3.9 Typical Configuration Example

This section describes a complete IVR flow instance and the functions of each diagram element.

Scenario

Carrier A needs to configure an IVR flow, as shown in the following figure.

Figure 2-248 IVR flow instance



Requirement Analysis

Table 2-119 describes the diagram elements involved in the flow instance configuration according to the analysis.

Table 2-119 Diagram elements involved in the flow instance

Involved Diagram Element	Description
Voice Playback	Plays all voices required in the flow, including the welcome voice.
Select Language	Provides Chinese and English for customers to select.
Menu configuration	Configures the following menus: ● For Chinese service, press 1. ● For English service, press 2. ● For member information, press 1. ● For self-service, press 2. ● For cooperation service, press 3. ● For manual service, press 0.
Play Voice & Collect Digit	Plays the voice "Enter the ID card number and press the pound key (#)."
Time Selection	Configures the time for providing services.
Condition Judgment	Determines the result.
Transfer	Transfers a call to a skill queue, an external number, or an agent.
Subflow	Transfers a call to the self-service subflow.

Procedure

Step 1 Prepare the required voice files.

In this scenario, you need to prepare the following voice files: welcome voice, voice to be played when a flow is about to end, and service time notification voice.

Step 2 Configure the voice files. For details, see **2.6.3.2 Managing Voice and Video Resources**.

The configured voice files can be used only after being approved.

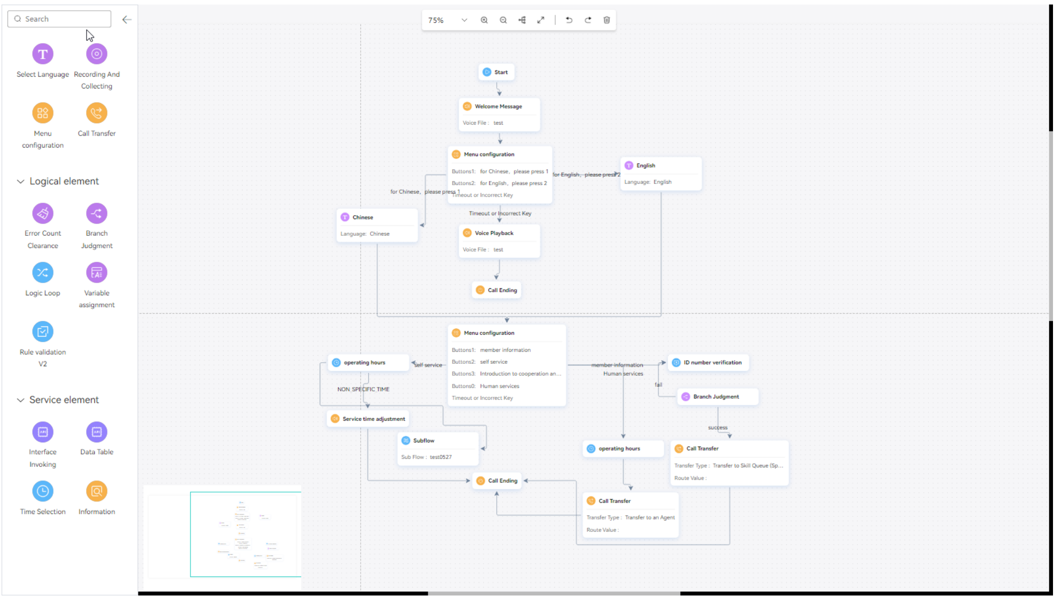
Step 3 Configure an empty main flow and an empty subflow. For details, see **2.6.3.3.1 Creating a Flow**.

You are advised to configure the self-service subflow before the main flow.

Step 4 Edit the flow. For details, see **2.6.3.3.2 Editing a Flow**. **Figure 2-249** shows the editing process.

Before using diagram elements to edit a flow, define all customized parameters involved in the flow, for example, the **idCardNum** parameter indicating the ID card number and the **3rdNo** parameter indicating the number of a third party to which a voice call can be transferred.

Figure 2-249 Flowchart of the configuration instance



Step 5 Publish the flow. For details, see **2.6.3.3.3 Publishing a Flow**.

Step 6 Configure a called route. For details, see **2.6.3.5 Configuring a Called Route**.

----End

Verification

Use OpenEye to dial the called number. If the voice call can be transferred according to the configurations, the flow configuration is successful.

2.6.3.10 Diagram Elements

This section describes the names and functions of the diagram elements involved in a common IVR flow and how to use the diagram elements.

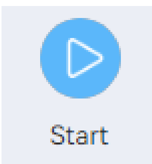
NOTICE

A maximum of 4096 characters are allowed in the text box of a single diagram element in a flow.

2.6.3.10.1 Start

This diagram element is used only to mark the beginning of a flow and does not have any internal logic.

Diagram Element



Parameter Description

None

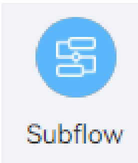
Typical Application Scenario

This diagram element is used to mark the beginning of a flow.

2.6.3.10.2 Subflow

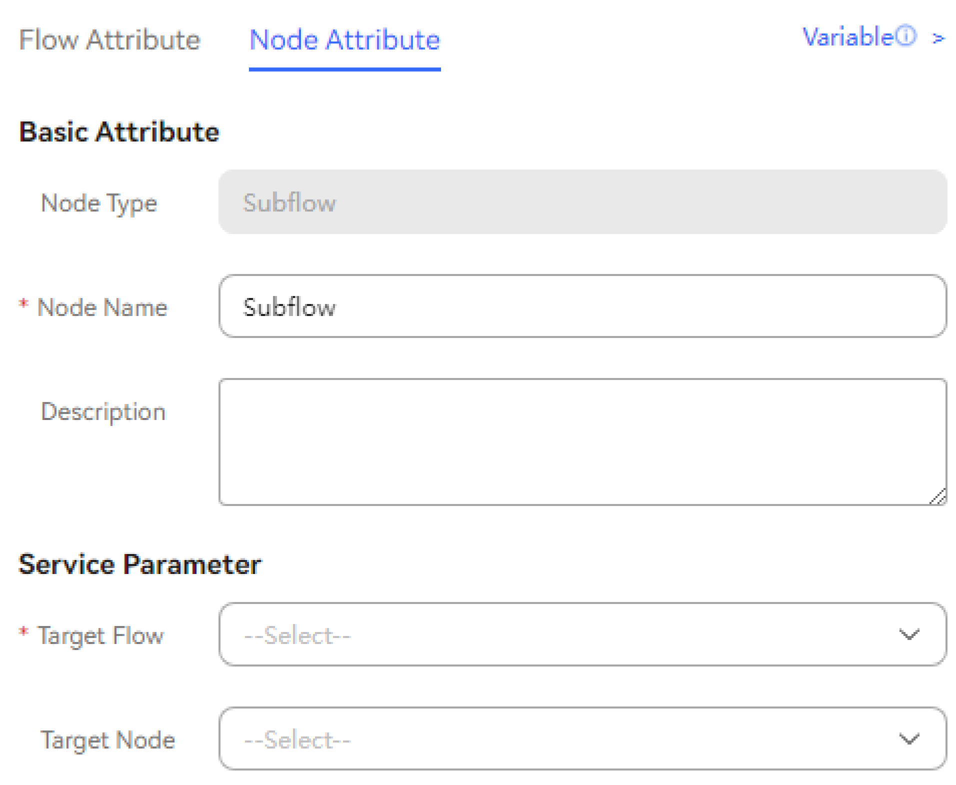
This diagram element is used to configure subflows for implementing tasks. No diagram element can be configured after a subflow.

Diagram Element



Parameter Description

The following figure shows parameters of the subflow diagram element.



The parameters are described as follows:

- **Node Name**: diagram element name to be displayed, which is customized.
- **Description**: diagram element description, which is customized.
- **Target Flow**: name of a subflow to be entered. You can select a published subflow of the current tenant from the drop-down list.
- **Target Node**: flow node to be executed. After a node is selected, the subflow starts from it.

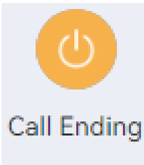
Typical Application Scenario

An independent task needs to be processed. Generally, some common operations of a certain type can be extracted to form a subflow, making it easy to be reused.

2.6.3.10.3 Call Ending

This diagram element is used to mark the end of a flow.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **Start Time** and **End Time**: start time and end time during which an interface can be invoked. The configured interface will be invoked to execute related tasks only in the specified time period.

  The time format is HH:MM:SS. For example, if **Start Time** is set to **00:00:00** and **End Time** is set to **23:59:59**, the configured interface is invoked when the **Call Ending** diagram element is reached at any time of a day.
- **Sending Interval**: interval for invoking the interface, in days. The value is an integer and cannot exceed 365. If this parameter is set to **-1**, the interface is not invoked periodically. The invocation is triggered when the **Call Ending** diagram element is reached at any time.

Using the Diagram Element

Click the diagram element or drag it to the canvas.

Typical Application Scenario

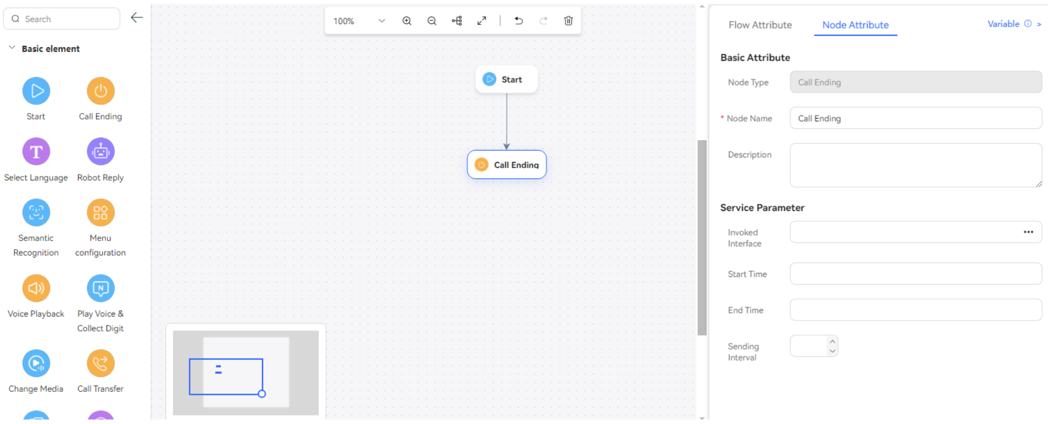
If you need to invoke a third-party interface to implement a specific business when using the **Call Ending** diagram element, you can perform the following operations to ensure that the **Call Ending** diagram element can be reached in any case:

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and add a normal end flow that contains only the **Start** and **Call Ending** diagram elements, as shown in the following figure. You do not need to configure the invoked interface for the **Call Ending** diagram element.

Figure 2-250 Normal end flow



2. Save and publish the flow.
3. Choose **Flow** > **Orchestration** and add an actual business flow. Do not directly connect a **Call Ending** diagram element as the last diagram element of the flow. Instead, connect a **Subflow** diagram element to transfer the flow to the normal end flow added in **Step 2.1**. In this way, the **Call Ending** diagram element can be reached in any case, including after the flow is transferred.

Figure 2-251 Actual business flow (Subflow diagram element)

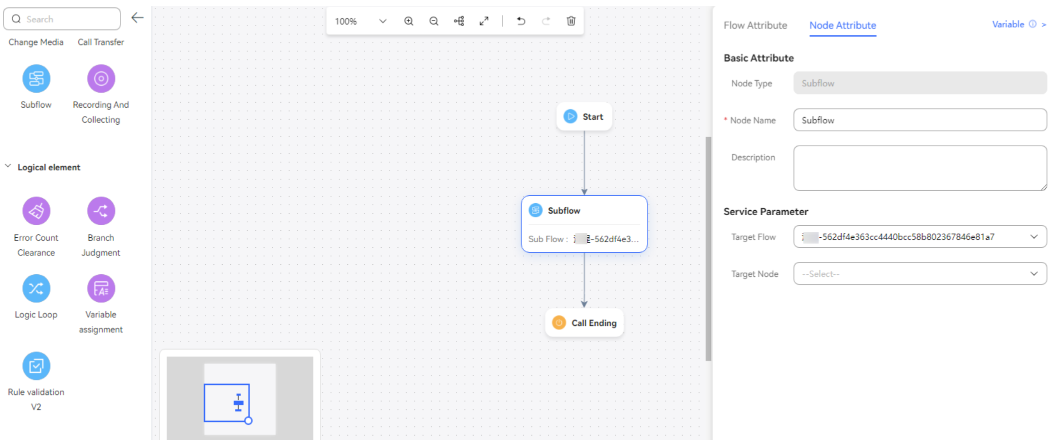
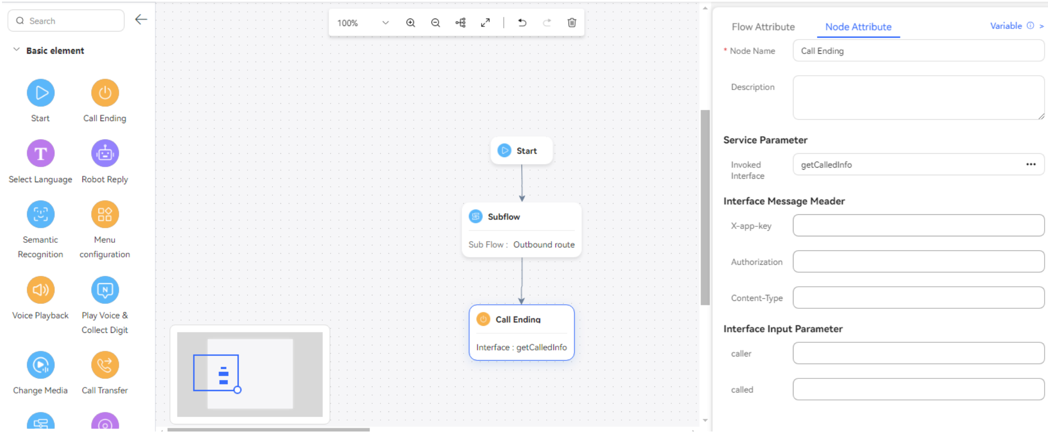


Figure 2-252 Actual business flow (Call Ending diagram element)



4. Save and publish the flow.

NOTE

When the flow execution passes through the **Call Transfer** diagram element and the transfer is successful, the third-party interface configured in the **Call Ending** diagram element is not invoked.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

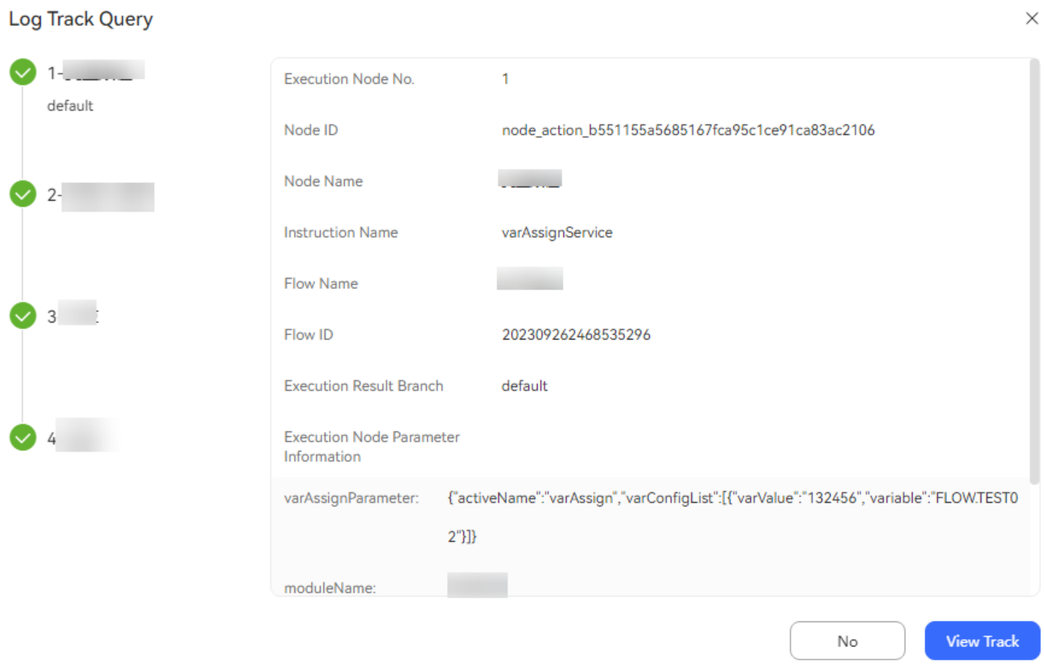
In the test dialog box that is displayed, click **Trace Settings** and enable **Calling Number Tracing**. Click **Start Call** to test the robot.

NOTE

If you do not set **Calling Number** before making a call, the default calling number 123456789 is used.

Step 5 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. The following figure shows that the flow has reached the **Call Ending** diagram element through the **Subflow** diagram element.

Figure 2-253 Flow track log page

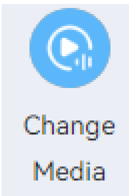


----End

2.6.3.10.4 Switching Between Voice and Video Calls

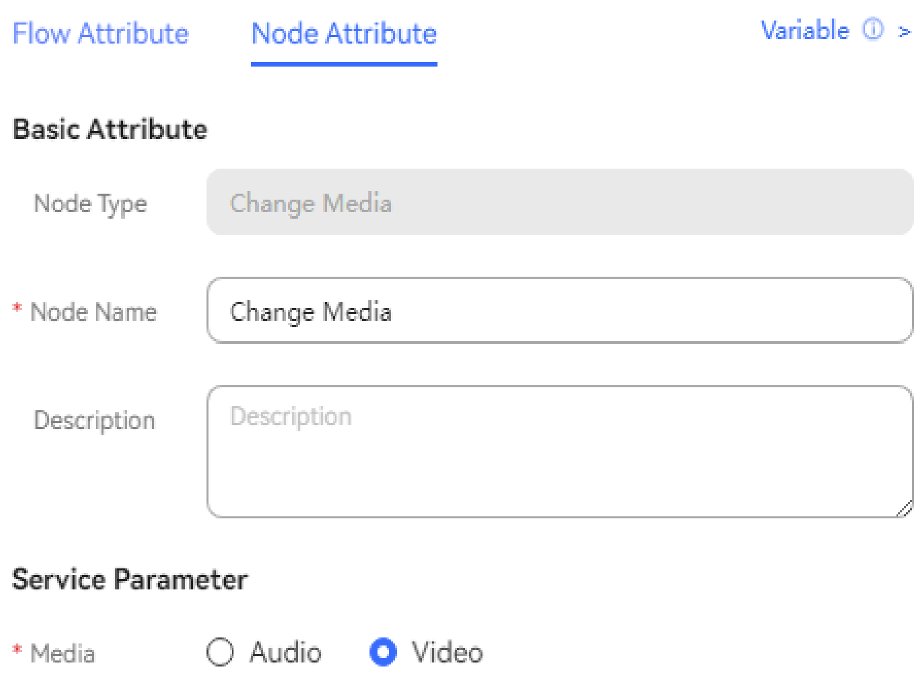
During a customer's call to the IVR, you can switch between voice and video calls.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Change Media** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name.
- **Media**: Select a target media type. The options are **Audio** and **Video**.

Condition Branch Description

Table 2-120 Condition branch description

Condition Branch	Description	Usage
Switching failure	Failure to switch from a voice call to a video call or from a video call to a voice call	Triggered upon a switching failure.

Typical Application Scenario

Voice and video calls need to be switched between each other when businesses are handled for a customer. The corresponding media capabilities are used to intuitively display businesses.

2.6.3.10.5 Voice Playback

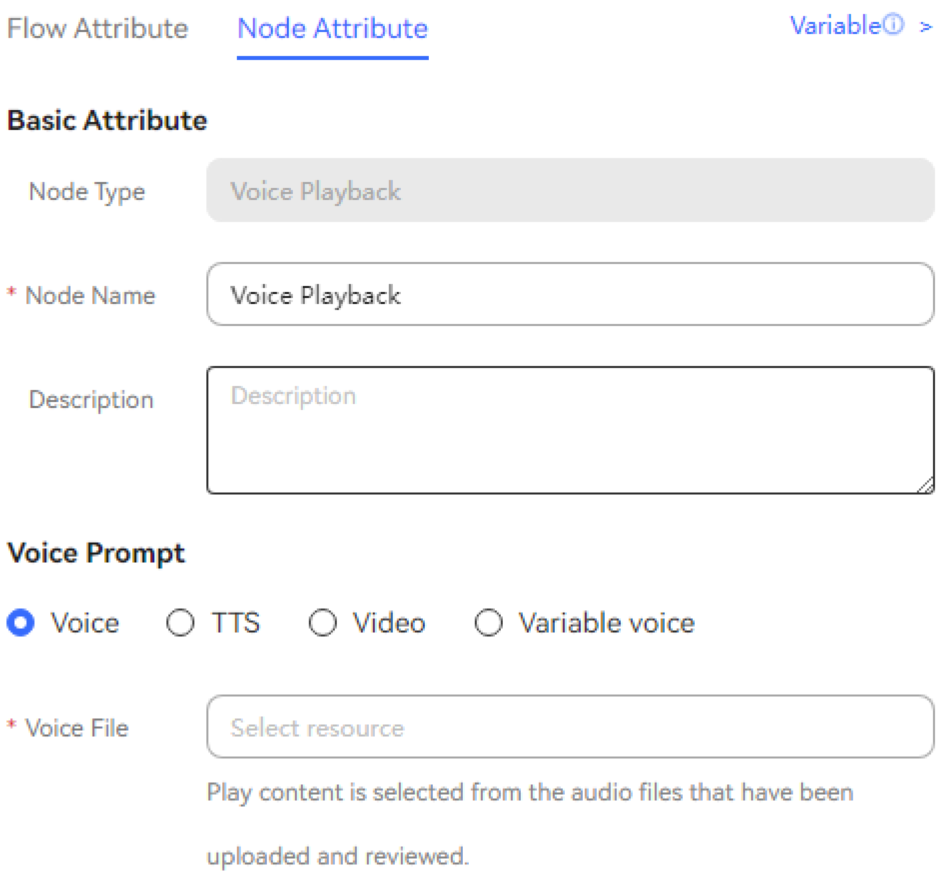
This diagram element is used to play a voice (for example, welcome voice) or video segment without interacting with the customer. The system supports WAV (8 kHz, 8 bits) voice files, TTS files, and video files.

Diagram Element

Voice Playback

Parameter Description

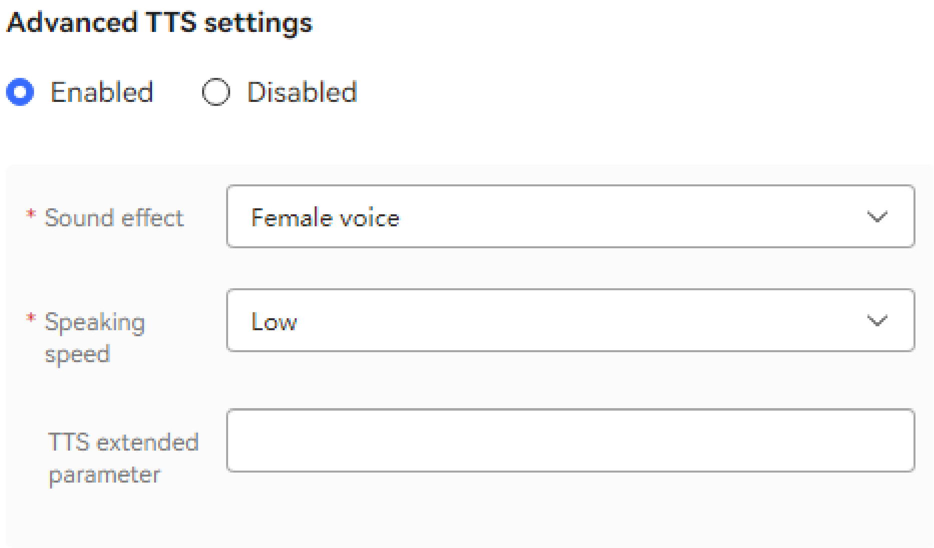
The following figure shows the parameters of the **Voice Playback** diagram element.



The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, **Video**, or **Variable voice**. You can click an option button to select a voice type.

- **Voice**: Upload a voice file in WAV format. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
- **TTS**: Generate a voice file in TTS mode. TTS channels must have been configured. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.

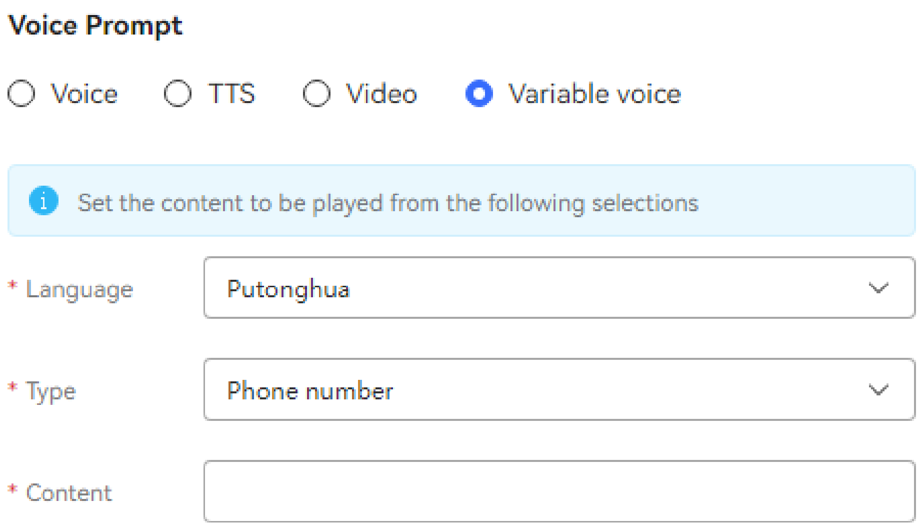


  - **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
  - **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.
  - **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.

NOTE

To use the TTS function, you need to contact the system administrator to sign in to the AICC and configure a TTS server for your tenant space.

- **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.
- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list. You can click and select a required file.
- **Variable voice**: Voices can be customized by setting the language, type, and content.



- **Language**: Select a voice playback language.

  NOTE

  If you select a non-Mandarin or non-English language for the variable voice, contact O&M personnel to customize the syntax package and voice file.

- **Type**: Select a voice playback type. The options are **Phone number**, **Number**, **time(hh:mm:ss)**, **Date(yyyymmdd)**, and **Price**.

- **Content**: Select the content defined by the global variable (**GLOBAL.***) or flow variable (**FLOW.***).

  NOTE

  If **Type** is set to date or time, the format of the selected variable must be consistent with that in the brackets.

- Click **Save** to save all parameters set on the current page.

Condition Branch Description

Table 2-121 Condition branch description

Condition Branch	Description	Usage
Voice playback failure	Failure to play a voice, video, TTS, or variable voice	Triggered upon a playback failure.

Typical Application Scenario

- When a voice call is transferred to an IVR flow, the system plays the welcome voice.

- During execution of an IVR flow or when an IVR flow is about to end, the system plays a voice prompt.

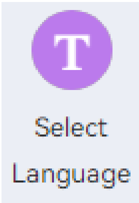
2.6.3.10.6 Voice Playback and Digit Collection

The function of this diagram element is the same as that of the **Play Voice & Collect Digit** diagram element for configuring an intelligent robot. For details, see **Voice Playback and Digit Collection**.

2.6.3.10.7 Language Selection

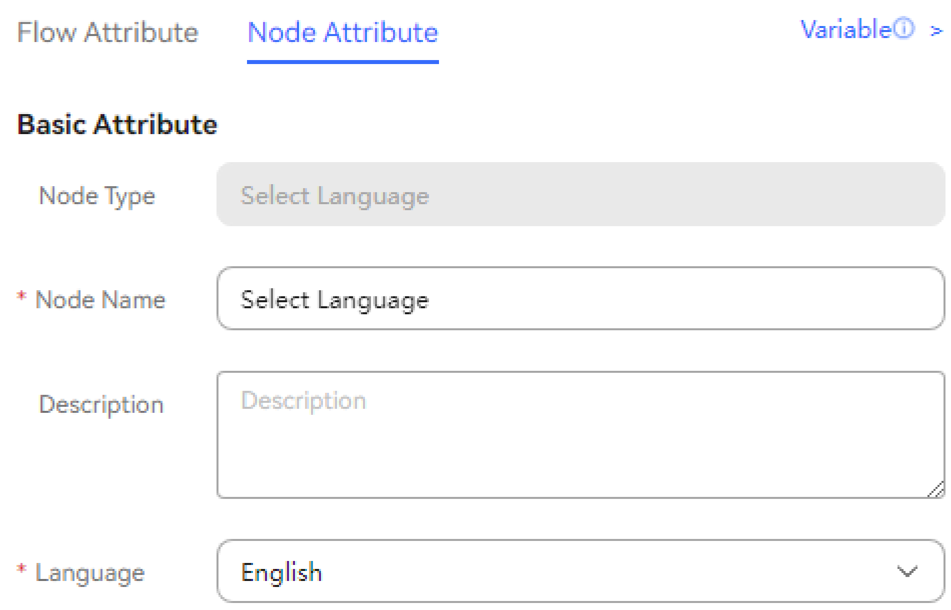
This diagram element is used to set the language for playing voices.

Diagram Element



Parameter Description

The following figure shows parameters of the **Select Language** diagram element.



The parameters are described as follows:

- **Node Type**: The value is **Select Language**, which cannot be changed.
- **Node Name**: Enter the diagram element name to be displayed on the canvas.
- **Language**: Select a language, based on which a branch can be selected in the flow later. Currently, **Chinese**, **English**, **Portuguese**, **Thai**, **Spanish**, **French**,

and **Arabic** are supported. The options are the languages configured in **2.6.3.2 Managing Voice and Video Resources**.

Typical Application Scenario

This diagram is used in the scenario where a customer needs to select a language. After the system executes the **Play Voice & Collect Digit** diagram element configured for a customer to select a language, the customer selects a language as prompted. For example, the customer can press **0** for Chinese, **1** for English, or **2** for Thai.

2.6.3.10.8 Menu Configuration

This diagram element is used to prompt a customer to select a menu to enter the corresponding branch for processing a specific business.

Diagram Element

Parameter Description

The following figure shows the parameters of the **Menu configuration** diagram element.

Figure 2-254 Menu configuration

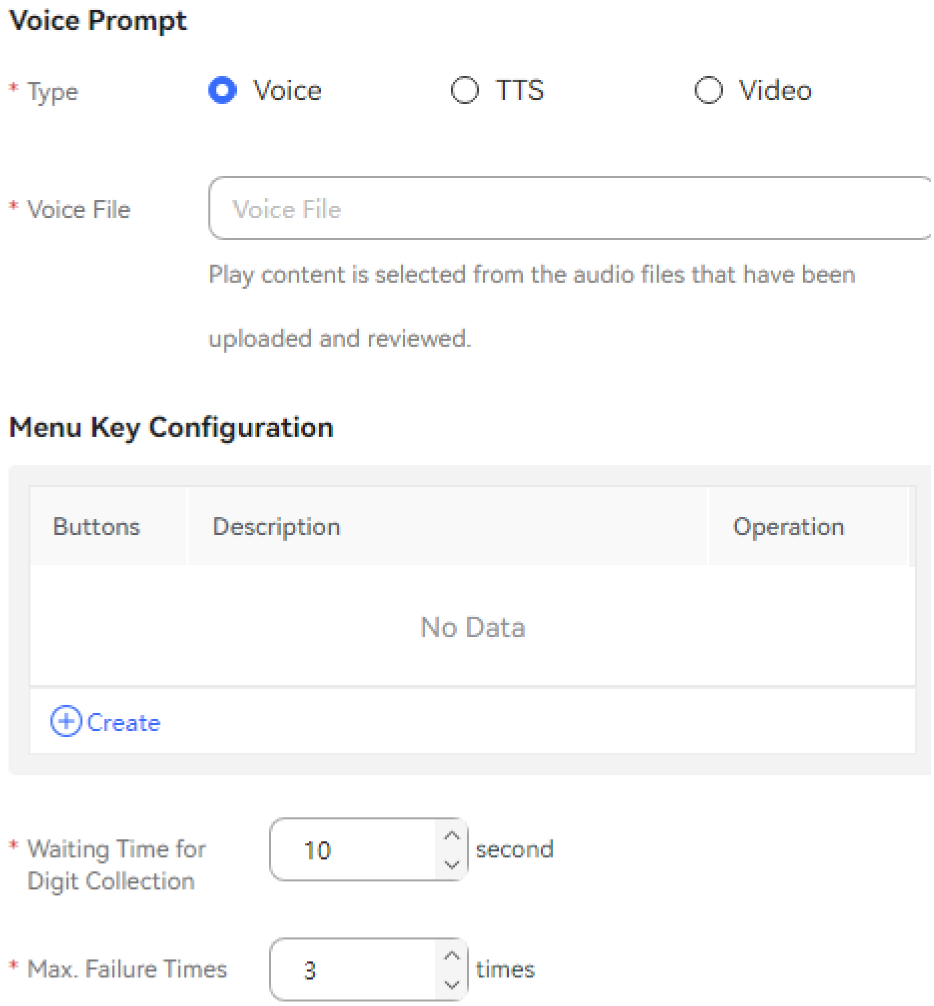
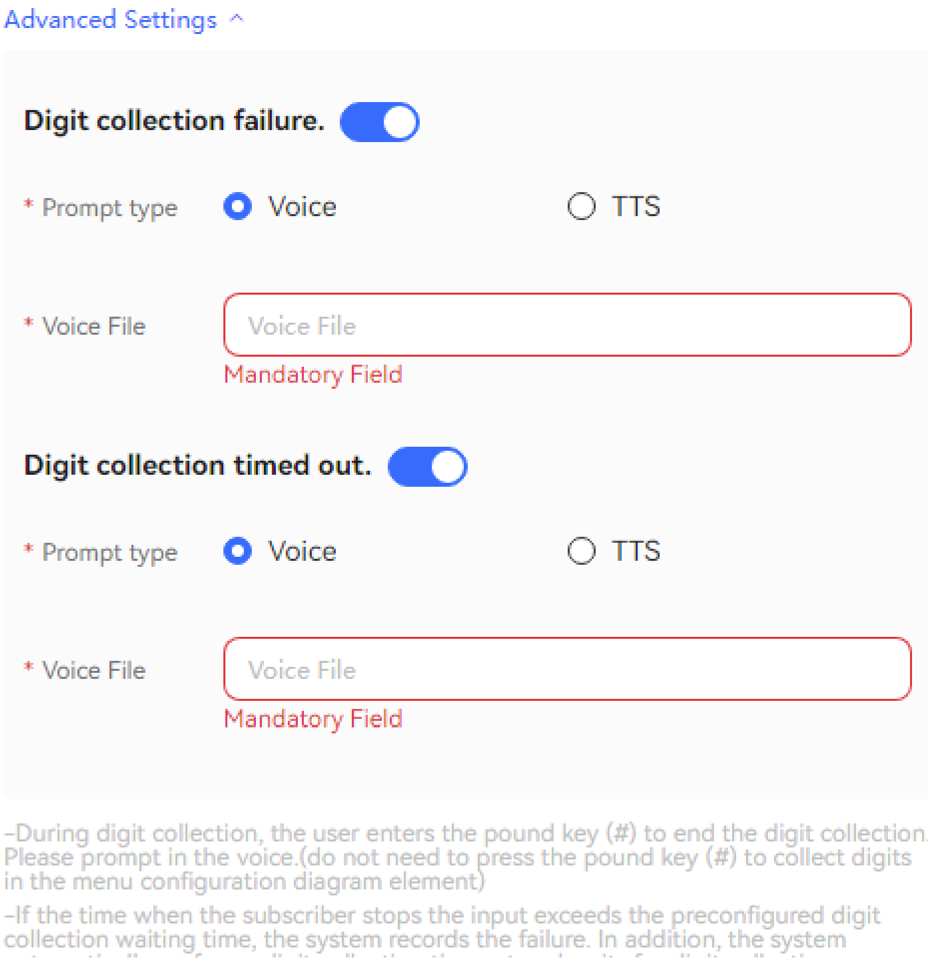
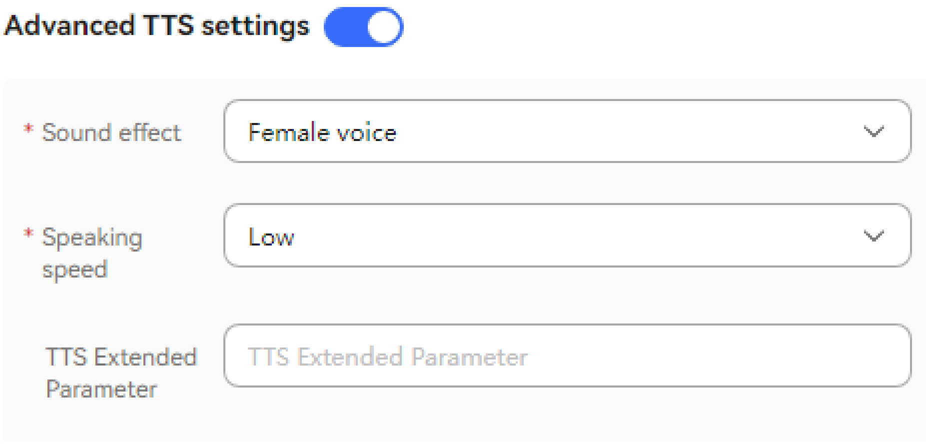


Figure 2-255 Advanced Settings



The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice**: Upload a WAV voice file. The UAP supports only the WAV voice files in the following format: 8 bit, 8000 Hz, 64 kbit/s, and mono.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS Extended Parameter** is not set by default.



        - **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
        - **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.
        - **TTS Extended Parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.
    - **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.
- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list.

  You can click and select a required file.
- **Menu Key Configuration**: service option provided in a flow. Each button maps a service option. You can click **New** to add a service option. Multiple service options are allowed.
    - **Buttons**: number key or character button available on the keyboard or screen, such as **1**, **2**, or **3**.
    - **Description**: service introduction of a key or button, which can be displayed in the menu. For example, if you set **Buttons** to **1** and **Description** to **Query member information**, a customer can press 1 to query member information.
    - **Operation**: You can click **New** to add a service option, click **Delete** to delete a service option, and click **Down** or **Up** to adjust the sequence of a service option.
- **Waiting Time for Digit Collection**: time to wait for the digit input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
- **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.

– **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.

– **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- By default, **Digit collection failure** and **Digit collection timed out** are disabled in the **Advanced Settings** area. If the capabilities are disabled, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

- You can click **Save** to save all parameters set on the current page.

Condition Branch Description

Table 2-122 Condition branch description

Condition Branch	Description	Usage
Timeout or other keys	Digit collection timeout or out-of-range key	Triggered when digit collection times out or the key is out of the range.

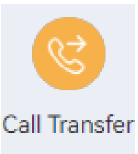
Typical Application Scenario

In a flow, multiple service options need to be provided for a customer to select. For example, a customer can press **1** to query member information, **2** to query traffic information, **3** to make complaints or provide suggestions, or **0** to obtain manual services.

2.6.3.10.9 Call Transfer

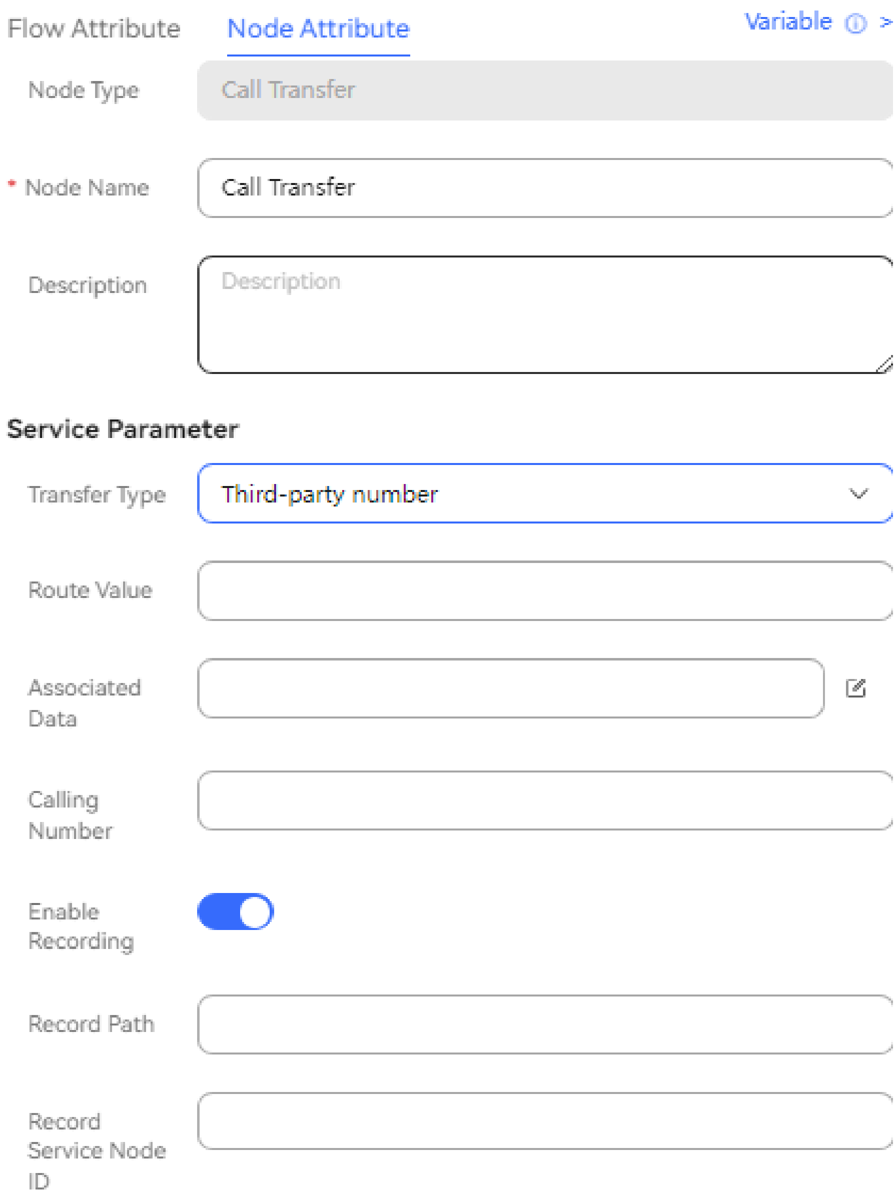
This diagram element is used to transfer a call to an IVR flow (an existing key pressing flow) or an agent.

Diagram Element



Parameter Description

Figure 2-256 Node Attribute

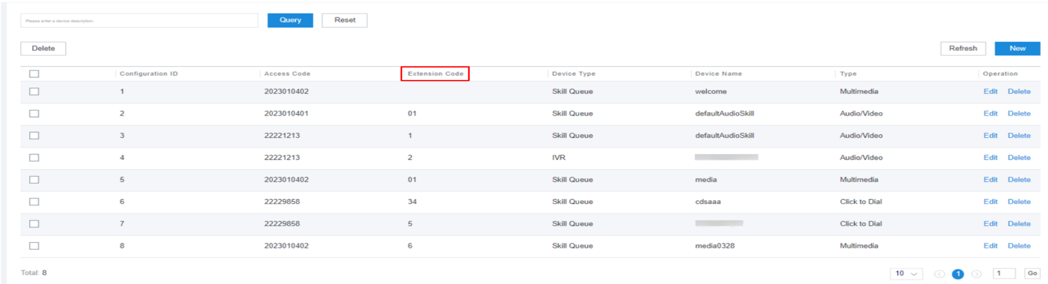


- **Node Name**: name of a node.
- **Description**: details of a node.
- **Transfer Type**: The options are as follows:
  - **Skill Queue (Route Extension Code)** (1)
  - **IVR** (2)
  - **Skill Queue (Name)** (3)
  - **Transfer to Skill Queue (Customized Route)** (10)
  - **Agent** (4)

- **Third-party number** (5)
- **Online Digital Assistant** (6)
- **Audio and video familiar customers** (9)
- **Multimedia familiar customer** (7)
- **Skill queue (MAgent)** (8)
- **Familiar customer message** (31)
- **Skill queue message (name or access code)** (32)
- **Message to an Agent** (33)

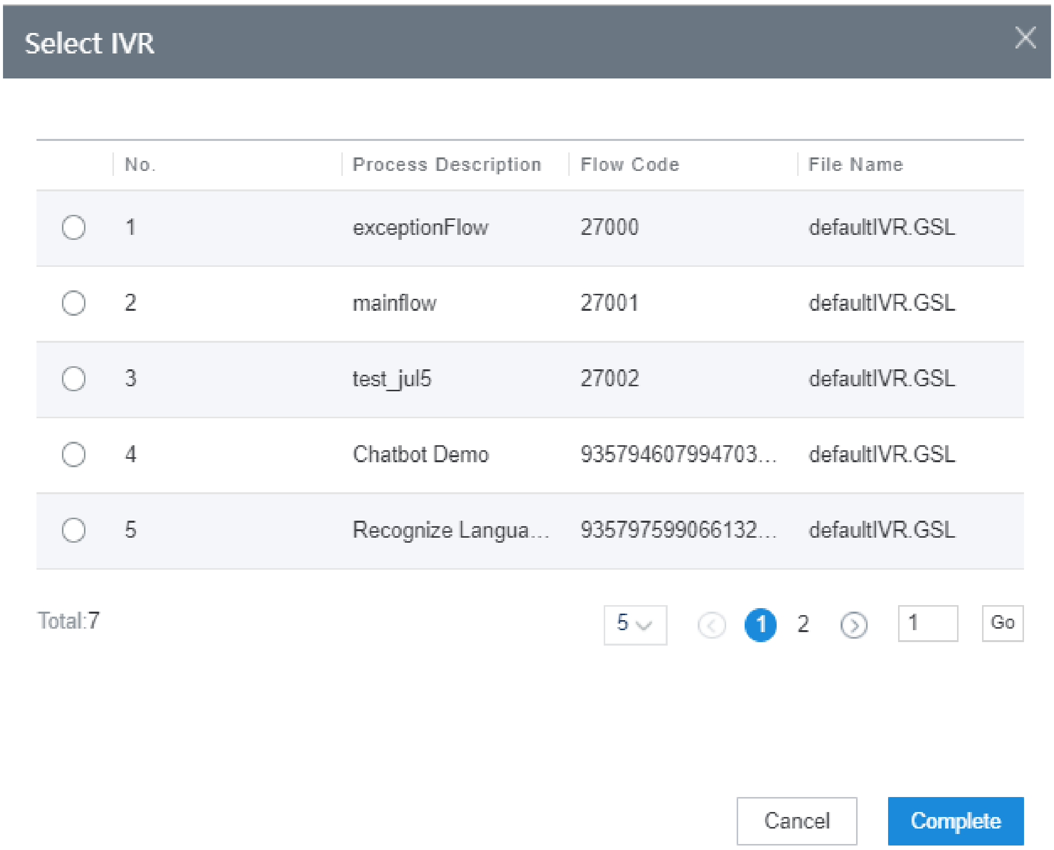
- **Route Value**: Select a value from the drop-down list box.
  - If **Transfer Type** is set to **Skill Queue (Route Extension Code)**, set this parameter to the extension code for transferring to a skill queue. For this configuration, you need to ensure that the manual flow and the current flow are under the same system access code. The call is transferred to the manual skill queue through the extension code configured on the **Called Party** page.

    Figure 2-257 Extension Code

  - If **Transfer Type** is set to **IVR**, set this parameter to the IVR flow access code.

    The following figure shows the IVR flow access code in the AICC integrated deployment mode.



- If **Transfer Type** is set to **Skill Queue (Name)**, set **Route Value** to the name of the skill queue where the agent to whom the call is transferred resides, for example, **Agent Group 1**. You can choose **Configuration Center** > **Employee Center** > **Skill** to view the skill queue name.
- If **Transfer Type** is set to **Transfer to Skill Queue (Customized Route)**, set the corresponding routing policy.
- If **Transfer Type** is set to **Agent**, set this parameter to the platform agent ID of the agent to whom the call is transferred.
- If **Transfer Type** is set to **Third-party number**, set this parameter to the third-party number.
- If **Transfer Type** is set to **Online Digital Assistant**, set this parameter to the flow route code agreed with the third-party intelligent system.
- If **Transfer Type** is set to **Audio and video familiar customers**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 3**.
- If **Transfer Type** is set to **Multimedia familiar customer**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 3**.
- If **Transfer Type** is set to **Skill queue (MAgent)**, set this parameter to the platform agent ID or variable corresponding to the agent to whom the call is transferred.
- If **Transfer Type** is set to **Familiar customer message**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 3**.

– If **Transfer Type** is set to **Skill queue message (name or access code)**, set this parameter to the name or access code of the skill queue where the agent to whom the call is transferred resides.
– If **Transfer Type** is set to **Message to an Agent**, set this parameter to the platform agent ID or variable corresponding to the agent to whom the call is transferred.

- **Routing Policy**: This parameter needs to be set only when **Transfer Type** is set to **Transfer to Skill Queue (Customized Route)**. The options are **Percentage** and **Number segment**.

Figure 2-258 Setting Routing Policy to Percentage

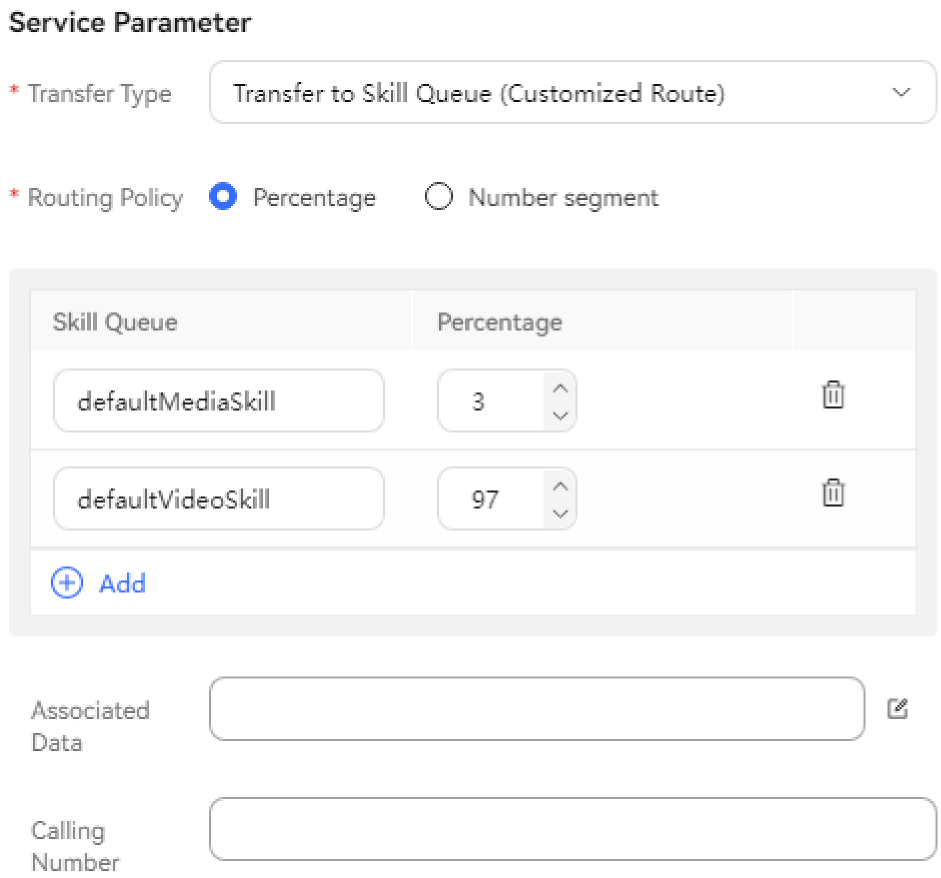
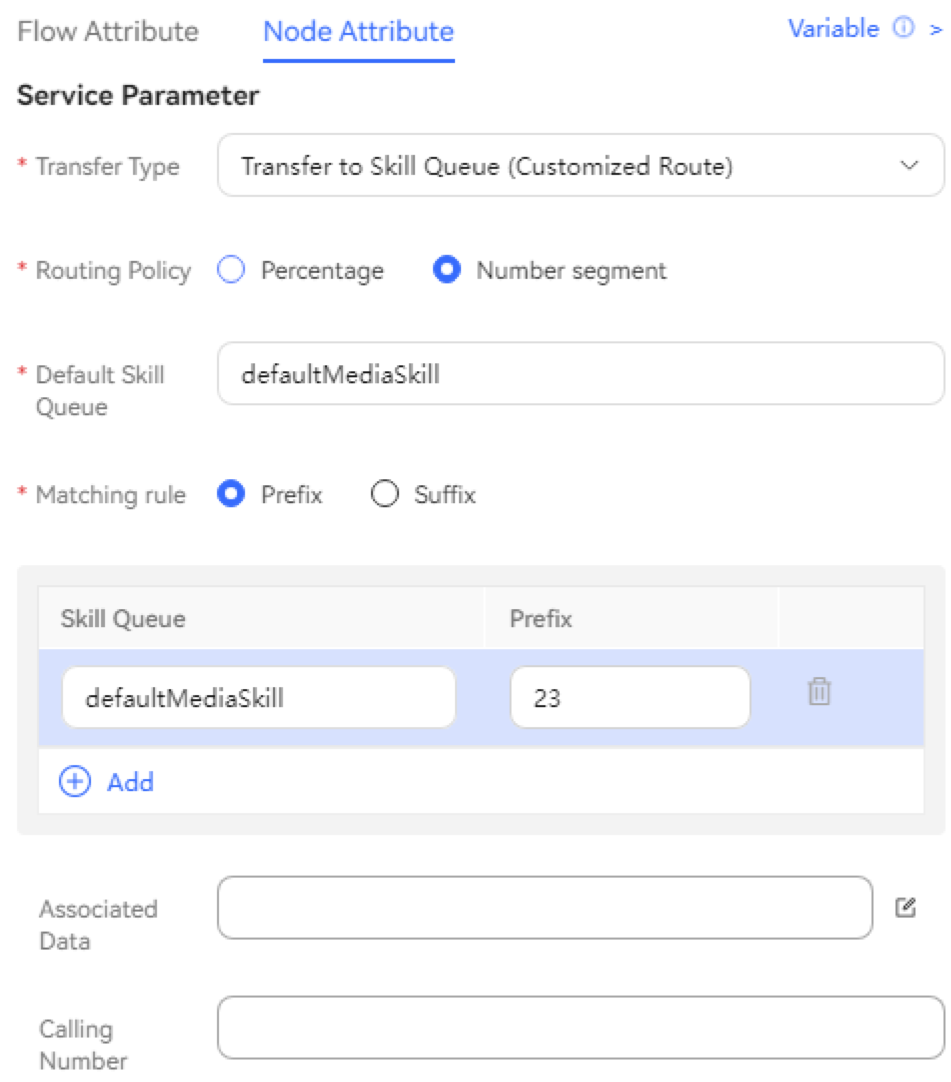


Figure 2-259 Setting Routing Policy to Number segment



- Percentage configuration: When **Routing Policy** is set to **Percentage**, you need to configure multiple skill queues and their routing percentages. During call transfer, the system dynamically assigns calls to skill queues based on the percentage configuration.

Table 2-123 GUI elements for the percentage configuration

Element/Component	Type	Description	Value Range	Triggering Event	Remarks
Skill Queue	Drop-down list	Skill queue to which calls are transferred.	All skill queues except multimedia skill queues	Click	• A skill queue cannot be selected repeatedly.
Percentage	Text box	Percentage of calls transferred to a skill queue during transferred-to skill queue assignment.	1 to 100	Enter	The total percentage must be 100.
	Button	Delete a percentage setting.	-	Click	-
⊕ Add	Button	Add a percentage setting.	-	Click	-

- **Default Skill Queue**: When **Routing Policy** is set to **Number segment**, you need to select a skill queue as the default skill queue to which calls are transferred when no skill queue is matched based on the number segment matching rule configuration.
- **Matching rule**: When **Routing Policy** is set to **Number segment**, you need to select a matching rule. The options are **Prefix** and **Suffix**.
- Number segment matching rule configuration: When **Routing Policy** is set to **Number segment**, you can select different skill queues and configure different prefixes or suffixes for them. During call transfer, the system transfers calls whose calling numbers exactly match the configured prefixes or suffixes to the corresponding skill queues.

Table 2-124 GUI elements for the number segment matching rule configuration

Element/Component	Type	Description	Value Range	Triggering Event	Remarks
Skill Queue	Drop-down list	Skill queue to which calls are transferred.	All skill queues except multimedia skill queues	Select	• A skill queue cannot be selected repeatedly.
Prefix/Suffix	Text box	Prefix/Suffix used for calling number matching during call transfer to a skill queue.	-	-	-
	Button	Delete a number segment matching rule setting.	-	Click	-
	Button	Add a number segment matching rule setting.	-	Click	-

- **Associated Data**: The call-associated data can be in JSON format (flow variables and global variables are supported). Manually enter a value, or click the edit icon and add information in the **Set TransferData** dialog box.

Figure 2-260 Set TransferData (transfer to a skill queue, including manual and multimedia skill queues)

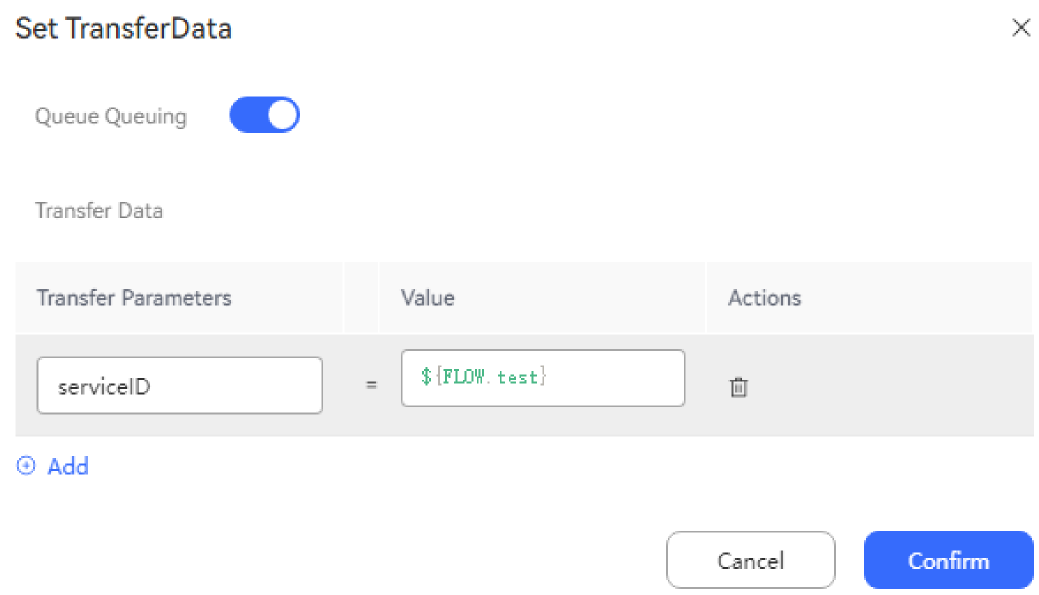


Figure 2-261 Set TransferData (transfer to the last agent, including manual and multimedia agents)

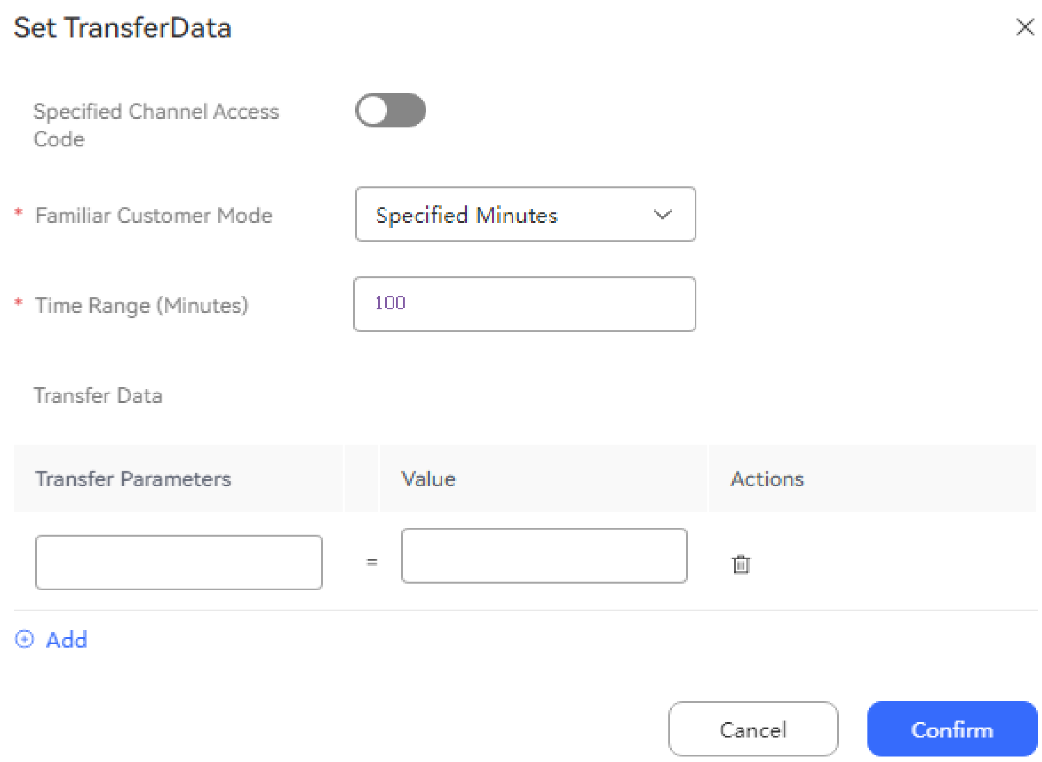
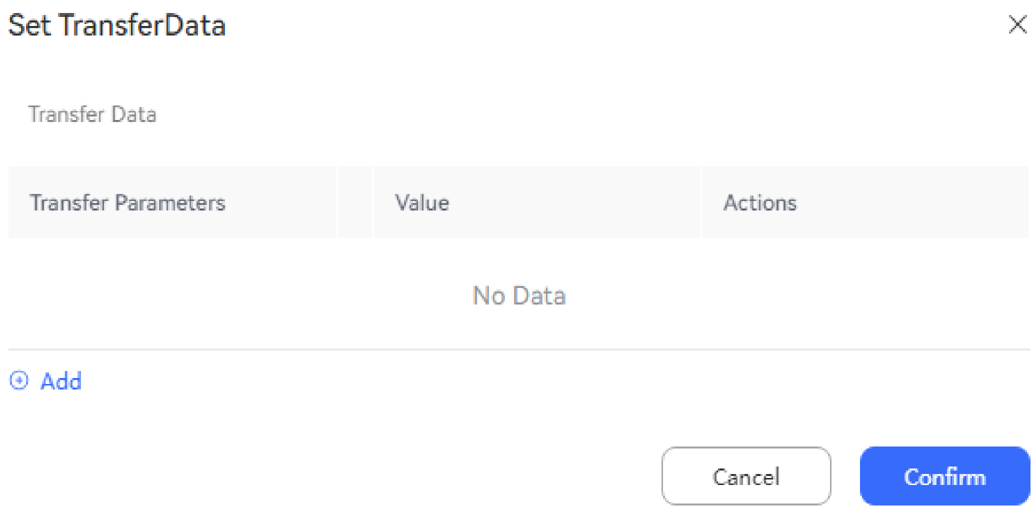


Figure 2-262 Set TransferData (transfer to others)



The format of the generated complete JSON data is as follows:

```
{
 "wait": "Y",
 "isSpecifyAccessCode": "true",
 "type": "1",
 "time": "30",
 "starttime": ""
 "data": {
   "serviceId": ${FLOW.test},
   "yy": "bbb"
 },
}
```

Table 2-125 Call-associated data parameters

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Queue Queuing	wait	Switch	Whether a call can wait in a skill queue until the session times out when the call is transferred to the skill queue.	• **Y** • **N**	Click	This parameter can be set only when a call is transferred to a skill queue, including manual and multimedia skill queues.

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Specified Channel Access Code	isSpecifyAccessCode	Switch	Whether to transfer to the current channel when a call is transferred to the last agent.	• **true** • **false**	Click	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Familiar Customer Mode	type	Drop-down list	Mode of selecting the last agent.	**1**: agent within the specified minutes **2**: agent within the specified time range **3**: agent on the current day	Select	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Transfer Data	data	Table	Call-associated data that needs to be carried during call transfer.	-	-	-

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Transfer Parameters	Customized key	Text box	Key in call-associated data.	-	Enter	• To obtain the customer type field, set the transferred parameter to **customerEntityName**. • To use a visualized service guidance flow, set the transferred parameter to **serviceRequest**.

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Value	-	Text box	Value of the key in call-associated data.	-	Enter	• Variables can be used, for example, **${FLOW.variable}**. • To obtain the customer type field, set the value to **account** or **contact**. • To use a visualized service guidance flow, set the value to the name of a visualized flow configured on the **Configuration Center** > **Workbench Configuration** > **Service Guidance** page, that is, the name of the flow created in **Step 7**.

Element/Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Actions	-	Button	Delete a line of call-associated data.	-	Click	-
Add	-	Button	Add a line of call-associated data.	-	Click	-
Cancel	-	Button	Cancel the editing.	-	Click	-
Confirm	-	Button	Fill back the call-associated data in JSON format.	-	Click	-

- **Calling Number**
  - When **Transfer Type** is set to **Third-party number** (**5**), the number set here is used as the calling number.
  - When **Transfer Type** is set to **Audio and video familiar customers** (**9**), the variable set here is used as the calling number of the customer. The default value is **SYS.callingNumber**.
- **Enable Recording**: This check box is displayed only when **Transfer Type** is set to **Third-party number** (**5**). You can select this check box to enable recording during call transfer from an intelligent IVR to a third-party number. After you select this check box, set the following parameters:
  - **Recording File Name**: Enter a flow variable, for example, **FLOW.recordPath**.
  - **Recording Service Node ID**: Enter a flow variable, for example, **FLOW.serviceNo**.

  NOTE

  The recording files in the intelligent IVR can be played and downloaded on the **Contact History** > **Transfer Record** page.

Condition Branch Description

Table 2-126 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Transfer success	Triggered when a call is transferred successfully.
FAILED	Transfer failure	Triggered when a call fails to be transferred. After this branch is triggered, the flow is not interrupted and does not automatically go to the exception handling flow.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.

Using the Diagram Element

The **Call Transfer** diagram element is used when a call needs to be transferred to another destination device in the AICC, for example, to a common IVR self-service flow or an agent.

Click the diagram element or drag it to the canvas, and set **Transfer Type** and **Route Value** as prompted.

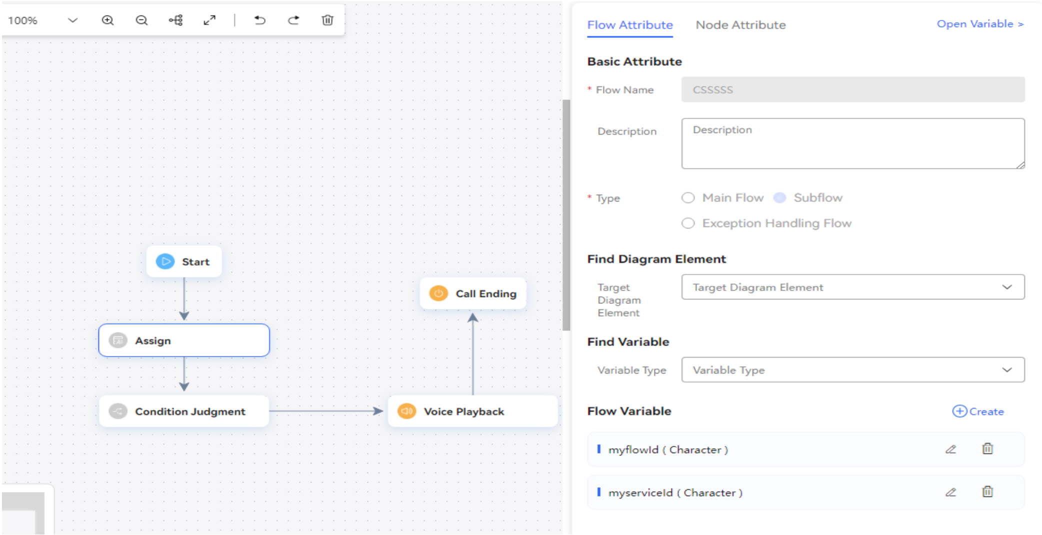
Typical Application Scenario

The following describes how to use the **Call Transfer** diagram element to transfer a call from an intelligent IVR flow to a common IVR flow when call-associated data in JSON format is carried.

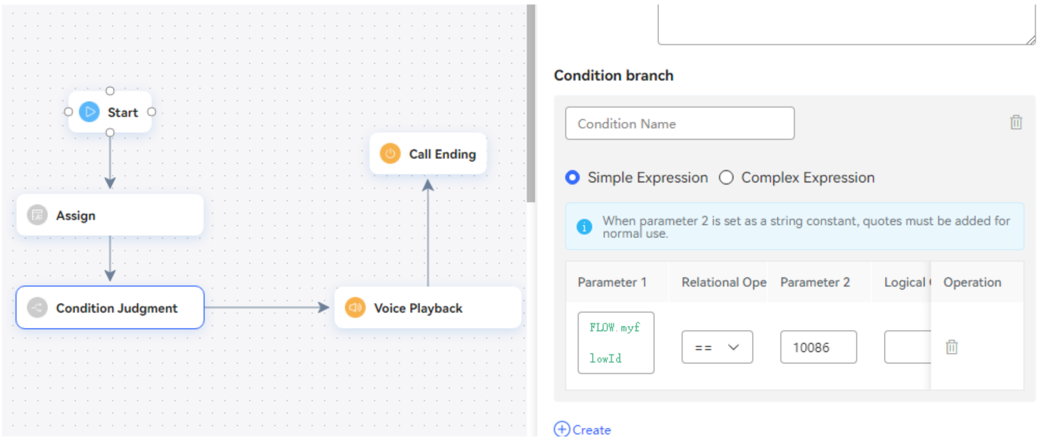
Step 1 Sign in to the AICC.

Step 2 Configure a common IVR flow.

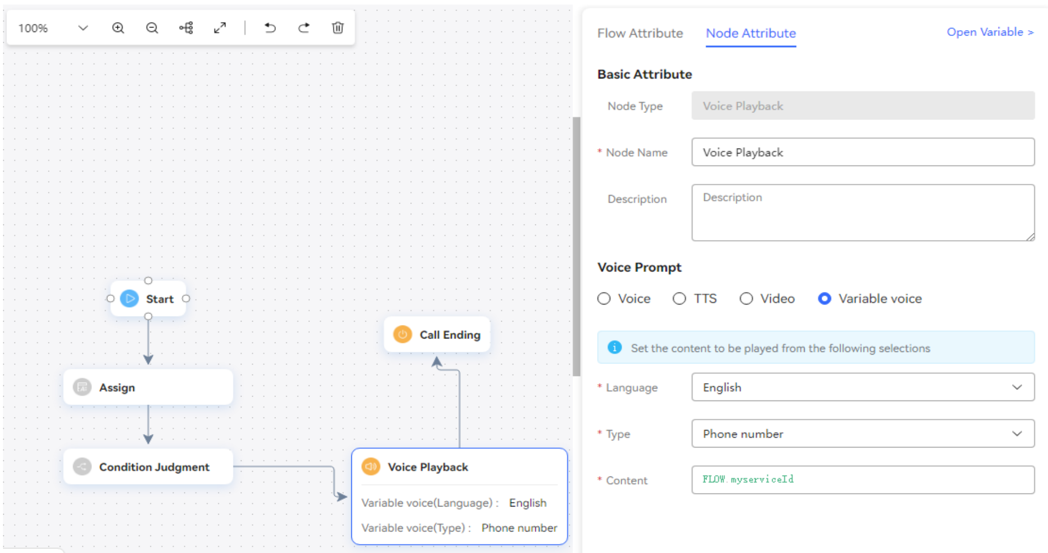
1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** and add a common IVR flow.
2. Add flow variables, as shown in the following figure, and configure an **Assign** diagram element.



3. Configure a **Condition Judgement** diagram element for conditional judgment based on the call-associated data.



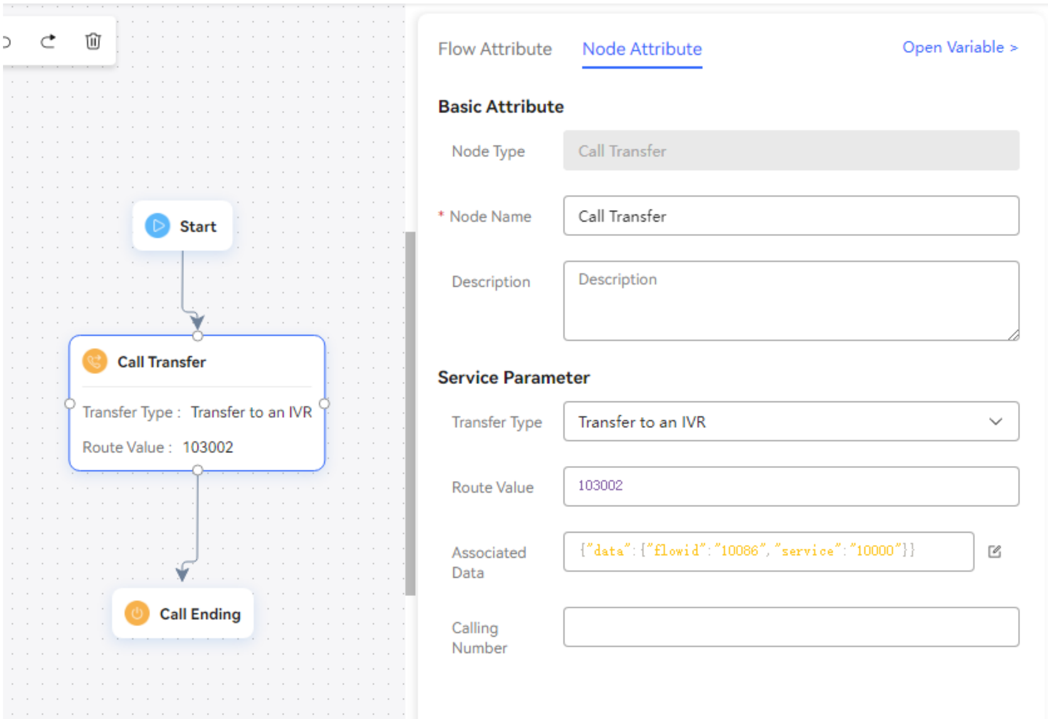
4. Configure a **Voice Playback** diagram element for playing a variable voice.



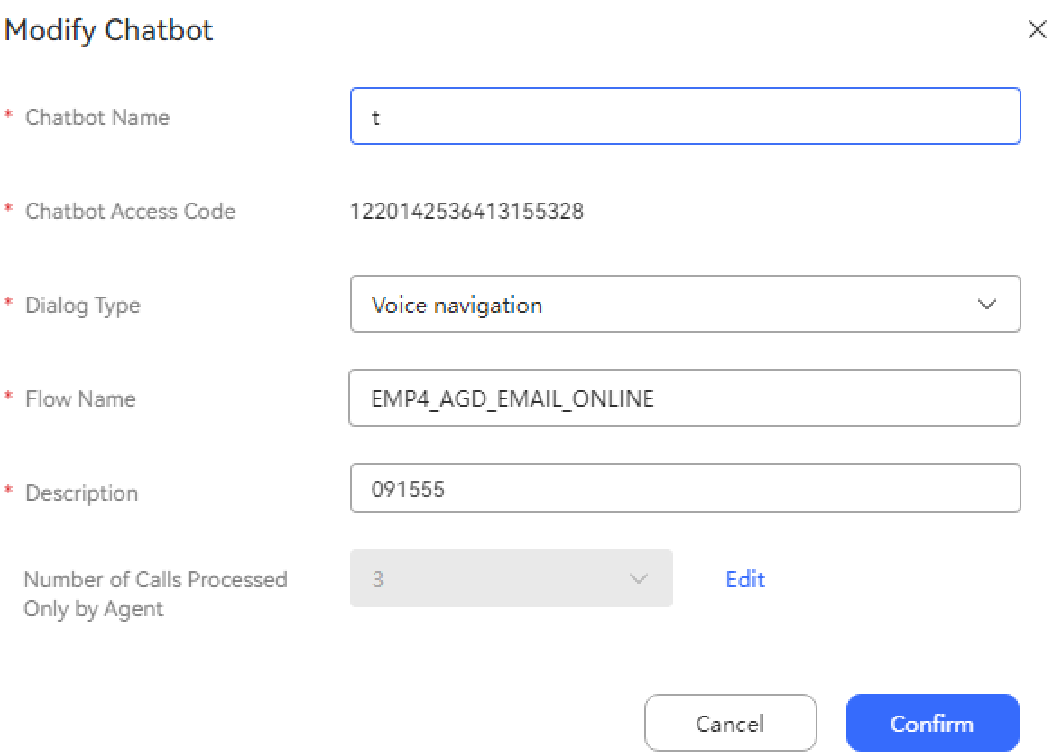
5. Save and publish the flow.

Step 3 Configure an intelligent IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. Choose **Flow** > **Orchestration**, add an intelligent IVR flow, add a **Call Transfer** diagram element, and set service parameters of the diagram element, as shown in the following figure.



3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.



Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 3**.

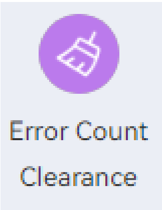
Step 5 Log in to the OpenEye and dial the access code added on the **Called Party** page. If "10000" is heard, the call-associated data (**service_id**: **10000**) transferred by the intelligent IVR is successfully obtained.

----End

2.6.3.10.10 Error Count Clearance

This diagram element is used to clear previous error records when a customer needs to be transferred to another flow due to a number of intention matching errors.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

Condition Branch Description

Table 2-127 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Error Count Clearance** diagram element is used when the number of semantic recognition and key pressing errors do not need to be accumulated.

Click the diagram element or drag it to the canvas.

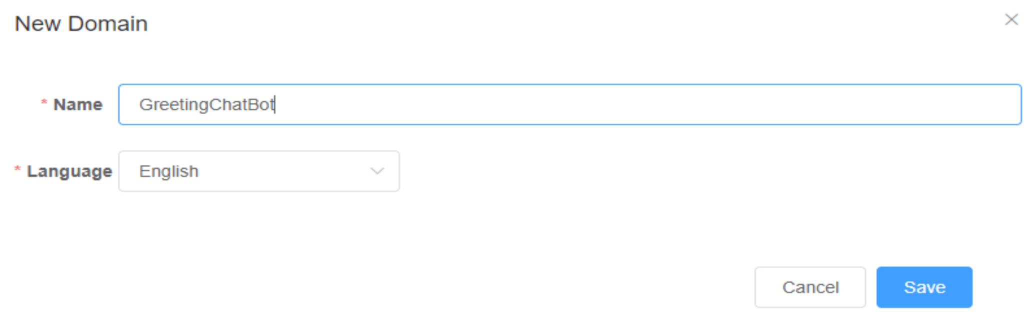
Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Configure a domain and an intention.

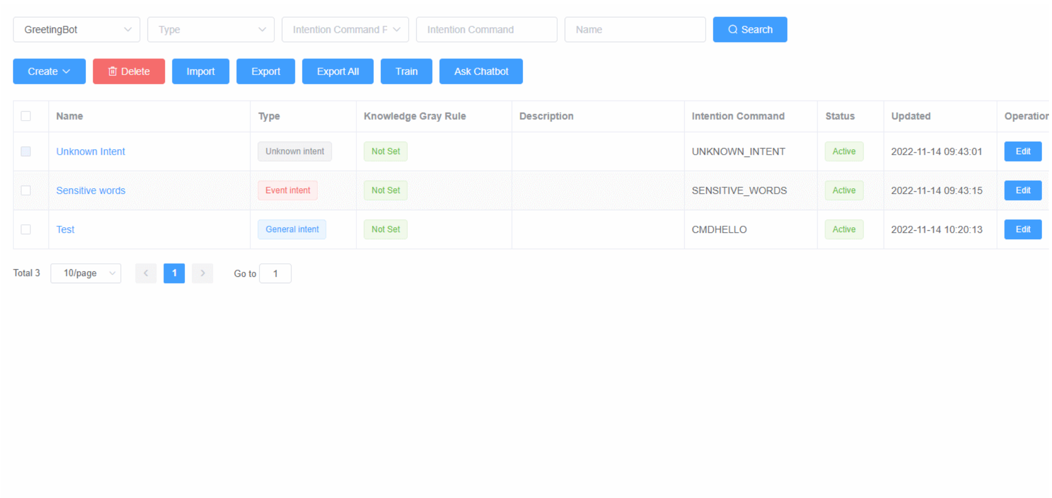
1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

Figure 2-263 Creating a domain



2. Click the name of the new domain. The **Intention Management** page is displayed.
3. Click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

Figure 2-264 Creating an intention



4. Click **Active** corresponding to the new intention to activate it.

Step 3 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-265 Flow variables to be added

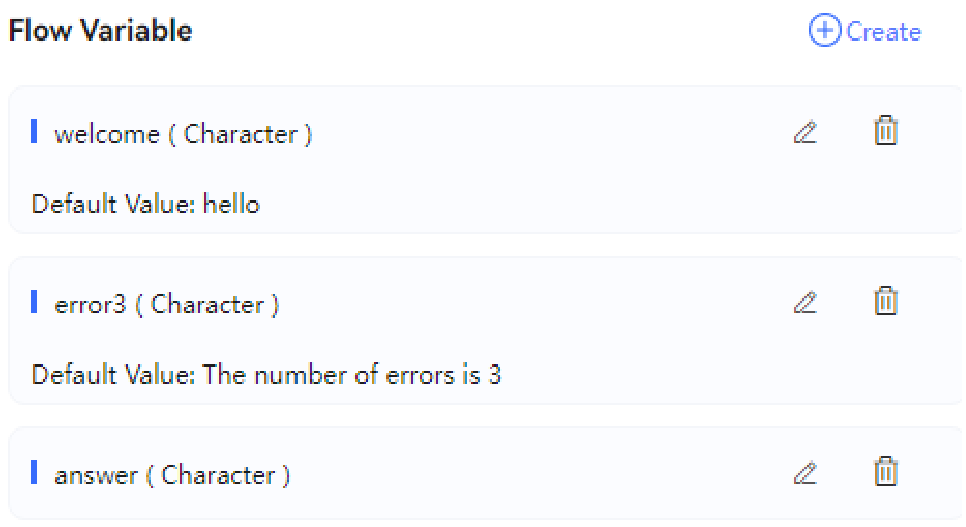
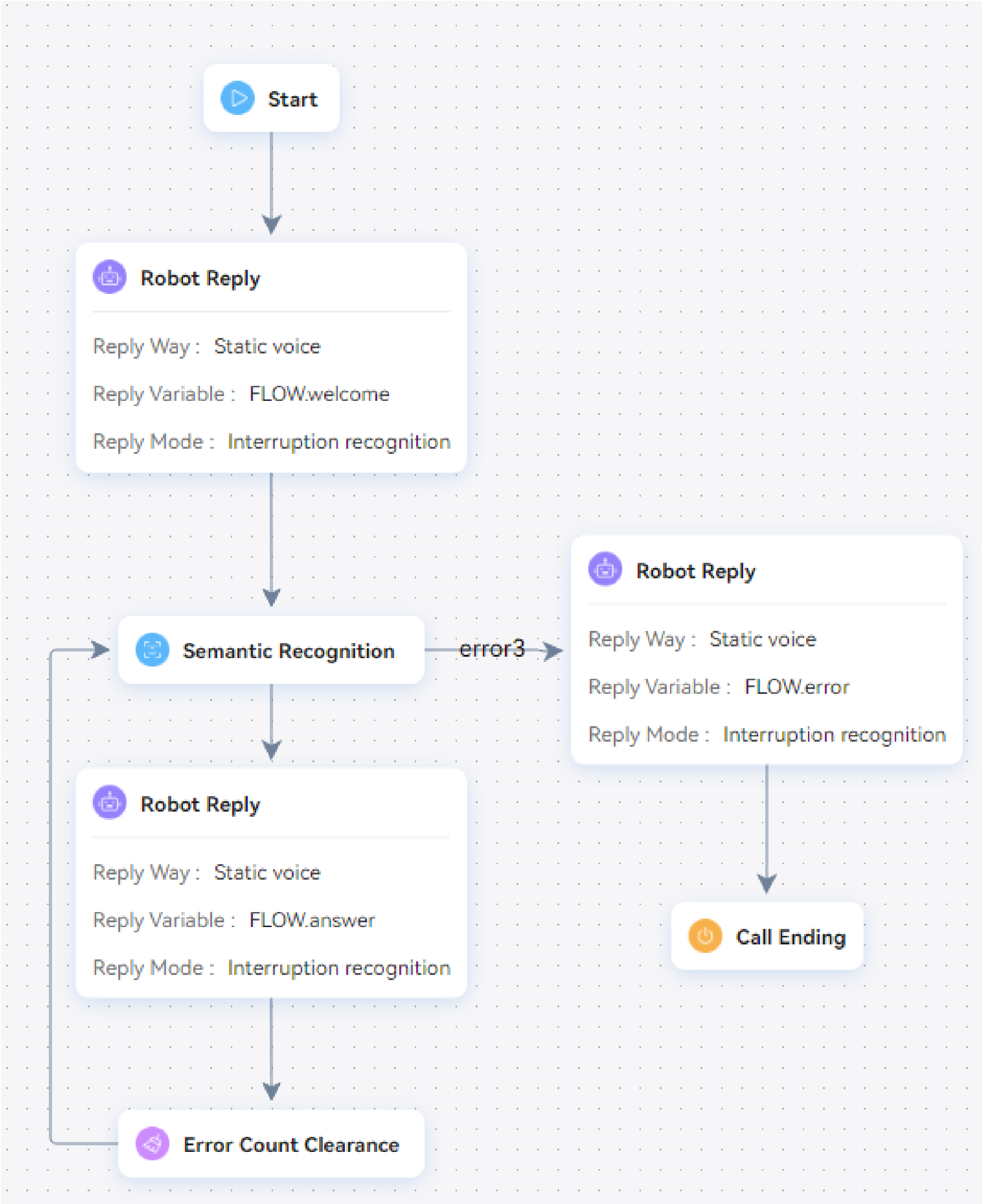


Figure 2-266 Flow orchestration example (Semantic Recognition diagram element)



– Use the reply variable **FLOW.answer** for the **Robot Reply** diagram element below the **Semantic Recognition** diagram element to send the reply to the matched intention.

– Use the reply variable **FLOW.error3** for the **Robot Reply** diagram element below the **error3** condition branch of the **Semantic Recognition** diagram element to send the reply "The number of errors is 3" for three semantic recognition errors.

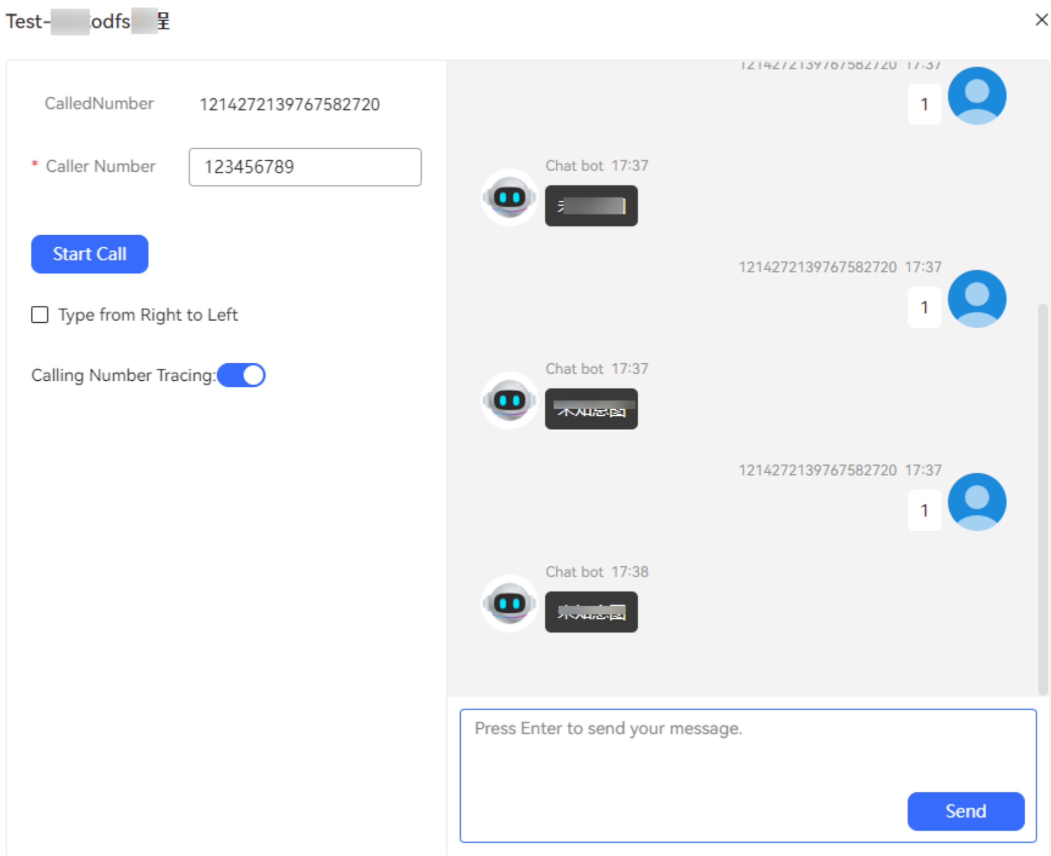
3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. Enter incorrect corpuses continuously. If the robot keeps replying "Unknown intent" and does not reply "The number of errors is 3" for more than three semantic recognition errors, the **Error Count Clearance** diagram element takes effect in the flow.

Figure 2-267 Testing the robot

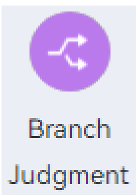


----End

2.6.3.10.11 Branch Judgment

This diagram element is used to judge branches.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element.

Condition Branch Description

Table 2-128 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Condition Judgment** diagram element is used when branch flows need to be executed based on different conditions. It makes the flow logic clearer.

Click the diagram element or drag it to the canvas, and click 

under **Condition Branch** to add a condition expression.

Typical Application Scenario

For details about how to use the **Branch Judgment** diagram element, see **Typical Application Scenario**. The typical application scenario of the **Key Recognition** diagram element involves the **Branch Judgment** diagram element.

2.6.3.10.12 Logic Loop

This diagram element is used to perform an operation on an object repeatedly until a certain condition is met.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Counter**: flow variable that stores the number of elements in a list.

- **Loops**: objects to be traversed. Generally, the object list is the value obtained by the previous node, for example, the customer list obtained by a stored procedure.
- **Loop Object**: flow variable that stores the value of the object obtained each time when the object list is traversed.

In addition to four variables, the **Logic Loop** diagram element provides two default branches: **inLoop** and **outLoop**. The **inLoop** branch executes the logic when a loop is entered, that is, some actions during object list traversal. The **outLoop** branch executes the actions after object list traversal.

Condition Branch Description

Table 2-129 Condition branch description

Condition Branch	Description	Usage
inLoop	Loop list traversing	Triggered when the loop list traversing is not completed.
outLoop	Completed loop list traversing	Triggered when the loop list traversing is completed.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Logic Loop** diagram element is used when an operation needs to be performed repeatedly until a certain condition is met.

Click the diagram element or drag it to the canvas, and set loop conditions and objects.

Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-268 Flow variables to be added

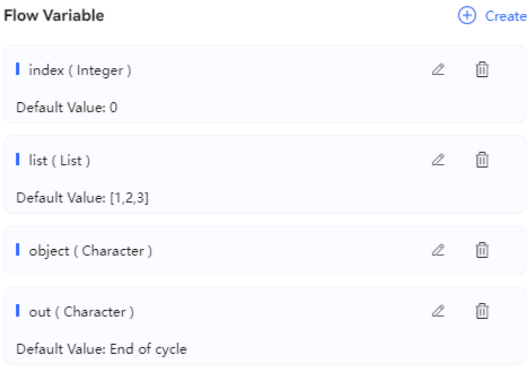
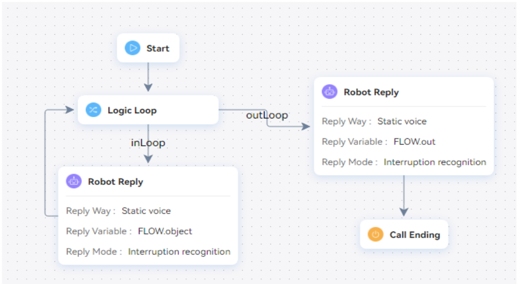


Figure 2-269 Flow orchestration example (Logic Loop diagram element)



- The **Robot Reply** diagram element of the **inLoop** condition branch traverses **FLOW.list** and outputs the values in **FLOW.list**.
- The **Robot Reply** diagram element of the **outLoop** condition branch outputs **FLOW.out**, indicating that the loop ends.

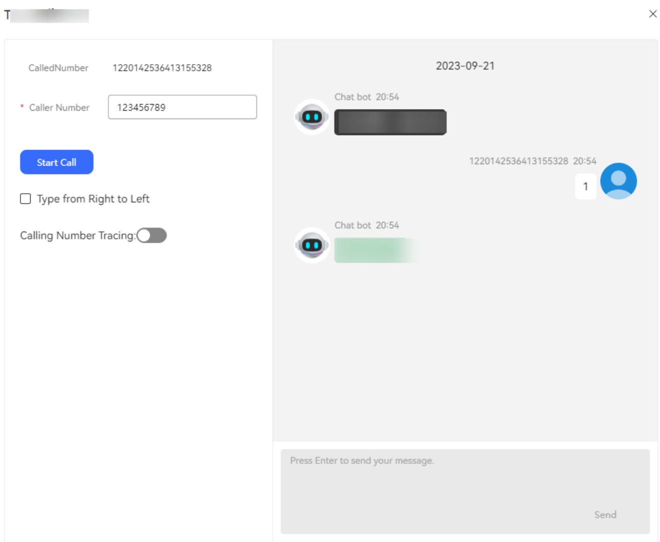
3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot outputs results properly, the configuration is successful.

Figure 2-270 Testing the robot

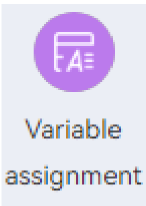


----End

2.6.3.10.13 Variable Assignment

Use this diagram element by referring to the **JSON Data Invoking** diagram element. This diagram element is used to obtain call-associated data and assign values.

Diagram Element



Parameter Description

None

Condition Branch Description

Table 2-130 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no satisfaction option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

(1) When the call-associated data is in JSON format, this diagram element can be used to obtain the parameters of a specified node and assign values to the parameters.

(2) Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

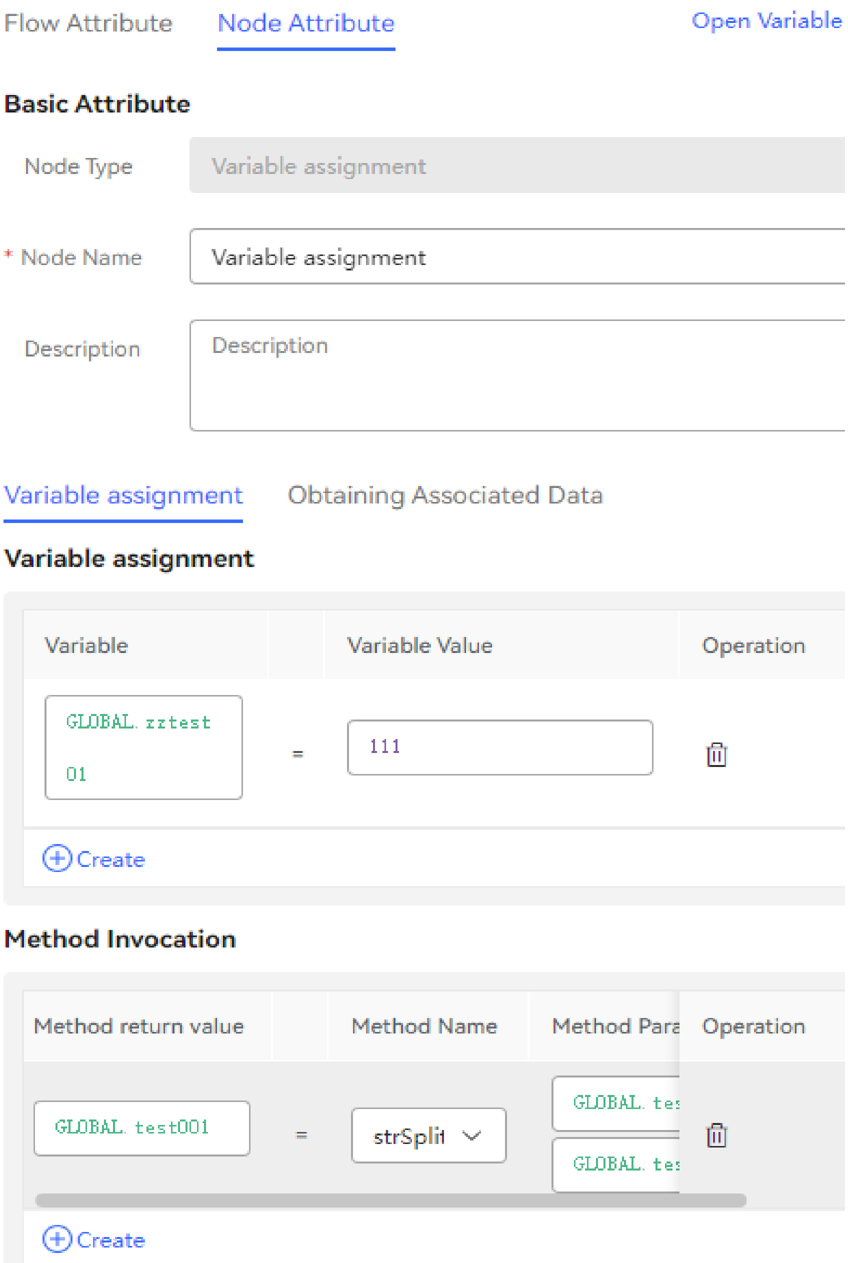
Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Assigning Values to Variables

Step 1 During data value assignment, in addition to string and integer data, expression calculation is also supported. Integer data supports the following arithmetic operations: +, -, *, and % (). Data supports **FLOW**, **GLOBAL**, and **SYS**. Example: **(FLOW.xxx+FLOW.yyy)*GLOBAL.zzz**. Note that when / is used for division, the calculation result needs to be received using data of the string type. Integers do not support decimals. String data supports comparison, case conversion, character string concatenation, substring calculation, and length calculation. Example: **FLOW.aaa=="Huawei" FLOW.bb.to FLOW.a.toUpperCase() FLOW.A.toLowerCase() FLOW.hua+FLOW.wei FLOW.len.substring(0,3)FLOW.zzzz.length()**



1. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queuing information is heard, the configuration is successful.

----End

Scenario 2: Obtaining Call-associated Data

Step 1 Orchestrate a flow.

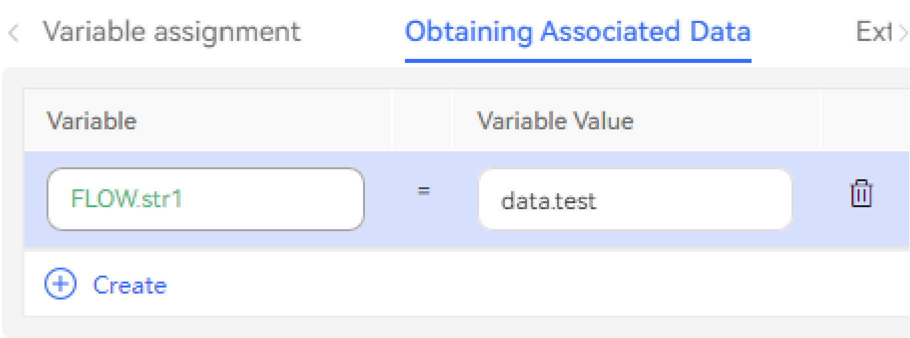
Example 1: Assume that the call-associated data is **{"data":{"test": "Call-associated data test"}}**.

Use the **Variable assignment** diagram element to assign the value of the **test** field in the call-associated data to the flow variable **FLOW.str1**. In this example, the value of **FLOW.str1** is **Call-associated data test**.

Example 2: If the call-associated data of an outbound call task is **{"iSales":{"name":"Tom"}}**, the content **Tom** can be obtained by setting **iSales.name**.

The following figure shows the screenshot based on example 1.

Figure 2-271 Obtaining call-associated data



1. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.
2. Configure a common IVR, add the **Transfer** diagram element, select **Transfer to Intelligent IVR**, and configure call-associated data.
3. Add the **Variable assignment** diagram element to the intelligent IVR flow, and configure a variable on the **Obtaining Associated Data** tab page to receive call-associated data from the common IVR.

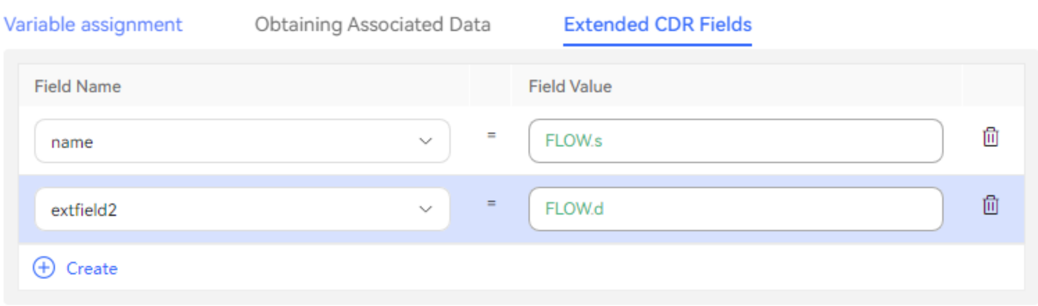
Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. Check whether the call-associated data obtained in the intelligent IVR flow is correct.

----End

Scenario 3: Extended CDR Fields

You can set 10 service information fields (extfield1 to extfield10) to collect customer information and customer operations to be saved in the IVR flow. These fields can be used only when the system parameter **IVRCDRCTRLPARAMS** is enabled. Do not assign values to encrypted variables. The values of encrypted variables are processed as ****** for storage.



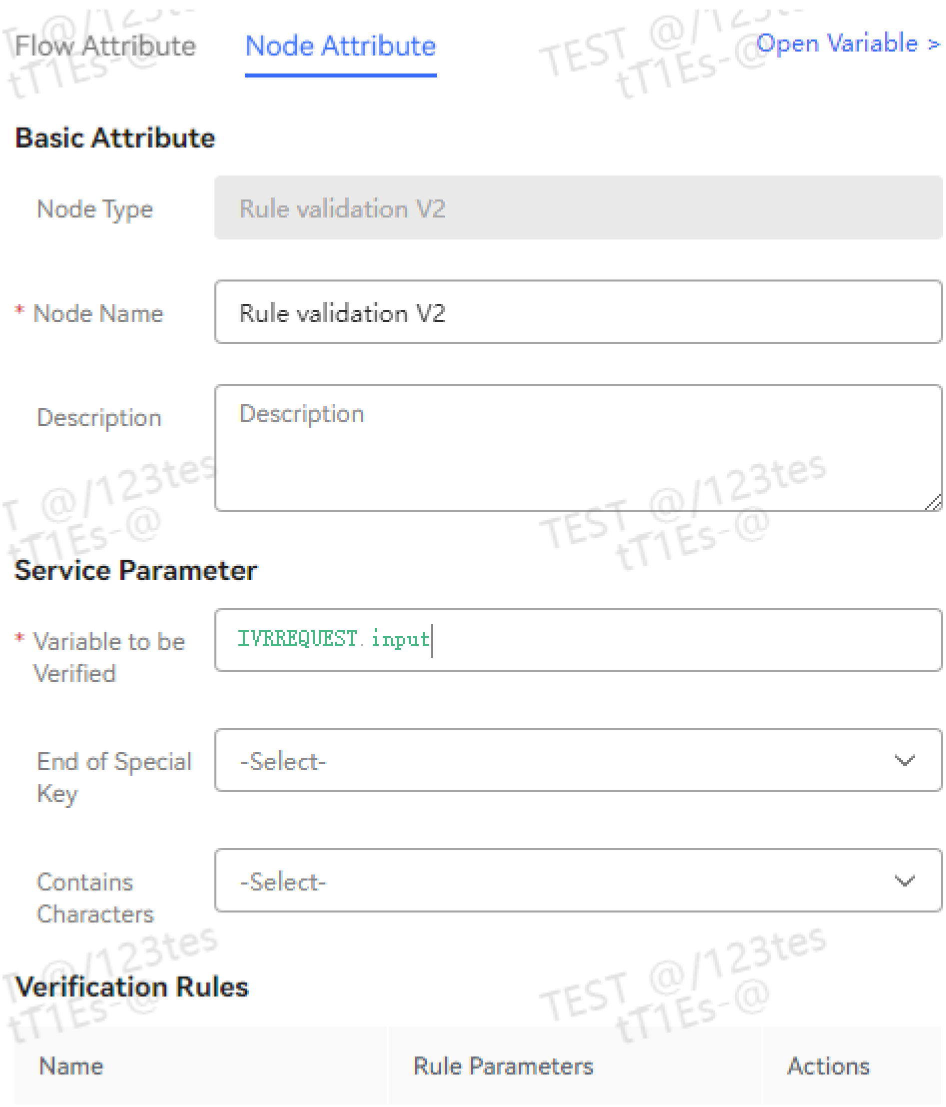
2.6.3.10.14 Rule Validation V2

This diagram element is used to verify the customer input or output based on rules.

Diagram Element

Parameter Description

Figure 2-272 Rule validation V2 parameters



- **Variable to be Verified**: Enter the variable corresponding to the parameter to be verified, for example, **IVRREQUEST.input**.
- **End of Special Key**: Specify the end character of the parameter to be verified. The options are as follows:
  - **With #**
  - **With ***
  - **With # or ***
  - **Without special keys**
- **Contains Characters**: Specify the characters that can be contained in the parameter to be verified. You can select multiple values. The options are as follows:

- **Matches numbers**
- **Matches uppercase letters**
- **Matches lowercase letters**
- **Matches letters, digits, and underscores (_)**
- **Empty character**

Verification Rules

- **Name**: Select a verification rule. The options are as follows:
  - **Minimum Length**
  - **Maximum Length**
  - **Length Range**
  - **Min.**
  - **Max.**
  - **Value Range**
  - **Email**
  - **URL**
  - **Time Format**
  - **Decimal Number**
  - **Positive Integer**
  - **IP Address**
  - **Alphanumeric Underscore (not starting with a number)**
- **Rule Parameters**: Enter rule parameters. Variables are supported.

Condition Branch Description

Table 2-131 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Successful verification	Triggered when the verification is successful.
FAILED	Verification failure	Triggered when the verification fails.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

This diagram element is used to verify the customer voice or keyboard input based on rules.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Rule validation V2** diagram element to verify whether the customer input is a valid date.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-273 Add Variable

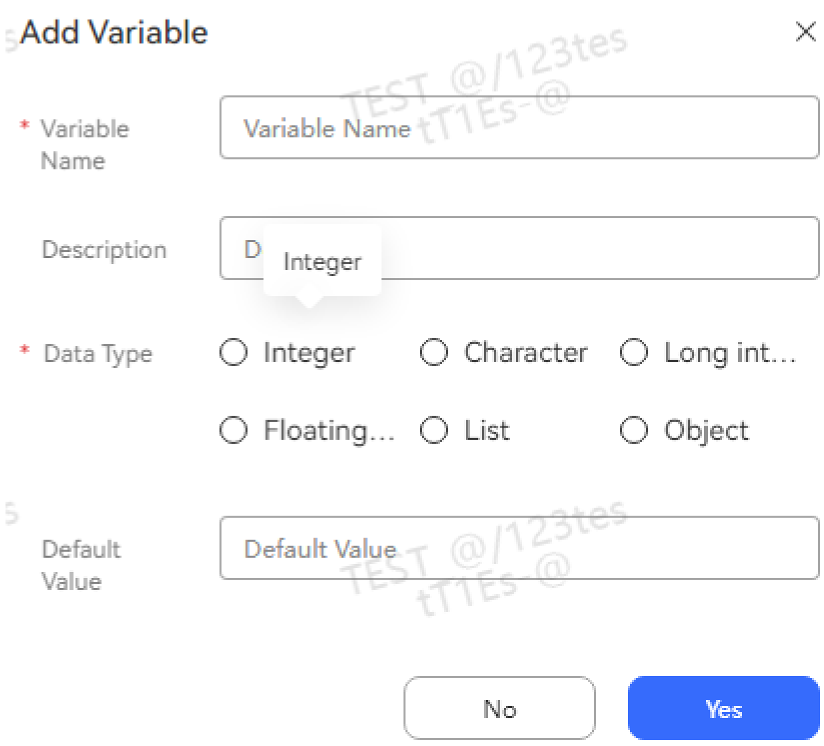
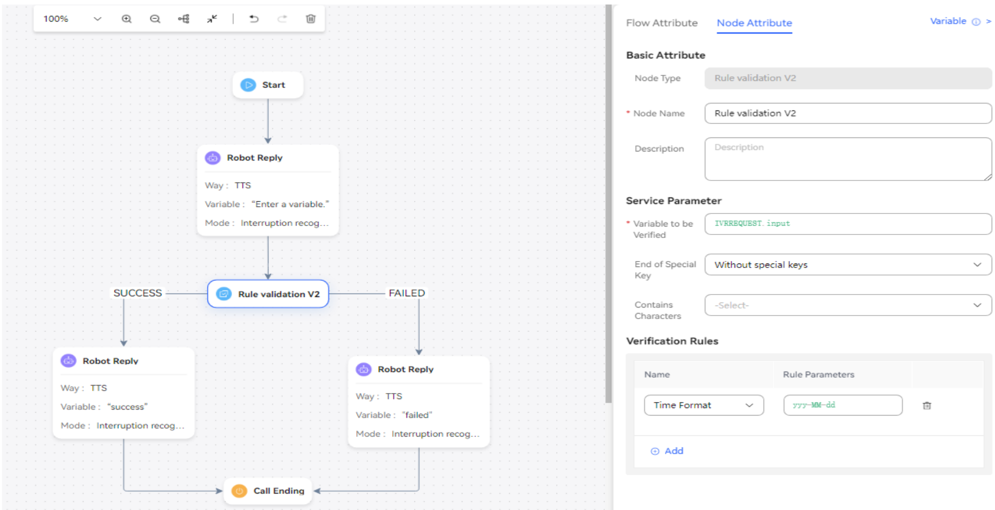


Figure 2-274 Flow orchestration example (Rule validation V2 diagram element)



– Select the reply text **SUCCESS** for the **Robot Reply** diagram element of the **SUCCESS** condition branch, indicating that the time meets the format requirements.
– Select the reply text **FAILED** for the **Robot Reply** diagram element of the **FAILED** condition branch, indicating that the time does not meet the format requirements.

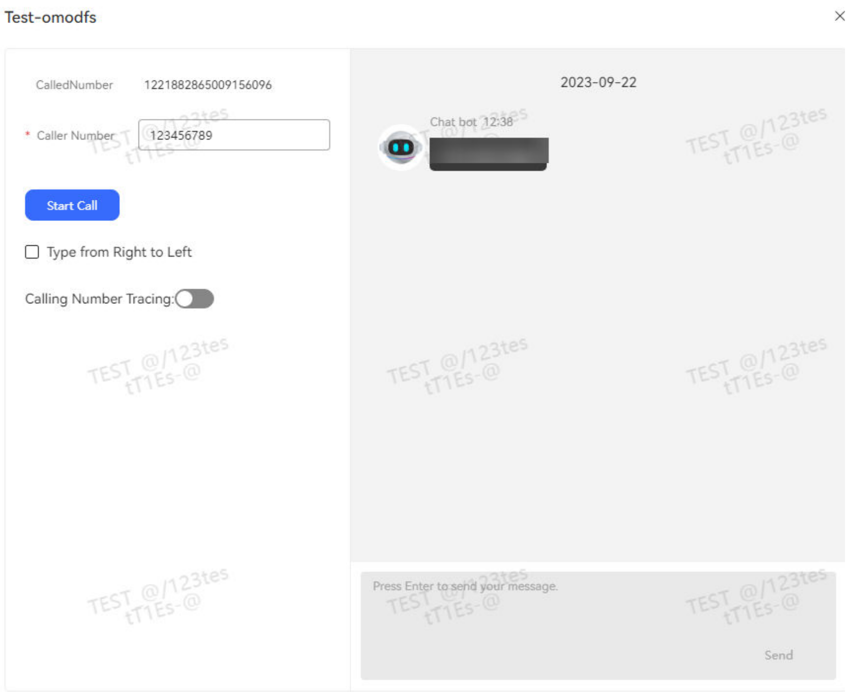
3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers **SUCCESS** or **FAILED** based on the time entered by the customer, the configuration is successful.

Figure 2-275 Testing the robot



----End

2.6.3.10.15 Interface Invocation

This diagram element is used when a third-party system interface needs to be invoked to implement a function. If no interface is selected, you can directly add parameters and assign values to the parameters to implement the function of the diagram element.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Interface Type**: Select the type of the interface to be invoked. The options are **inner interface** and **self defined interface**. If **inner interface** is selected, the following two built-in interfaces are available:
  - **Record Q&A**: This interface used to record the survey ID, question title, user reply intention, original user reply, and other information.
  - **Obtain the APIFabric token**: This interface is used to obtain the API Fabric token. After a robot successfully invokes this interface, the token is

recorded in the cache and can be directly obtained from the cache within the validity period. If the AK/SK is changed, the original cache is not cleared, and this interface fails to be invoked within the cache validity period. To invoke this interface immediately, you can bind the flow to a new robot.

- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **Variable assignment**: variable name and variable value. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a variable here and assign the value of the output parameter to the variable.
- **Condition branch**: condition name and condition expression. Define the branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter. Different subsequent flows can be specified for each branch.
- **Method Invocation**: Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

Condition Branch Description

Table 2-132 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
SYSERROR_INTERFACE	Interface invocation failure	Triggered when an interface invocation exception occurs. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

Click the diagram element or drag it to the canvas, and select the interface to be invoked. The invoked interface needs to be configured on the **Resource** > **Business Interface** page in advance. Alternatively, in the dialog box that is displayed, click **Add** to add an interface. If you use this diagram element to assign a value, you do not need to select an interface. Instead, you can directly add a cache variable and assign a value to it. In this case, you need to maintain global variables in advance.

Typical Application Scenario

For details about how to use the **Interface Invoking** diagram element, see **Typical Application Scenario**. In the typical application scenario of the **Rule Validation** diagram element, the parameter value assignment function of the **Interface Invoking** diagram element is used.

2.6.3.10.16 Data Table

This diagram element is used to search for configuration data. It is used with the **Branch Judgement** diagram element to determine which branch to go to or the next step to process data.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Data Table Name**: name of the data table to be searched.
- **Search Page**: page number of the data table to be searched. Enter an integer or a variable. If this parameter is left blank, the first page is searched by default. The page size is fixed at 10.
- **Search Criteria**: condition for searching a data table.
  - If the field is of the character type, the operator can be **=**, **>**, **>=**, **<**, **<=**, **!=**, **like**, or **in**. If the field value is of the character type, it does not need to be enclosed in quotation marks. If the operator is **in** and the field value is of the list type, each list item must be enclosed in double quotation marks, for example, **["watermelon","apple"]**.
  - If the field is of the integer type, the operator can be **=**, **>**, **>=**, **<**, **<=**, **!=**, or **in**.
  - If the field is of the date type, the operator can be **=**, **>**, **>=**, **<**, **<=**, or **!=**. Set **Field Value** to a timestamp, in milliseconds. A value or variable of the character type or long integer type is supported. A value or variable of the character type does not need to be enclosed in double quotation marks.
- **Return Records**: variable for saving search results. Enter a variable of the list type.
- **Total**: variable for saving the total number of search results. Enter a variable of the integer type.

Condition Branch Description

Table 2-133 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Data Table** diagram element is used when you need to search a customized data table for data.

Click the diagram element or drag it to the canvas. Select a data table and add search conditions.

Typical Application Scenario

Use the **Data Table** diagram element in an IVR flow to search for the milk brand, price, and inventory.

The following describes how to use the **Data Table** diagram element to search for data and then process the data.

Query data records with **milkCount** being greater than 10 from the **milkInfo** table. If the condition is not met, the robot returns a message indicating that no such data record is found. If the condition is met, the robot returns the total number of such data records, data records on the first page that meets the condition, and **milkName** of the first data record.

Prerequisites

You have added a data table by referring to **2.6.2.4.4 Adding Data Tables**, as shown in the following figure.

Figure 2-276 Table fields

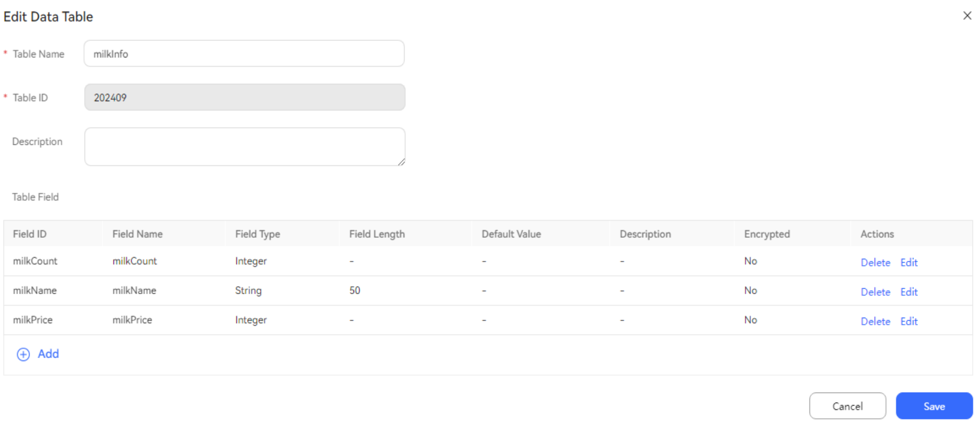
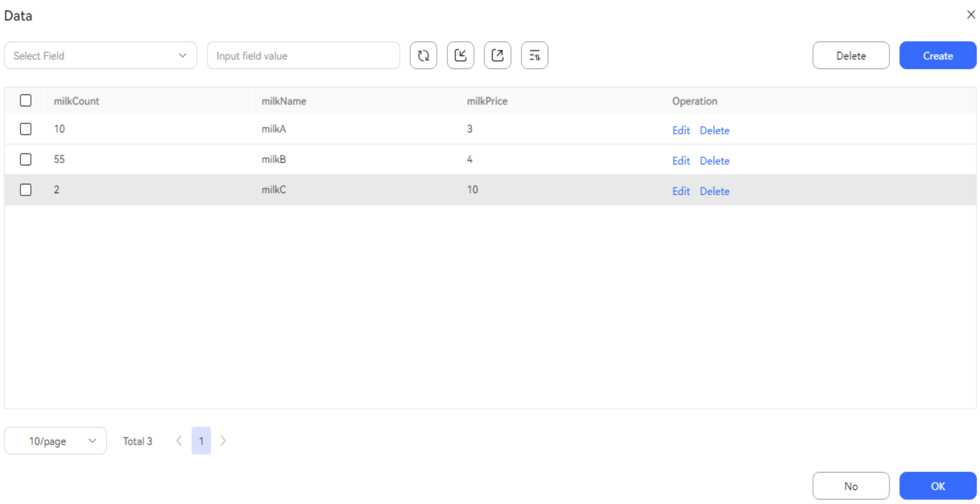


Figure 2-277 Table data



Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.
3. Save and publish the flow.

Figure 2-278 Flow variables to be added

Figure 2-279 Example of data table diagram element configuration

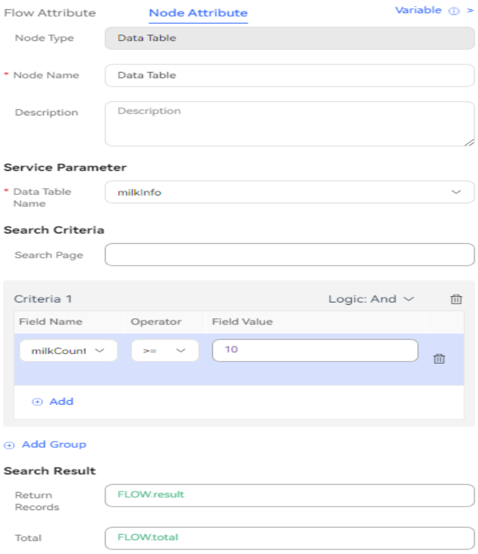


Figure 2-280 Example of branch judgment diagram element configuration

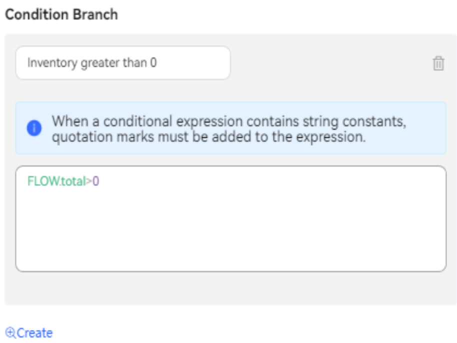
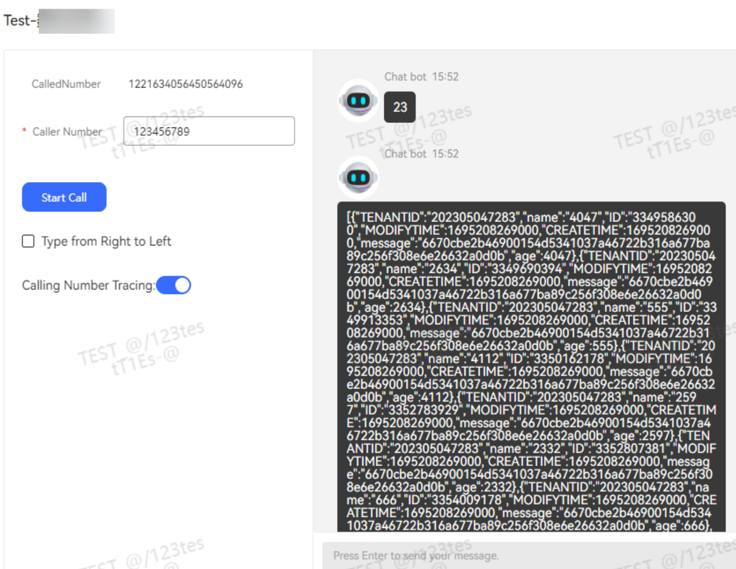


Figure 2-281 Flow orchestration example

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot.



NOTE

Only 10 data records on the specified search page are queried. If no search criteria are specified, the first page is queried by default.

----End

2.6.3.10.17 Stored Procedure

This diagram element uses a stored procedure to interact with the database.

Diagram Element

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Stored Procedure**: stored procedure added on the **Configuration Center** > **Flow Configuration** > **Resource** > **Stored Procedure** page.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The output parameter returned by the stored procedure is valid only on the current node. If you want to use the value in subsequent flow nodes, define a cache variable here and assign the value of the output parameter to the cache variable.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter in the stored procedure. Different subsequent flows can be specified for each branch.

Using the Diagram Element

The **Stored Procedure** diagram element is used when data needs to be imported to the database. It cannot be used in public cloud scenarios. In scenarios where the OIAP is independently deployed, the database you access needs to be deployed in the same security zone as the OIAP for security purposes.

Currently, the stored procedure applications of the MySQL database, Oracle database, and GaussDB are supported.

Click the diagram element or drag it to the canvas, select the stored procedure to be invoked, set its input parameters, and add cache variables to temporarily save its output parameters. For the list type in output parameters, you need to set it separately based on rules.

Typical Application Scenario

The following describes how to use the **Stored Procedure** diagram element.

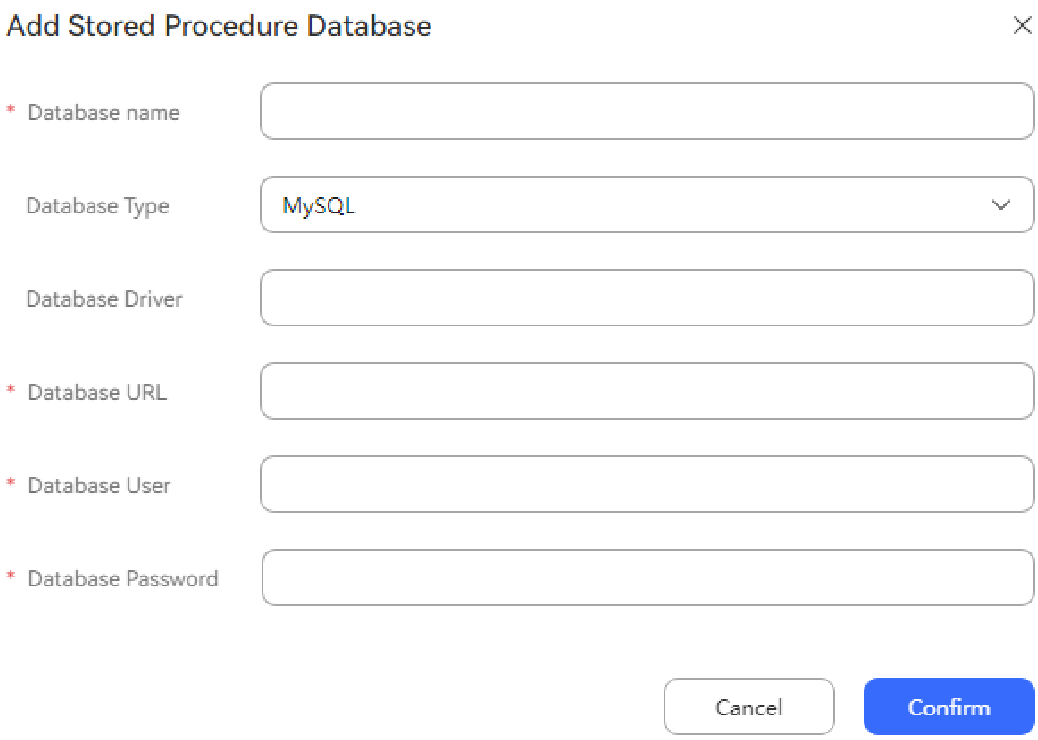
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure a database.

1. Contact the system administrator to add the database URL to the trustlist.

2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedure Databases** tab, and click **Create**.

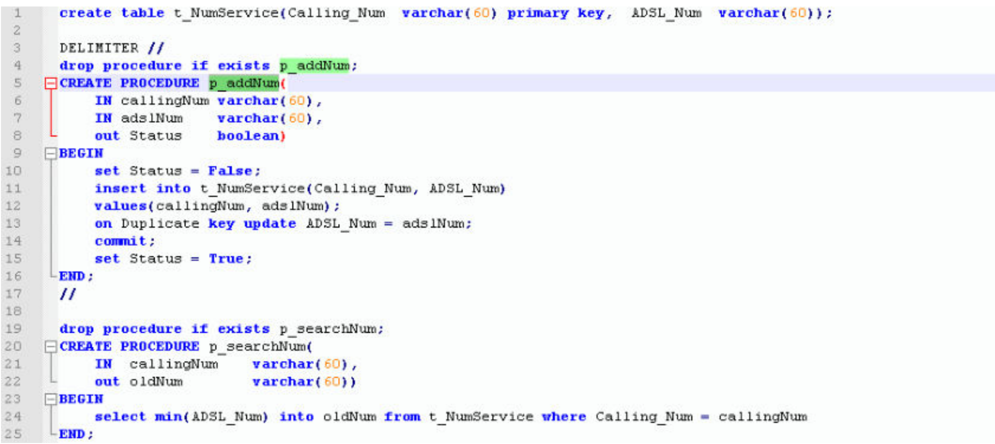
Figure 2-282 Configuring a stored procedure database



Step 3 Configure a stored procedure.

1. Obtain the developed stored procedure script. An example is as follows:

Figure 2-283 Stored procedure script example



```
create table t_NumService(Calling_Num  varchar(60) primary key,  ADSL_Num  varchar(60));

DELIMITER //
drop procedure if exists p_addNum;
CREATE PROCEDURE p_addNum(
    IN callingNum varchar(60),
    IN adslNum    varchar(60),
    out Status    boolean)
BEGIN
    set Status = False;
    insert into t_NumService(Calling_Num, ADSL_Num)
    values(callingNum, adslNum);
    on Duplicate key update ADSL_Num = adslNum;
    commit;
    set Status = True;
END;
//

drop procedure if exists p_searchNum;
CREATE PROCEDURE p_searchNum(
    IN  callingNum     varchar(60),
    out oldNum         varchar(60))
BEGIN
    select min(ADSL_Num) into oldNum from t_NumService where Calling_Num = callingNum
END;
```

2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedures** tab, and click **Create**.

Figure 2-284 Basic Information page

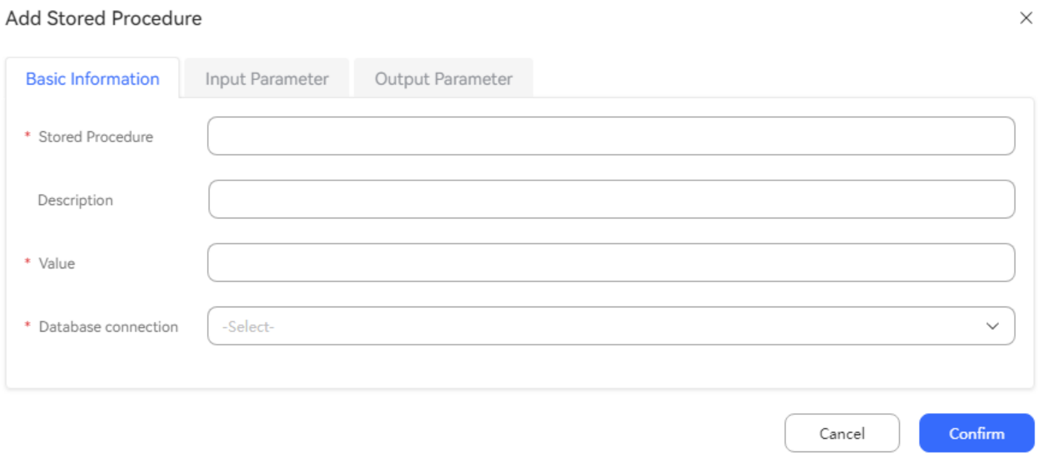


Figure 2-285 Input Parameter page

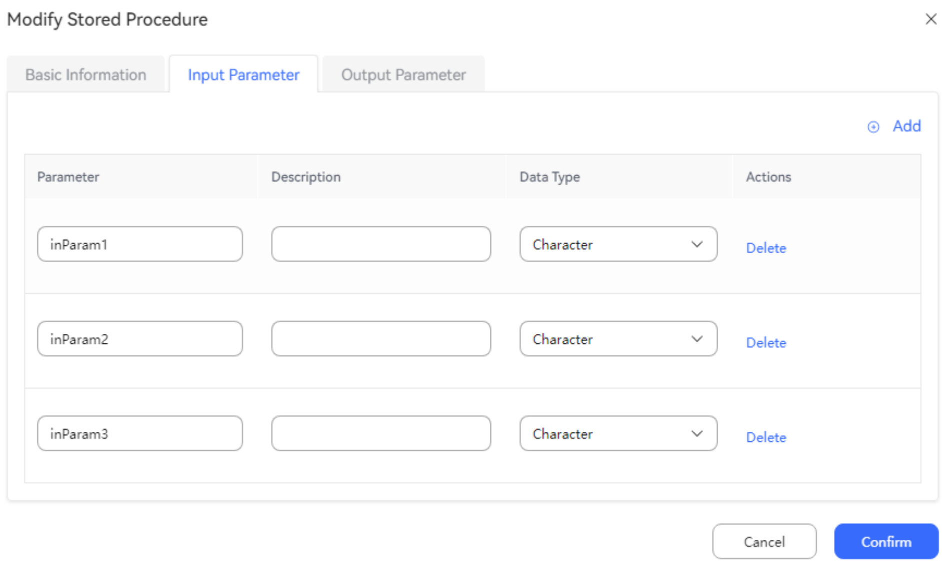
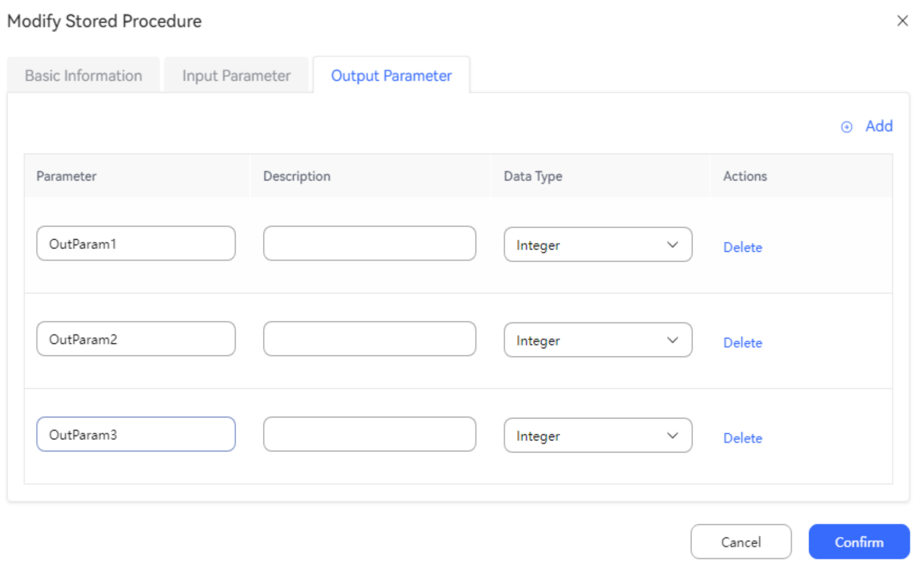


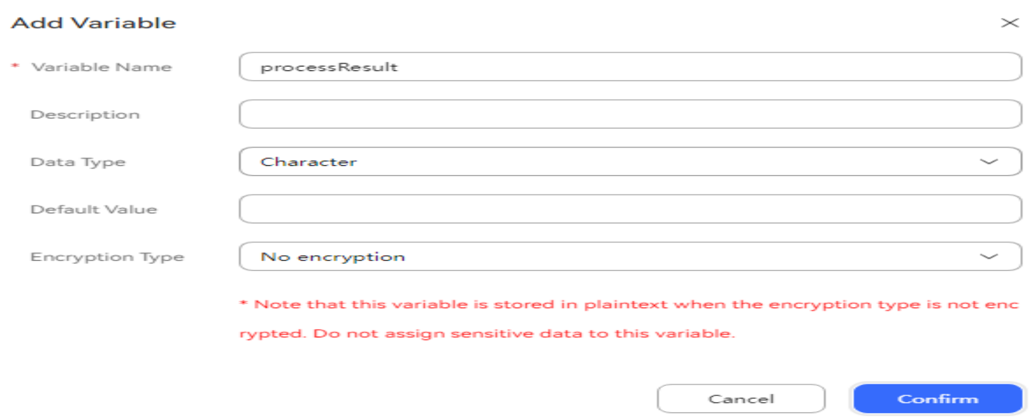
Figure 2-286 Output Parameter page



Step 4 Configure an intelligent IVR flow. The usage of the **Stored Procedure** diagram element is similar to that of the **Interface Invoking** diagram element. Select the configured stored procedure, set input parameters, and assign output parameters to a variable as required.

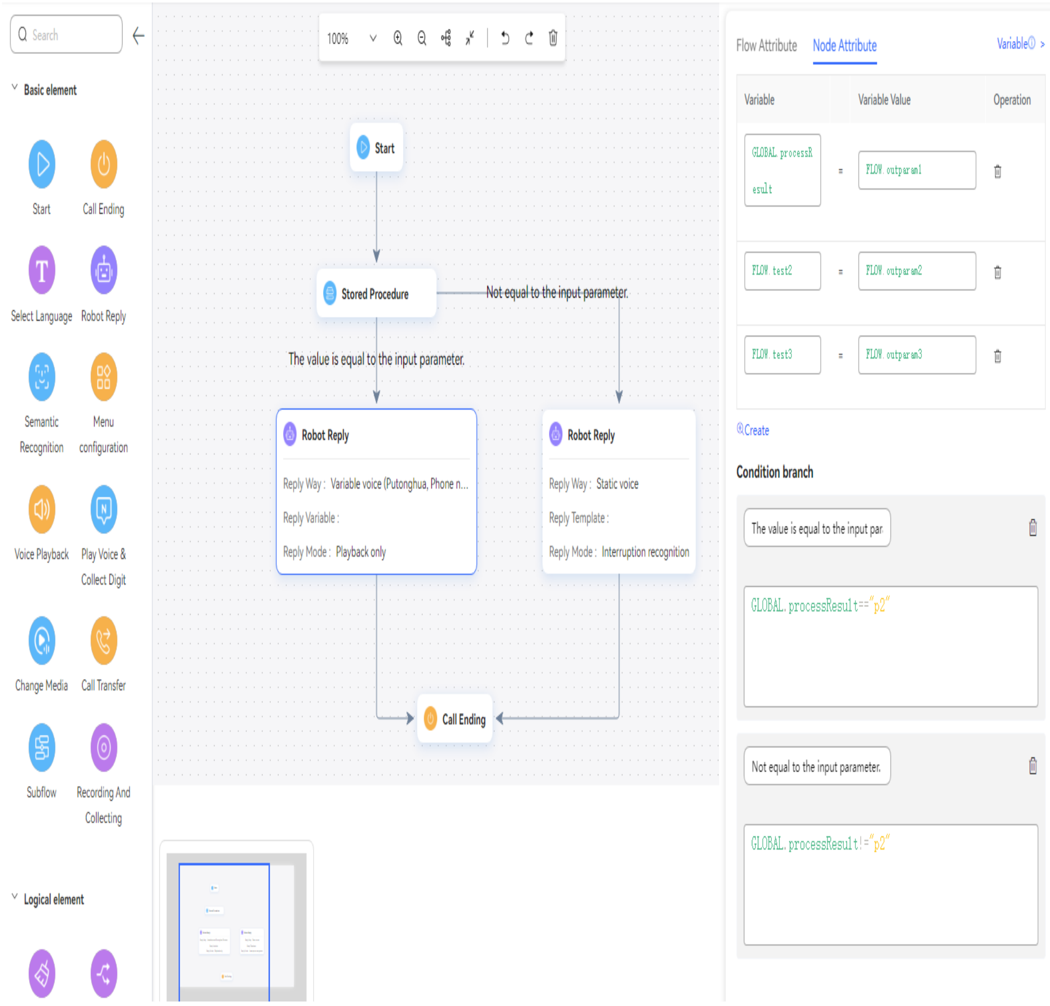
1. Choose **Resource** > **Variable**, click the **Custom Variable** tab, and click **Create** to add a system variable for receiving the output parameters of the stored procedure.

Figure 2-287 System variable to be added



2. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.

Figure 2-288 Flow orchestration example (Stored Procedure diagram element)



Use the reply variable **GLOBAL.***xxxx* for the **Robot Reply** diagram element to reply the number output by the stored procedure to the customer.

3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

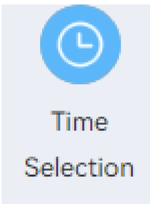
Step 6 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the robot can query the number output by the stored procedure based on the calling number and reply it to the customer, the configuration is successful.

----End

2.6.3.10.18 Time Selection

The orchestration capability varies depending on the time. That is, the holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and working days.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Week Selection**: Select the working days of a week.
- **Service Period**: Select the start working time and end working time.
- **Specified Service Date**: Specify one or more dates as working dates.
- **Specified Non-service Date**: Specify one or more dates as non-working dates.

The time zone is that set by the system administrator when the tenant space is created. If the time zone is not set when the tenant space is created, the value of the built-in variable **timezone** is used.

The configuration priority is as follows: **Specified Non-service Date** > **Specified Service Date** > **Week Selection**.

Condition Branch Description

Table 2-134 Condition branch description

Condition Branch	Description	Usage
NON_SPECIFIC_TIME	Non-working time	Triggered when the current time is non-working time.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and workdays.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Time Selection** diagram element to determine whether the current time is working time for subsequent business handling.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent robot.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-289 Flow variable to be added

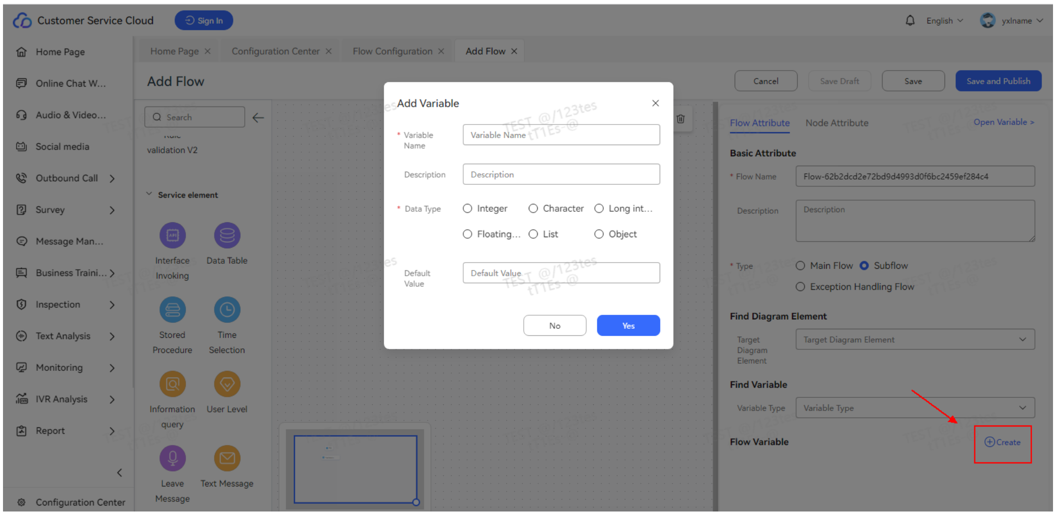


Figure 2-290 Flow orchestration example (Time Selection diagram element)

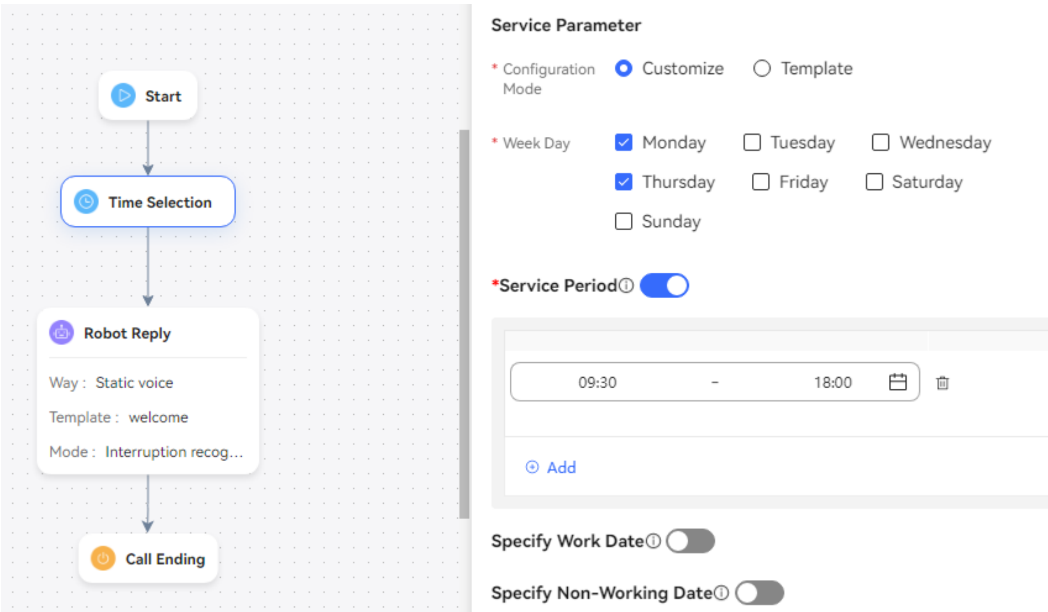
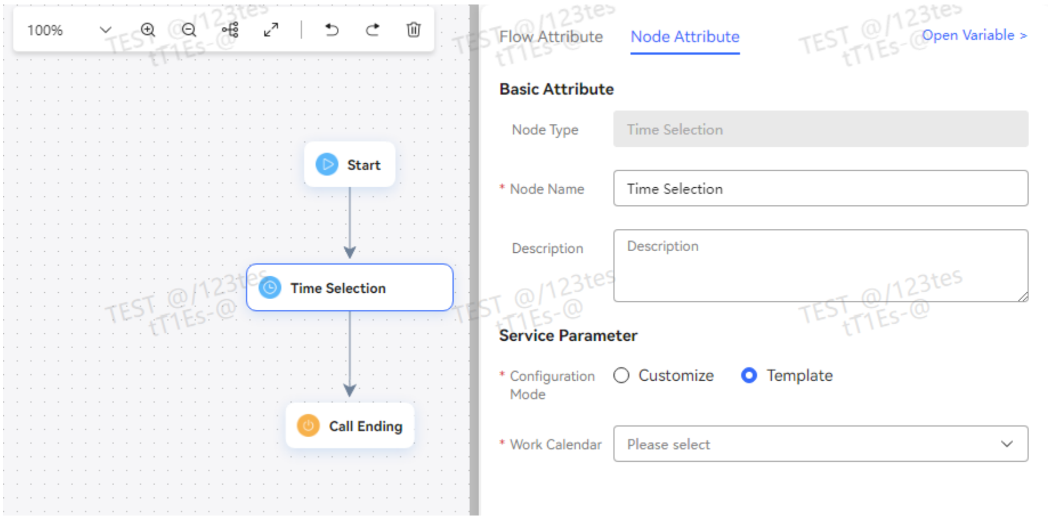


Figure 2-291 Referencing a work calendar template



For the **Robot Reply** diagram element, set **Reply Variable** to **FLOW.response** to reply to the customer with "The current time is working time. What kind of business do you want?" if the current time is working time.

3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot replies based on whether the current time is working time, the configuration is successful.

----End

2.6.3.10.19 Information Query

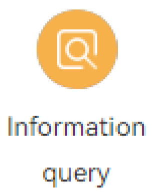
This diagram element is used to query the status of the current customer in the queue. When all agents are busy, the system plays the waiting tone to the customer through the IVR.

Currently, you can query the queuing position, the number of all online agents in a skill queue, and the estimated time required for accessing an agent.

This diagram element is used to query details about agents in configured skill queues.

This diagram element is used to query whether the customer is in the special list.

Diagram Element



Parameter Description

- Querying queuing information
  - **Query Type**: information type that can be queried using this diagram element. Currently, queuing information can be queried.

    The queuing information is queried using an IVR flow when a call is transferred to a skill queue.
  - **Query result**
    - **Queue Position**: position of a customer in the current skill queue, that is, the number of queuing customers in front of the customer. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a customer belongs. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Estimated waiting time**: estimated duration for connecting a call to an agent during queuing. This parameter is affected by **Queue Position** and **Number of online agents**. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.
- Querying queue information
  - **Query Type**

    Queue Information: Query queue information before a call is transferred to a skill queue.
  - **Request Parameter**

    Skill Queue: skill queue to which a call is transferred.
  - **Query result**
    - **Number of queues**: number of customers in the current skill queue before a call is transferred to another skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of idle agents**: total number of online and idle agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Estimated waiting time**: estimated time for connecting a call to an agent after the call is transferred to a skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. The estimated waiting time

depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.

- Querying the queue name
  - **Query Type**

    Queue Name: The name of a skill queue to which an agent belongs can be queried based on the agent ID.

    The scenario is to query the skill queue name based on the agent ID before the call is transferred to the skill queue to which the agent belongs.
  - **Request Parameter**

    Agent ID: agent ID. Flow variables or constants are supported.
  - **Query result**

    Queue Name: name of the voice skill queue with the highest weight in the skill queue to which the agent ID belongs. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

    You can choose **Configuration Center** > **Employee Center** > **Agent Management** to configure the skill queue weight.
- Querying special list information
  - **Query Type**

    Special List Information: Currently, the system can check whether a customer is in the special list based on the customer number. The next process varies depending on the special list query result.

    The special list refers to the blocklist.
  - **Query result**

    Identifier in the special list: whether the calling number exists in the special list. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

    The values of **Identifier in the special list** are as follows: **0** indicates that the calling number does not exist in the special list, and **1** indicates that the calling number exists in the special list.

Condition Branch Description

Table 2-135 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Information query** diagram element can be used to query information such as the queuing status and special list information of the current customer.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

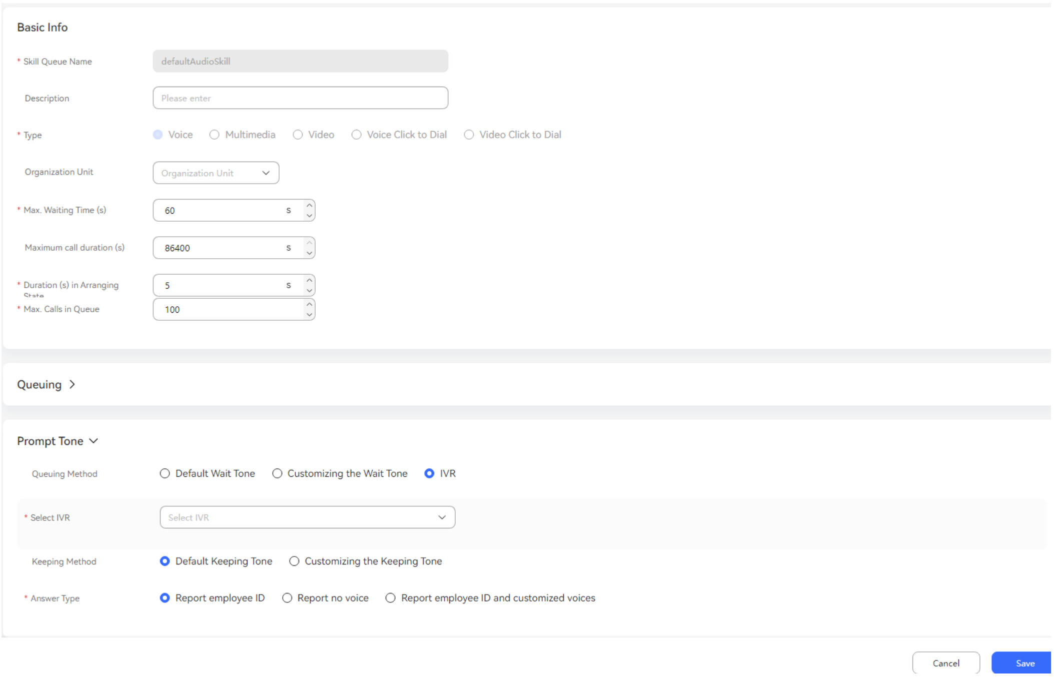
Typical Application Scenario

A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Query queuing information.

Step 1 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, click **Edit** corresponding to the skill queue, and set **Queuing Method** to **IVR**.

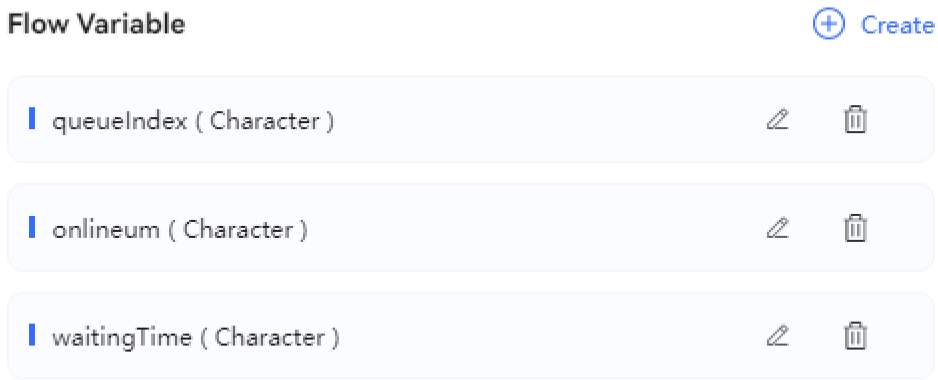
Figure 2-292 Page for editing skill queue parameters



Step 2 Orchestrate a flow. In the flow, use the **Information query** diagram element to query data, including the number of online agents, queuing position, and estimated waiting time.

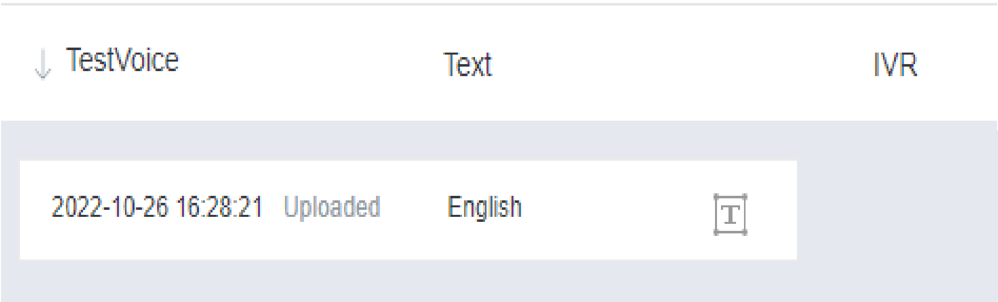
1. Create three flow variables to receive the query result.

Figure 2-293 Flow variables to be added



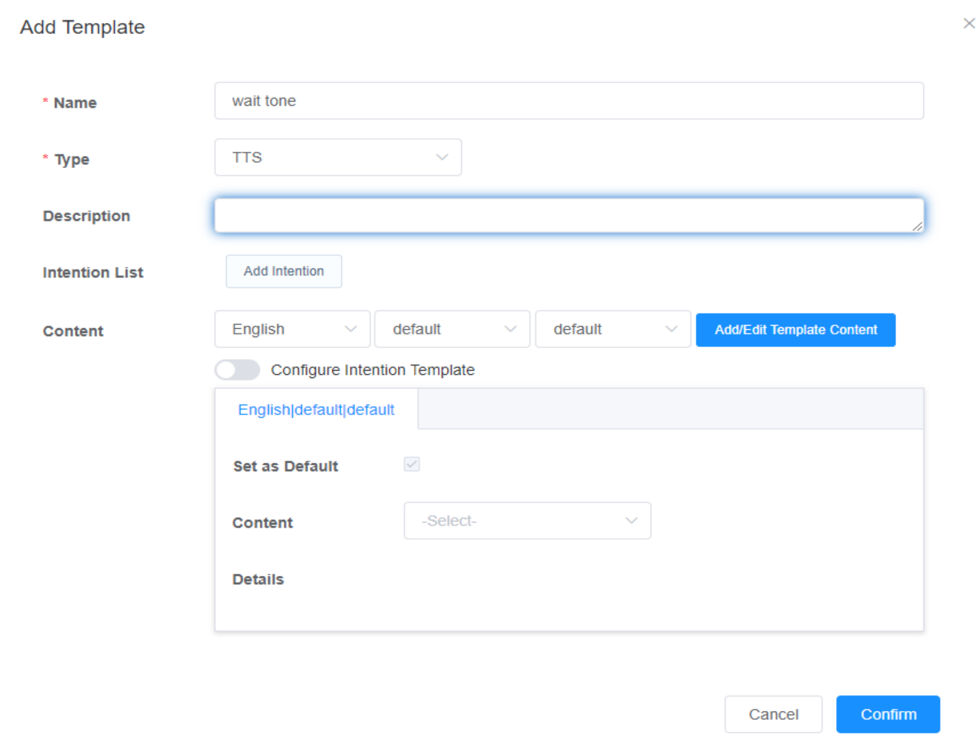
2. Configuring an IVR voice. Use the created flow variables in the IVR voice content.

Figure 2-294 Added IVR voice



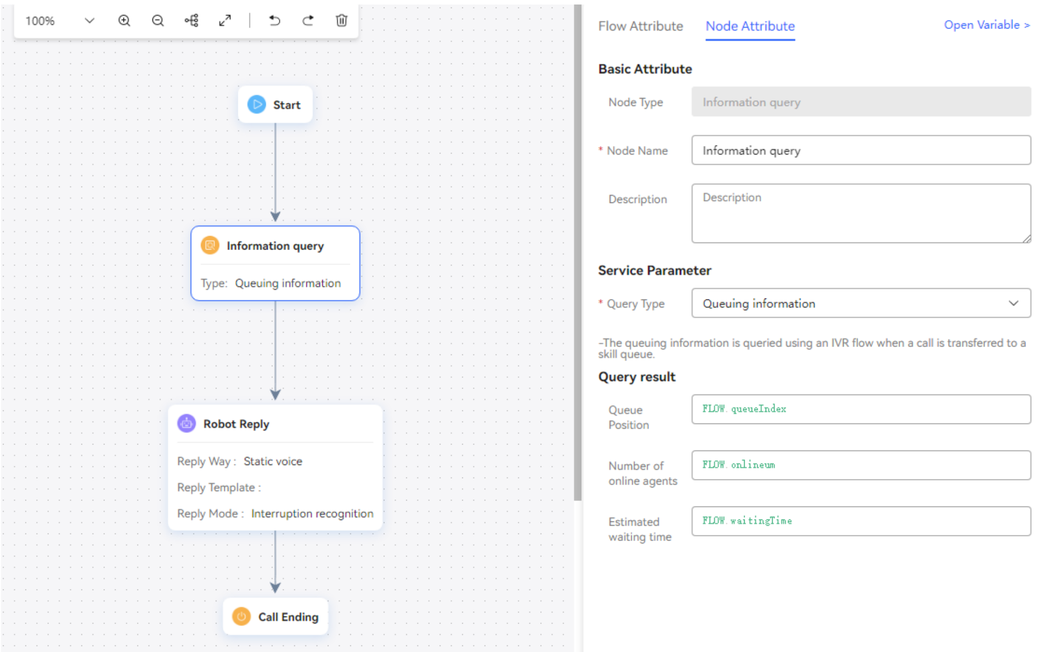
3. Configure a resource template.

Figure 2-295 Page for configuring a resource template



4. Create a flow, use the **Information query** diagram element to assign values to the three flow variables, and use the **Robot Reply** diagram element to select the configured resource template.

Figure 2-296 Flow orchestration example



5. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 2**.

Step 4 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queuing information is heard, the configuration is successful.

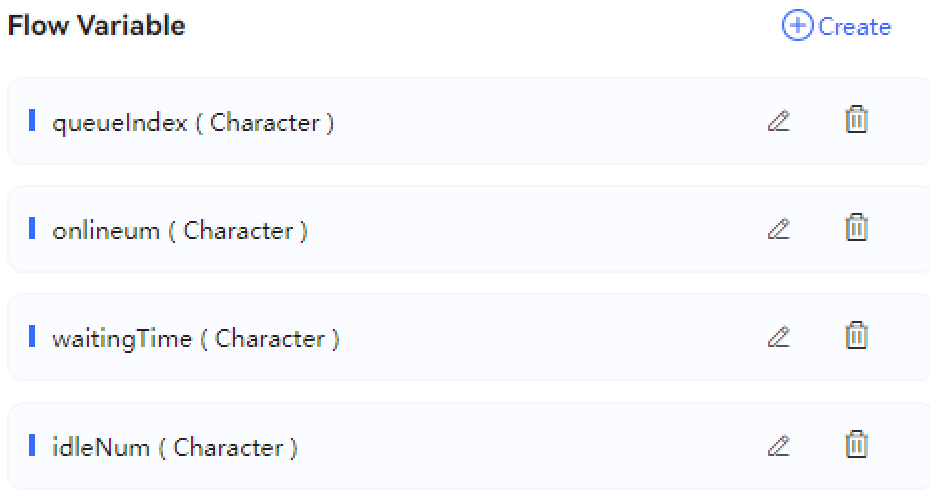
----End

Scenario 2: Query queue information.

Step 1 Orchestrate a flow.

1. Create four flow variables to receive the query result.

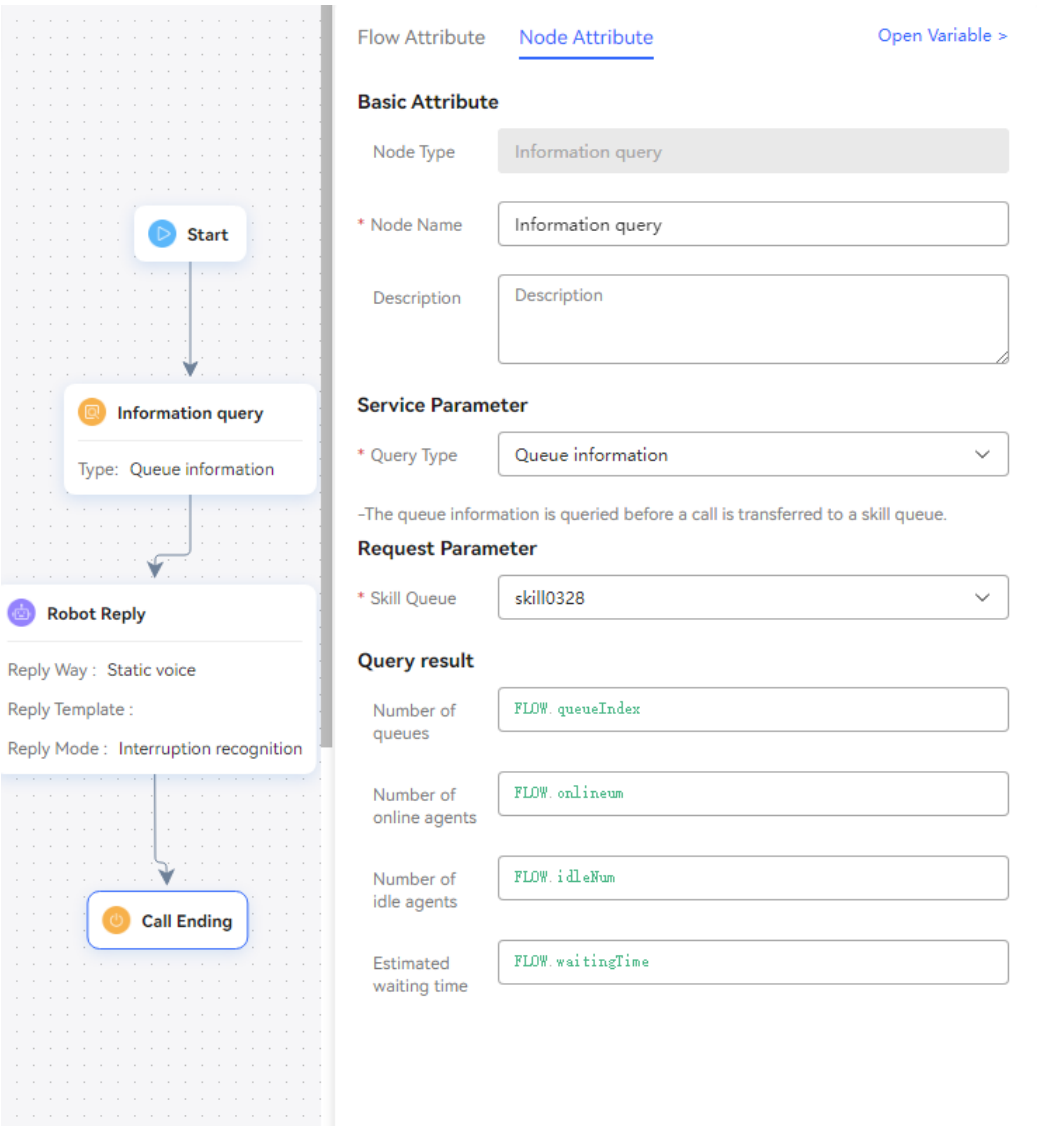
Figure 2-297 Flow variables to be added



2. When using the diagram element to create a flow, if you want to transfer a call to a skill queue in the flow, you can query the information about the skill queue and then determine whether to transfer the call to the skill queue. The subsequent businesses are determined based on site requirements.

   The flow is shown in the following figure. You need to select a skill queue to be queried.

Figure 2-298 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queue information is heard, the configuration is successful.

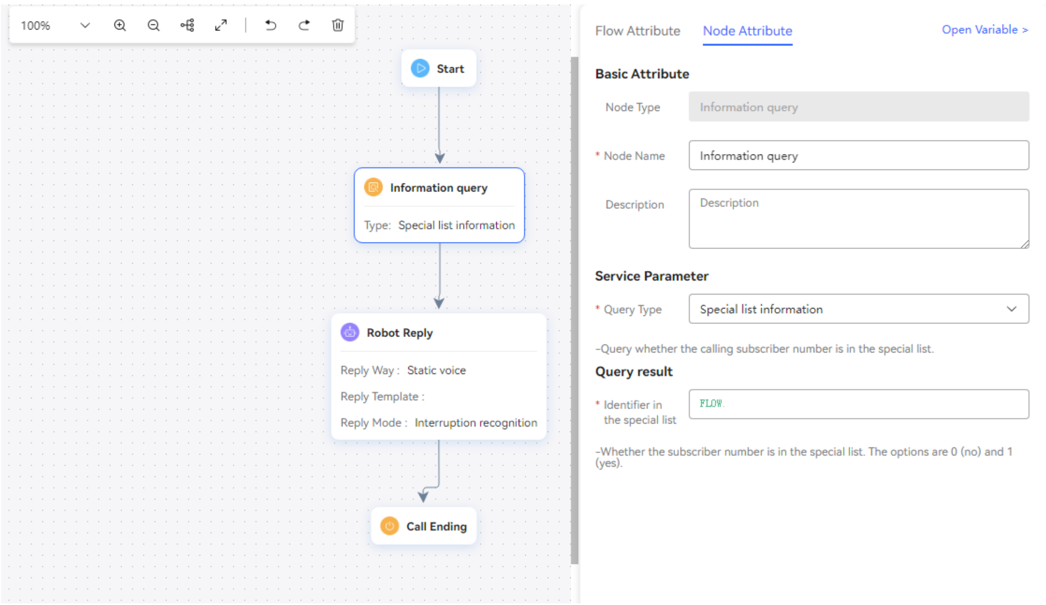
----End

Scenario 3: Query special list information.

Step 1 Orchestrate a flow.

1. Create a flow variable to receive the query result.
2. Configure a flow by referring to the following figure. When the flow runs to the special list information query node, the flow invokes an interface to query special list information, obtains the query result, and enters different flows based on the query result.

Figure 2-299 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

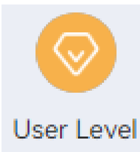
Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current special list information is heard, the configuration is successful.

----End

2.6.3.10.20 User Level

The priority (user level) of a call can be set. The call of a user with a higher priority is transferred to an agent first.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **User Level**: Enter a non-negative integer or a string variable. The default value is **0**, and the maximum value is **14**. After calls are transferred to the manual service, the call from a high-level user is processed preferentially.

Condition Branch Description

Table 2-136 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
fail	User level setting failure	Triggered when the call priority of a user fails to be set.

Using the Diagram Element

This diagram element is used when the priority (user level) of a call needs to be set and the call of a user with a higher priority is transferred to an agent first.

Click the diagram element or drag the diagram element to the canvas and set user level service parameters.

Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-300 Flow variables to be added

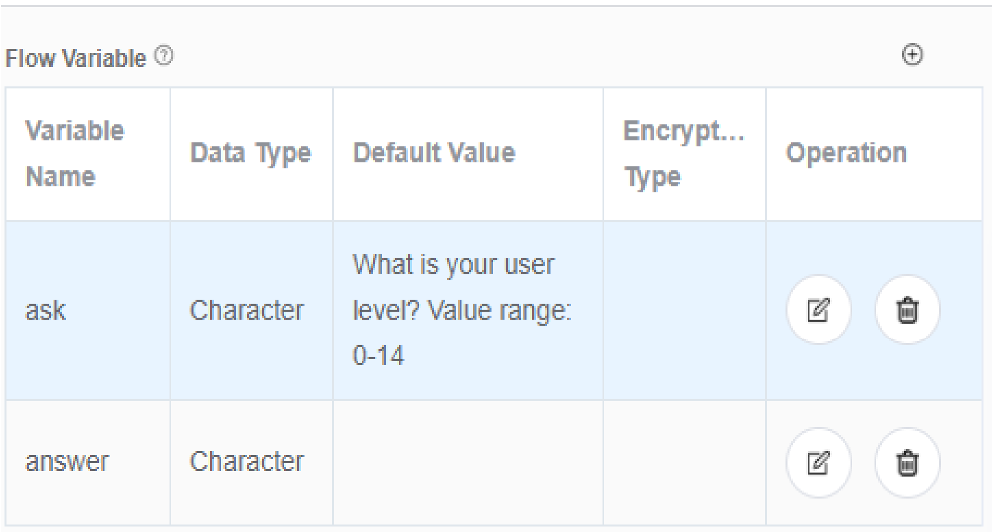


Figure 2-301 Flow orchestration example (User Level diagram element)

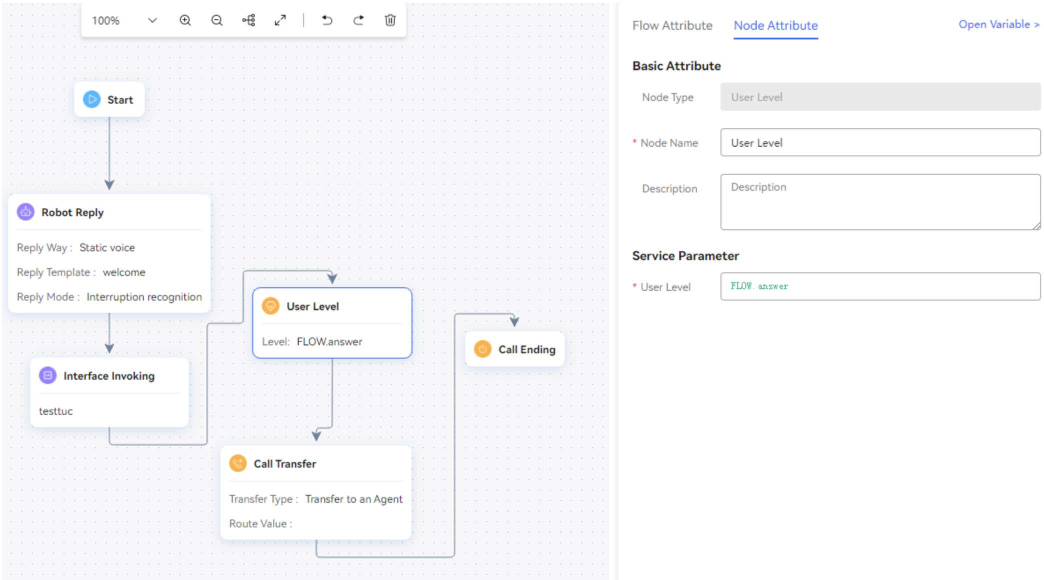
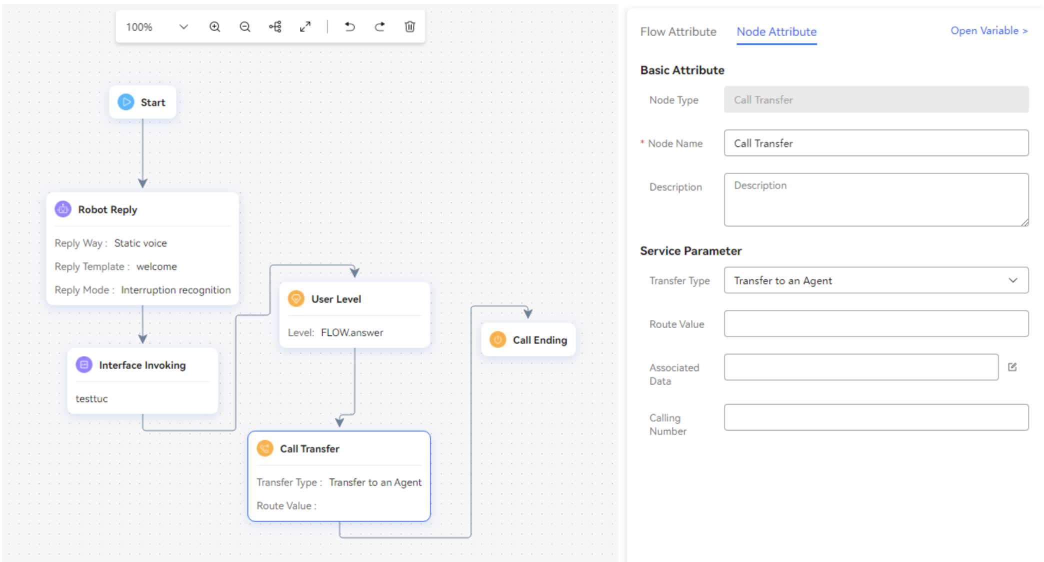


Figure 2-302 Flow orchestration example (Call Transfer diagram element)



3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 2**.

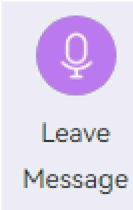
Step 4 Set the current agent to the busy state, log in to the OpenEye using two softphone numbers to simulate two customers, and dial the access code added on the **Called Party** page at the same time. Answer the user level according to the voice prompt. You are advised to set different user levels for the two customers. Then, set the current agent to the idle state. If the customer of a higher level is connected to the agent first, the configuration is successful.

----End

2.6.3.10.21 Message Leaving

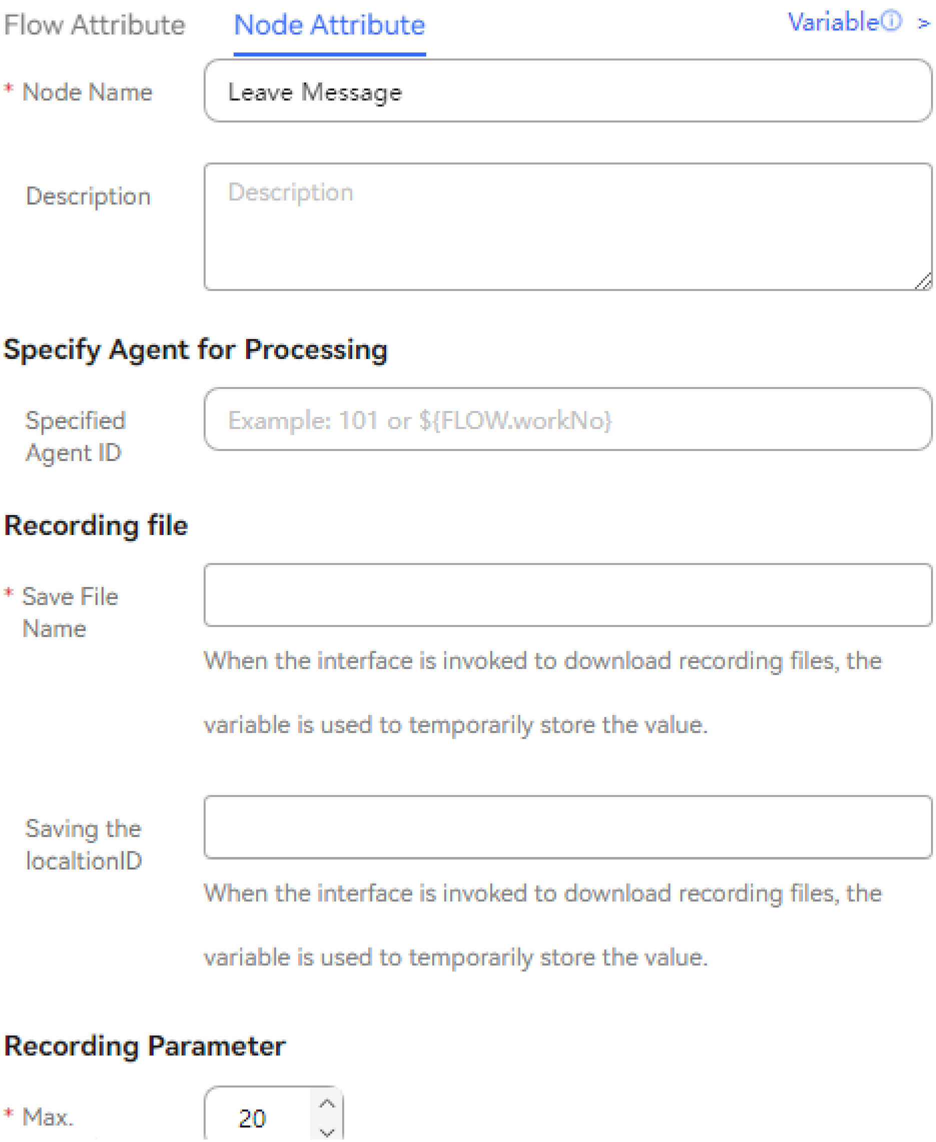
The system records the message of a customer. After the recording is successful, the system returns the directory for storing the recorded message.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Leave Message** diagram element.



- **Node Name**: name displayed on the diagram element, which can be customized.
- **Specify Agent for Processing**

  Specified Agent ID: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified agent ID. If the specified agent ID does not exist, the message status changes to allocation failure. If no agent is specified, messages will be allocated by the administrator.
- **Recording file**

  Save File Name (first text box): Click the text box. In the dialog box that is displayed, select a global variable or flow variable for saving the recording file name as required. The system saves the recording file name using a variable of the string type. Therefore, you can select only a variable of the string type.

  Saving the localtionID (second text box): Select the UAP node set during installation. This parameter is used in call center pool mode.
- **Recording Parameter**

  Max. Recording Duration: Enter the maximum duration of a recording. When the maximum recording duration is reached, the recording ends. The default value is **20**, in seconds.
- **Play the beep tone**: If the check box is selected, a beep tone is played before the recording starts. Otherwise, the recording is performed directly.

  By default, the recording is ended with the pound key (#).: After leaving a message, you can press the pound key (#) to end the recording. After the subscriber hangs up, the end diagram element is invoked directly.
- **Record message information.**: If this check box is selected, messages are saved as records. If this check box is not selected, messages cannot be queried on the message management page.
- Click **Save** to save all parameters set on the current page. When the recording is saved, the system automatically queries the recording directory information of the current tenant and combines the directory with the current date and a random digit string to form a file name. An example is *Recording drive letter:/VDNID/record/20190424/20190424153126*-**record.wav**. The recording file is in the .wav format by default.

NOTE

- When a tenant is deleted, the Customer Service Cloud automatically deletes all recording files of the tenant.
- The retention period of recording files is the same as the recording storage period configured during tenant registration. The scheduled task scans recording files at a specified time every day and periodically deletes recording files that have been stored for a period longer than expected.

Condition Branch Description

Table 2-137 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

This diagram element is used in the scenario where a voice message needs to be stored in a recording file.

2.6.3.10.22 SMS

You can send common SMS messages and satisfaction survey SMS messages to the calling party. The SMS messages can be Huawei Cloud SMS messages or SMS gateway messages.

Diagram Element

Figure 2-303 Text Message

Parameter Description

Figure 2-304 Common SMS message parameters

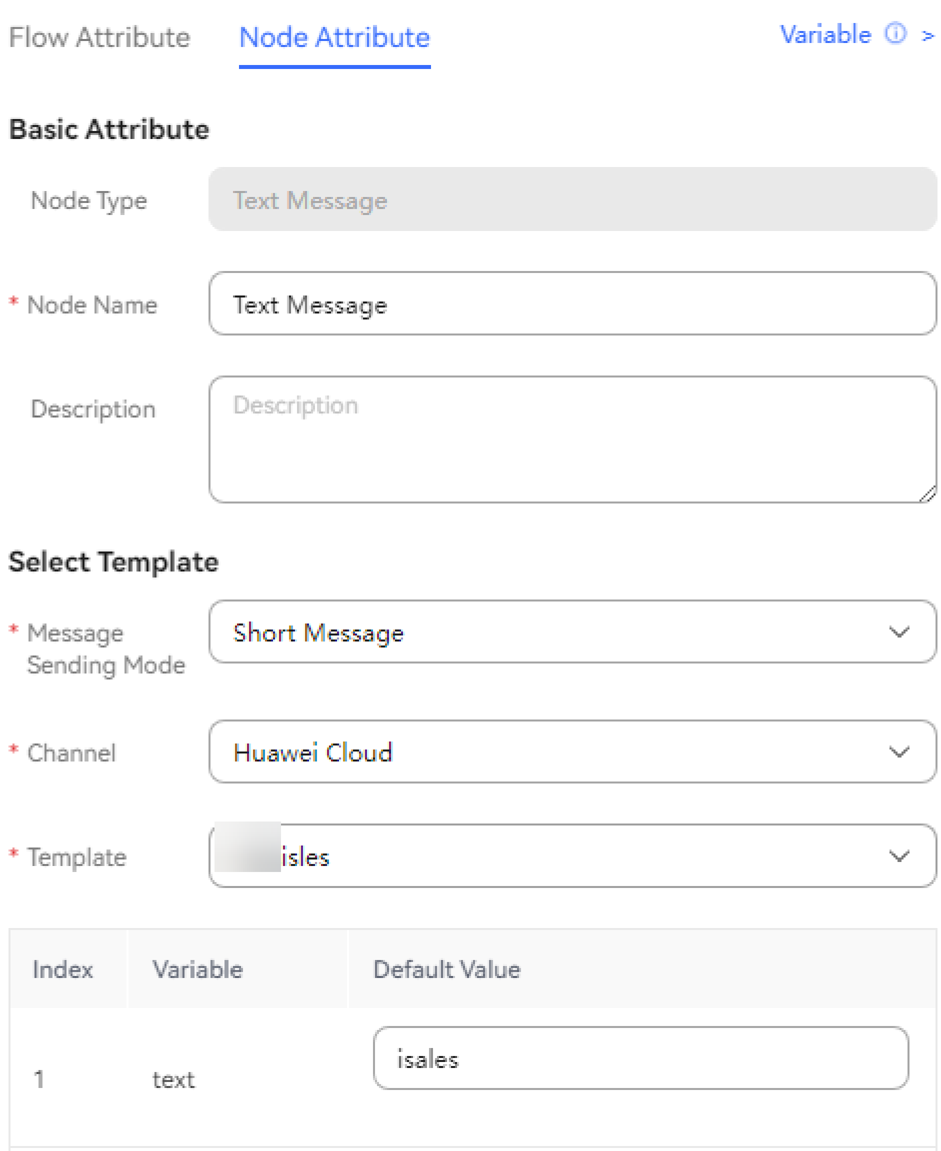
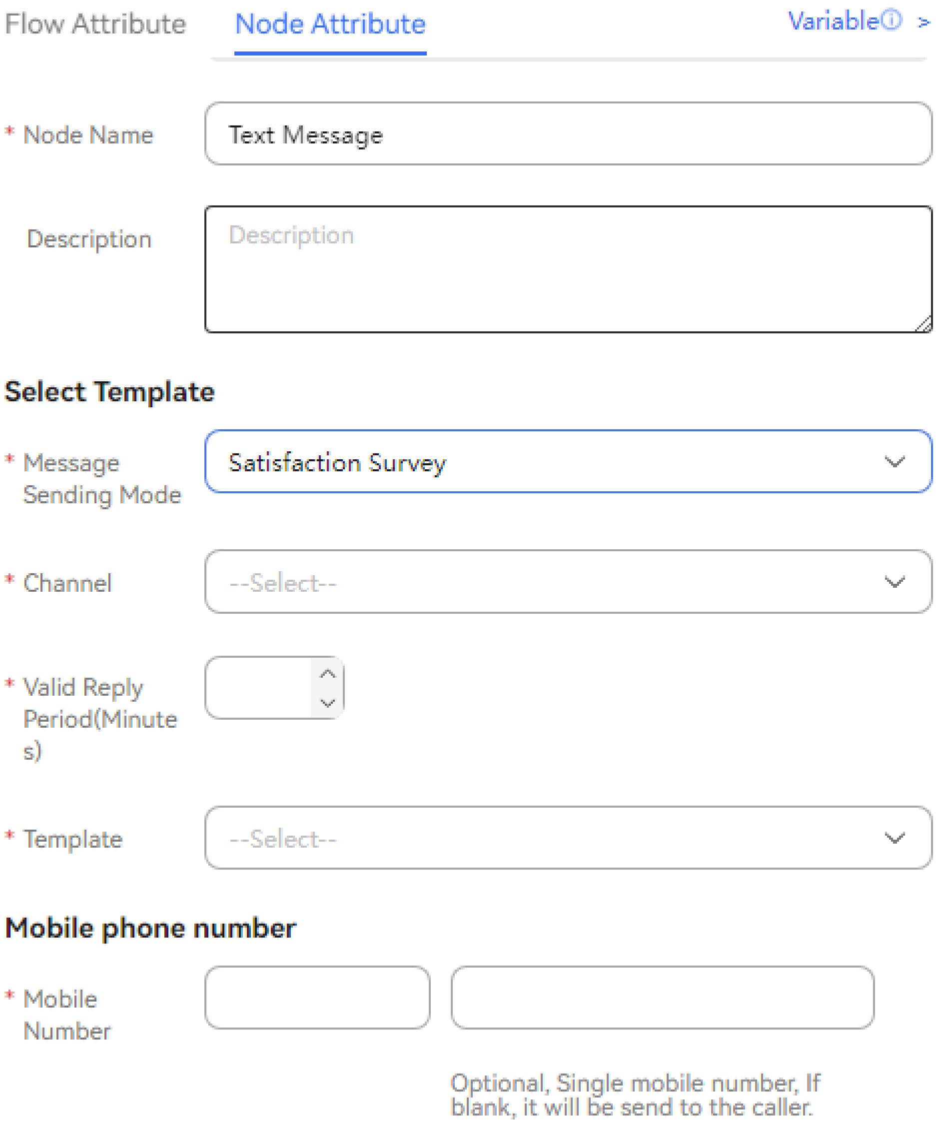


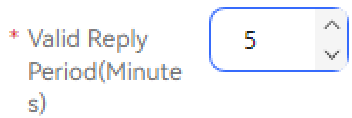
Figure 2-305 Satisfaction survey SMS message parameters



The parameters are described as follows:

- **Message Sending Mode**: Currently, **Short Message** and **Satisfaction Survey** are supported.
  - To send a satisfaction survey SMS message, you need to set **Valid Reply Period(Minutes)**. The value ranges from 1 to 1440.

Figure 2-306 Valid Reply Period(Minutes)



- **Channel**: The options are **Huawei Cloud** and **SMS Gateway**.
  - **Huawei Cloud**: The SMS service provided by Huawei Cloud is used to send SMS messages.

– **SMS Gateway**: Huawei SMS gateway is used to send SMS messages.

- **Template**: This parameter is mandatory. The administrator SMS message templates that have been configured in the notification center are displayed based on the selected channel.
- **Country Code**: This parameter is mandatory. The country or region code is required for sending an SMS message. If the SMS message needs to be sent to a national number, the country or region code is also required. For example, the country code of China is **+86**.
- **Mobile Number**: This parameter is optional. If this parameter is left empty, the SMS message is sent to the calling party by default. If this parameter is set, the SMS message is sent to the specified number. Only one number is supported and the value cannot contain the country code.

Condition Branch Description

Table 2-138 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

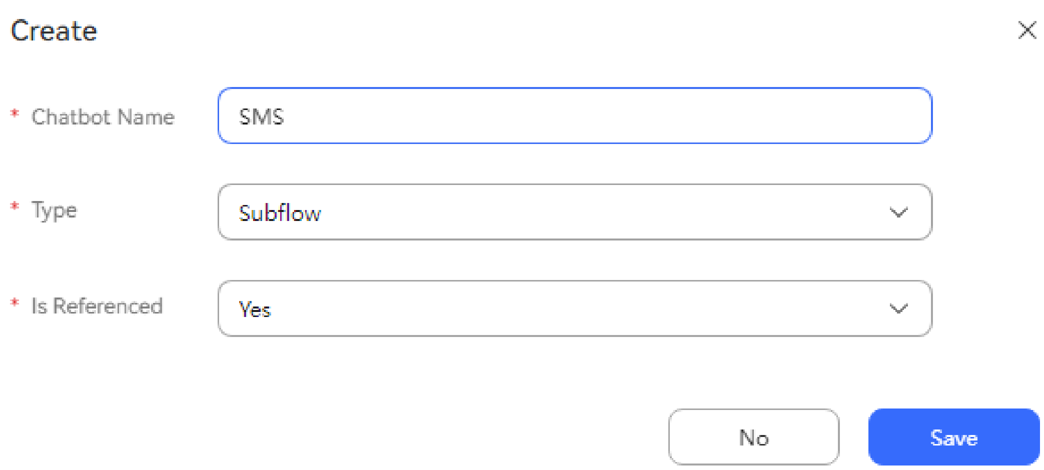
When a user calls the CEC and the call is routed to the IVR, if the IVR is configured with a **Short Message** diagram element, the **Short Message** diagram element is used to send an SMS message to the user.

The configuration method is as follows:

- **Application Scenario**

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Flow Management**, click **New**, set the flow name and type, and set **Is Referenced** to **Yes**.

Figure 2-307 Adding a flow



Step 2 Click **Edit** to develop the flow as follows.

Step 3 Click or drag the **Short Message** diagram element in the **Feature** area on the left. The **Short Message** diagram element is added to the canvas.

Step 4 Set parameters of the **Short Message** diagram element and click **Save**. (Huawei Cloud SMS is used as an example.)

Figure 2-308 Short Message

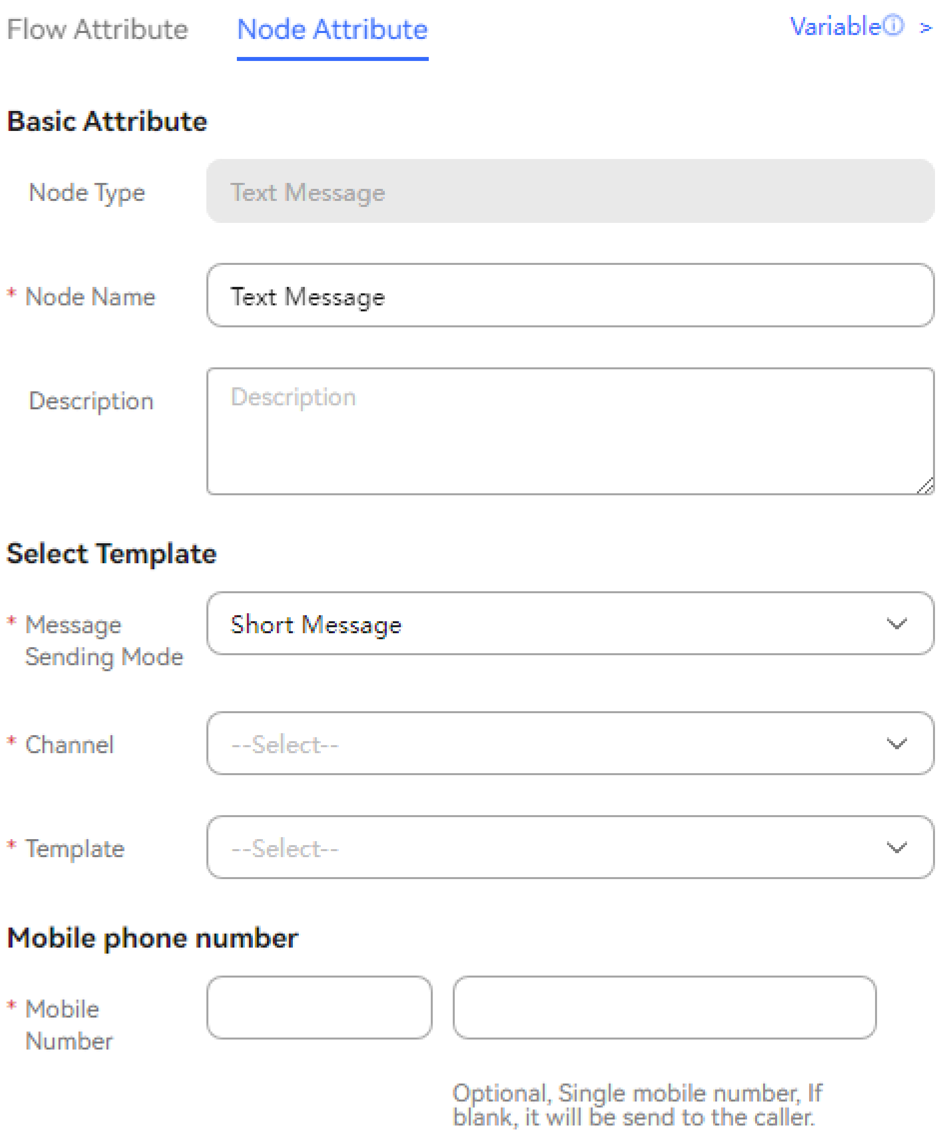
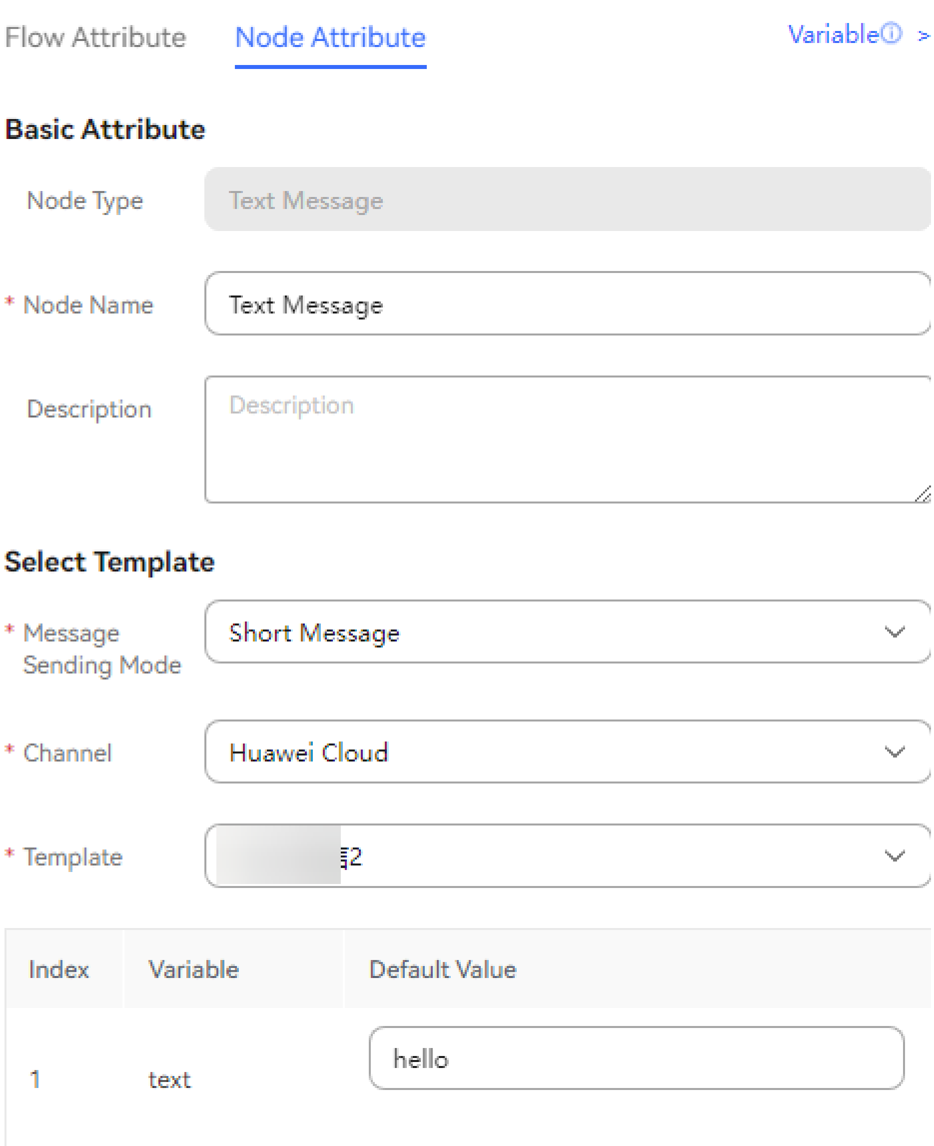
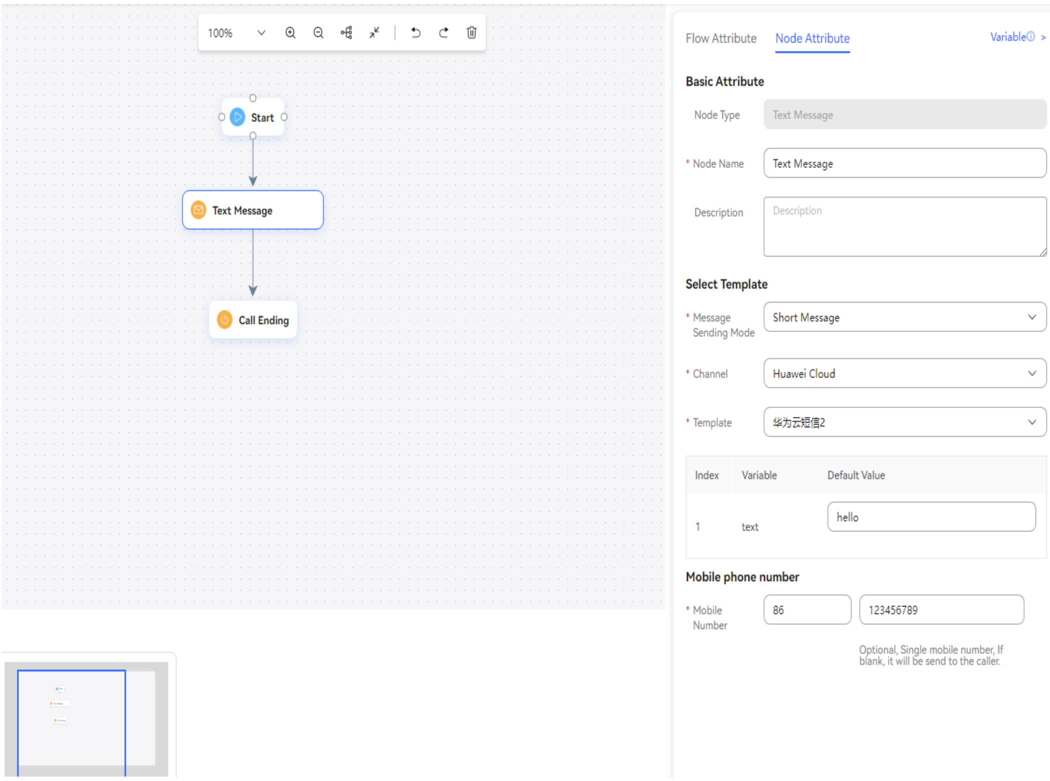


Figure 2-309 Satisfaction Survey



Step 5 Add connection lines. If there are no other diagram elements, the flow is shown in the following figure.

Figure 2-310 Example



Step 6 Perform subsequent operations based on business requirements. You can add other diagram elements. After the configuration is complete, click 

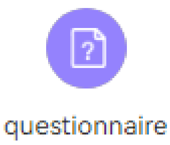
to save the flow.

----End

2.6.3.10.23 Survey

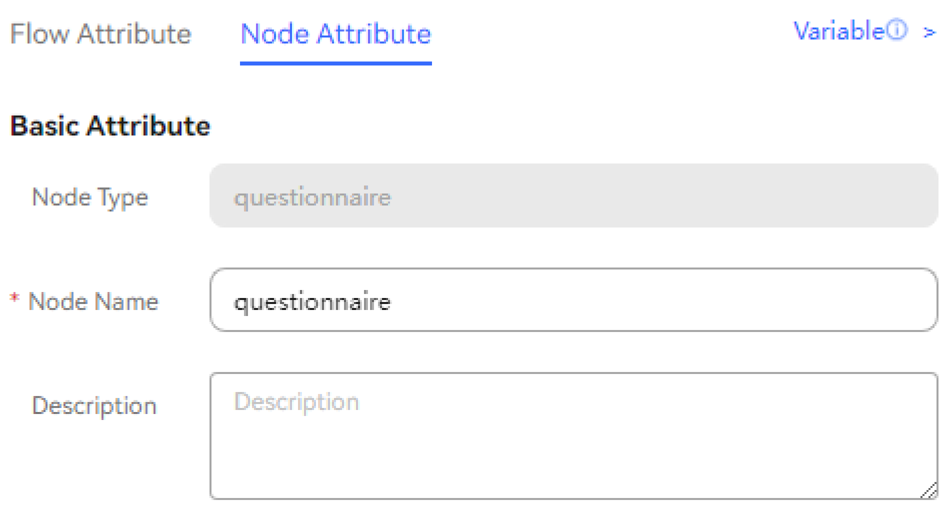
This diagram element is used to add a survey for an automatic outbound call task.

Diagram Element



Parameter Description

The following figure shows the parameters of the **questionnaire** diagram element.



The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.

Condition Branch Description

Table 2-139 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

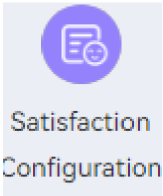
Typical Application Scenario

The **questionnaire** diagram element is used only when an automatic outbound call task needs to be associated with an IVR survey flow. After an intelligent outbound call task is started, if the IVR flow associated with the outbound call task contains the **questionnaire** diagram element, the survey content specified for the outbound call task is played to the user.

2.6.3.10.24 Satisfaction Configuration

This diagram element is used to play voices or videos to instruct customers to press keys for interaction and collect their satisfaction details about corresponding calls.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Satisfaction Configuration** diagram element.

Figure 2-311 Voice

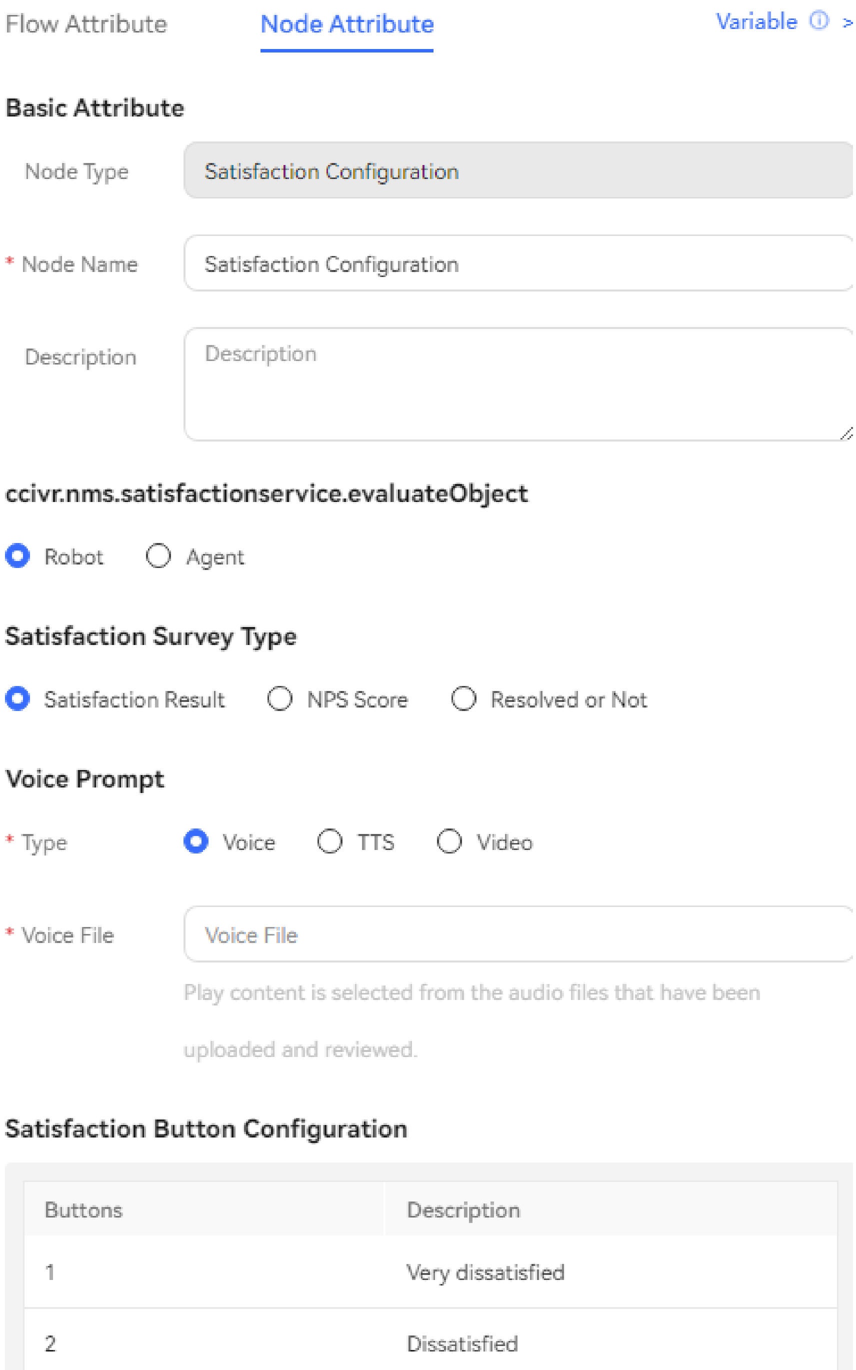


Figure 2-312 TTS

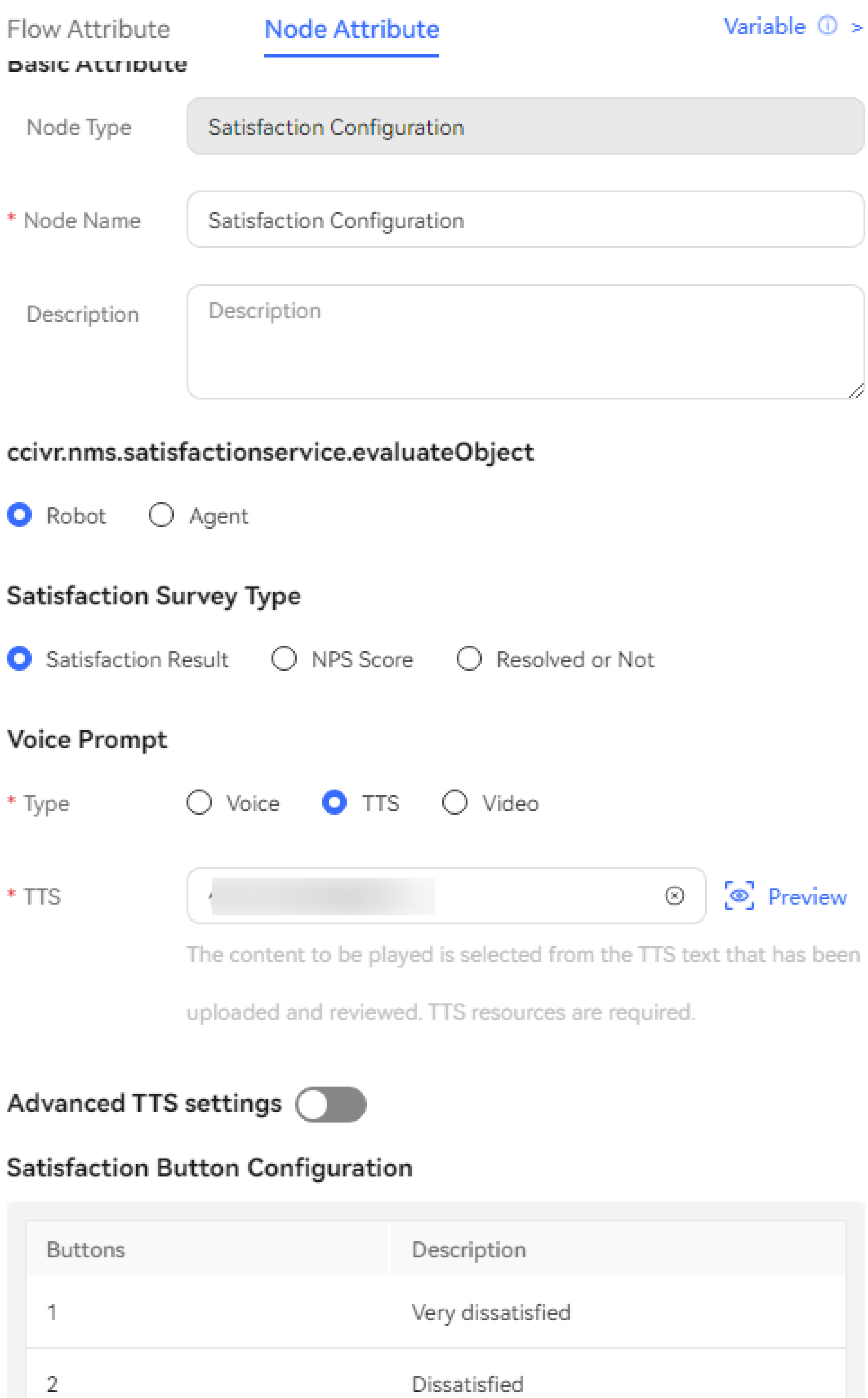
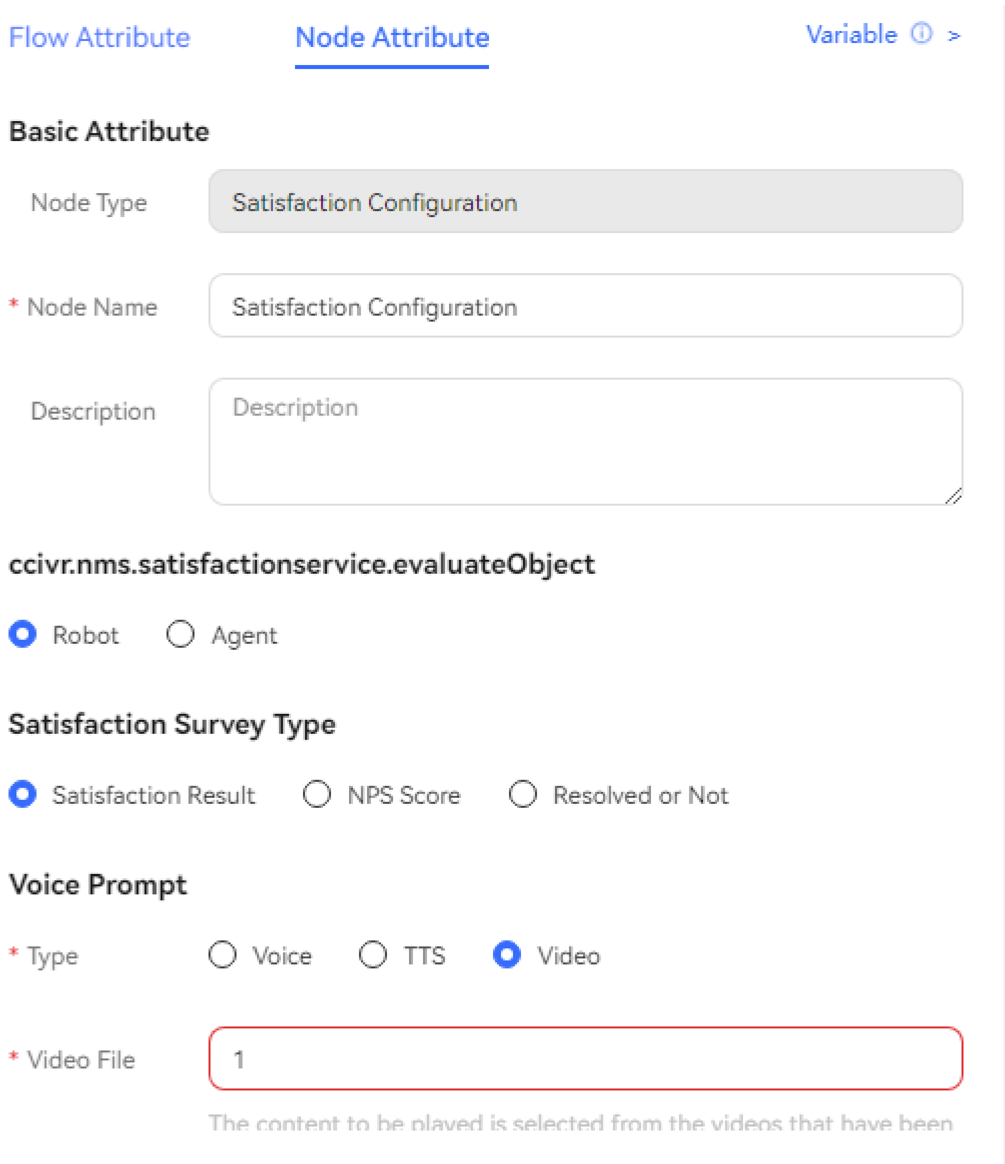


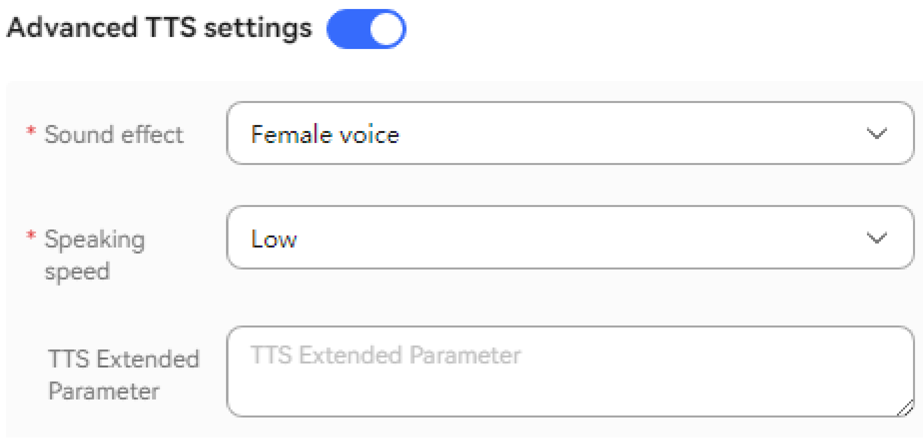
Figure 2-313 Video



The parameters are described as follows:

- **Node Name**: diagram element name which can be customized.
- **ccivr.nms.satisfactionservice.evaluateObject**: Select **Robot** or **Agent**.
- **Satisfaction Survey Type**: **Satisfaction Result**, **NPS Score**, and **Resolved or Not** are available.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled,

Sound effect is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS Extended Parameter** is not set by default.



- **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
- **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.
- **TTS Extended Parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Satisfaction Button Configuration**: satisfaction options provided in a flow. Each key or button corresponds to a satisfaction option. For details about how to configure the satisfaction level, see 2.3.3.2 Configuring Satisfaction Surveys.
  – **Buttons**: number key or button available on the keyboard or screen, such as **1**, **2**, or **3**.
  – **Description**: satisfaction introduction of a key or button, which can be displayed in the menu.

NOTE

Configure satisfaction levels for the satisfaction survey on the **Survey** > **Survey Config** page. If the flow has been published, you can clone, edit, save, or republish the flow to replace the original flow so that the updated satisfaction levels can be used.

  – **Waiting Time for Digit Collection**: time to wait for the digit input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
  – **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.

- **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.
- **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
- When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- By default, **Digit collection failure** and **Digit collection timed out** are unavailable in the **Advanced Settings** area. If they are unavailable, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

Condition Branch Description

Table 2-140 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no satisfaction option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

This diagram element is used when an agent hangs up without completing the flow.

NOTE

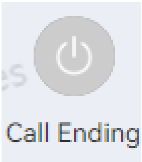
The application scenario of the **Satisfaction Configuration** diagram element is as follows:

- After an agent hangs up, the system releases the call and transfers the call to the IVR flow that contains the **Satisfaction Configuration** diagram element.

2.6.3.10.25 Call Ending (Expired and Not Recommended)

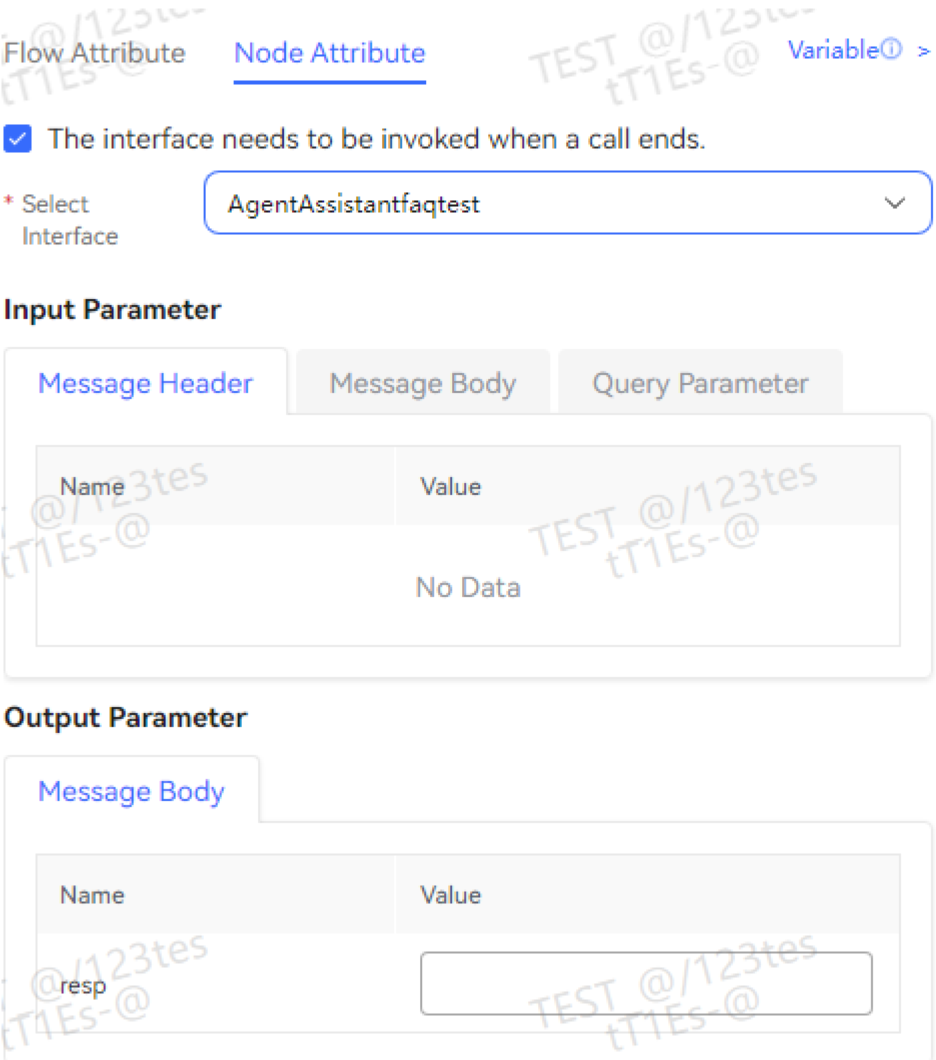
This diagram element is used to identify the end of a flow. Each flow has at least one **Call Ending** diagram element. In a complex flow, multiple **Call Ending** diagram elements can be used to identify the end of different branches.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Call Ending** diagram element.



The parameters are described as follows:

- **The interface needs to be invoked when a call ends**: Select the text box to configure the interface to be invoked. The interface is invoked before the call ends.
- **Select Interface**: Select an interface name from the drop-down list box. The interfaces that can be selected have been configured for the current tenant. For details about the interface configuration, see **2.6.2.2.2 Adding Business Interfaces**.
- **Input Parameter**: This area displays the input parameters of the selected interface. When an input parameter exists, you can assign a value, such as a constant and variable, to the input parameter as required. Variables must be defined in the system, for example, **FLOW.ID**.
- **Output Parameter**: This area displays the output parameters of the selected interface. If there are specific output parameters, you can assign values to the output parameters as required. You can enter **FLOW** or **GLOBAL** variables.
- Click **Save** to save all parameters set on the current page.

Typical Application Scenario

This diagram element is used at the end of a flow.

NOTE

The application scenarios of the end diagram element are as follows:

- When a user hangs up, the system invokes the end diagram element by default. In this case, only one end diagram element exists in the flow, and the flow does not need to be connected to the end diagram element.
- If an active hangup is required in the IVR flow, the end diagram element needs to be invoked. In this case, ensure that the flow has been connected to the end diagram element.

2.6.3.10.26 Condition Judgment (Expired and Not Recommended)

This diagram element is used to set multiple conditions, based on which the system enters different branches. During configuration, you can click the connection line of a branch and select the corresponding condition.

Diagram Element

Parameter Description

The following figures show parameters of the **Condition Judgment** diagram element.

Figure 2-314 Condition Judgment

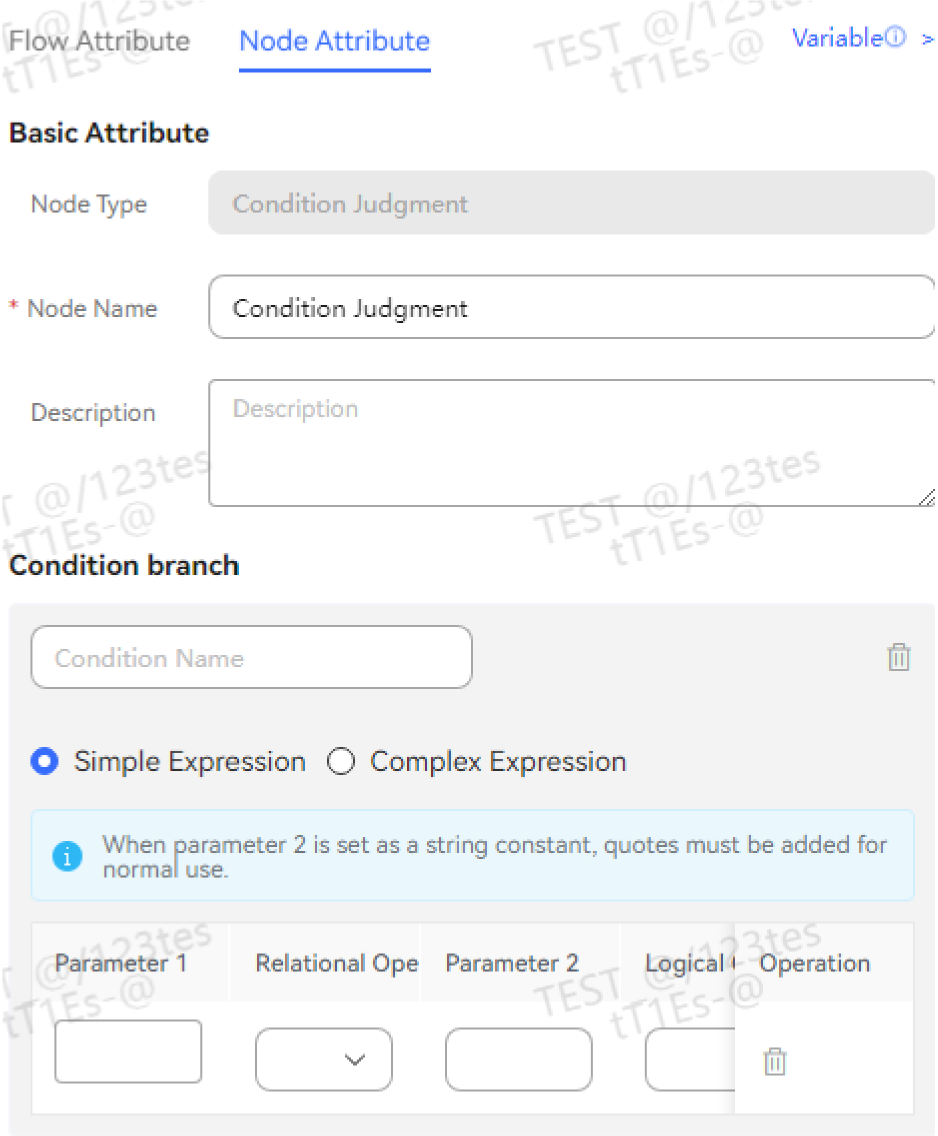


Figure 2-315 Branch

The parameters are described as follows:

- **Module**: diagram element name, which can be customized as required. The name is not displayed on the diagram element.
- **Condition Editing**: In this area, you can configure different judgment conditions, based on which different branches can be implemented in a flow.

  If you click **Simple Expression**, the following parameters need to be set:

- **Parameter 1**: Click the text box. In the displayed **Select Variables** dialog box, select a global variable, flow variable, or system variable as required.
- **Relational Operator**: relational operator, which is used to define the relationship between parameter 1 and parameter 2.
- **Parameter 2**: Enter a variable or constant. If parameter 2 is a string constant, enclose it with double quotation marks, for example, **"0123456789"**.
- **Logical Operator**: The options are **And** and **Or**. The priorities of different operators are the same, and conditions are judged one at a time from top to bottom.

  By selecting a logical operator, you can add multiple condition expressions in the same condition. If you select **And**, multiple condition expressions must be met at the same time. If you select **Or**, only one of the condition expressions must be met.
- You can click **Delete** to delete a condition expression.

If you click **Complex Expression**, a complex condition expression must be entered in the text box. The expression can contain the parameter name, value, and complex operation. After a series of operations, the complex expression returns a value of the Boolean type, for example, **true** or **false**.

- The formats of flow variables, system variables, and global variables are as follows: **FLOW.***Parameter name*, **SYS.***Parameter name*, and **GLOBAL.***Parameter name*.
- The priorities of operators used in complex expressions are as follows: parentheses > arithmetic operators > relational operators > logical operators. Operators at the same level (except arithmetic operators) have the same priority. The operators of other levels have the same priority. The symbols of each type are as follows:

  Parentheses: ()

  Arithmetic operator: *, /, %, +, – (The priorities of the asterisk, slash, and percent sign are higher than those of the plus sign and minus sign.)

  Relational operators: >, >=, <, <=, ==, !=

  Logical operators: &&, ||

  In addition to basic logical expressions, functions based on the mvel2 expression are also supported. For example, the flow variable **FLOW.testvalue** is set to **abc**, and the contains function is used to determine whether the **d** character is contained. If the determination result is **false**, the branch is not executed.

Similarly, simple functions may be used as follows:

FLOW.testvalue.substring(0,1)=='d' checks whether the first character is **d**.

FLOW.testvalue.endsWith(classification) checks whether the value ends with **c**.

If other functions are required, develop them under the guidance of Huawei engineers.

- You can click **New Condition** to add multiple conditions, which can map different branches.

  A maximum of 20 conditional branches are allowed.

- Click  to delete a condition.
- Click **Save** to save all parameters set on the current page.
- **branch**: Click the connection line between a condition judgment diagram element and a branch diagram element, and select the condition to enter the branch from the drop-down list. If no condition is selected, the branch is used as a default branch, which is executed when none of the conditions are met.

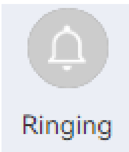
Typical Application Scenario

The system enters a branch in a flow based on the input condition. For example, the system can enter different branches based on the flow execution result (success or failure).

2.6.3.10.27 Ringing (Expired and Not Recommended)

This diagram element is used in the video call scenario to determine whether to display the video content on the customer side or agent side.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Ringing** diagram element.

The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Video mode**:
  - **Send Only**: Only the video image on the agent side is displayed.
  - **Receive only**: Only the video image on the customer side is displayed.
  - **sendrecv**: Both the video images on the agent and customer sides are displayed.

Typical Application Scenario

The **Ringing** diagram element is used only for video calls in the ringing state. When selecting the video content to be displayed, you need to associate the **Ringing** diagram element.

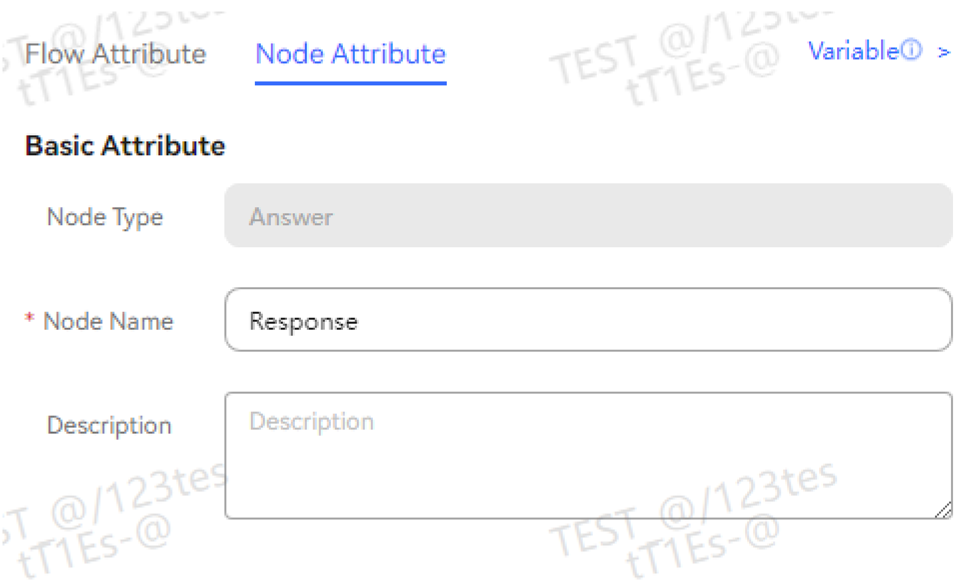
2.6.3.10.28 Response (Expired and Not Recommended)

This diagram element is used with the **Ringing** diagram element. When **Ringing** is used with the **Transfer** diagram element and **Transfer Configuration** is set to **Transfer to Skill Queue**, you need to configure the **Robot Reply** diagram element to provide the agent answering capability.

Diagram Element

Parameter Description

The following figure shows the parameters of the **Robot Reply** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.

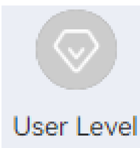
Typical Application Scenario

This diagram element is used with the **Ringing** diagram element.

2.6.3.10.29 User Level (Expired and Not Recommended)

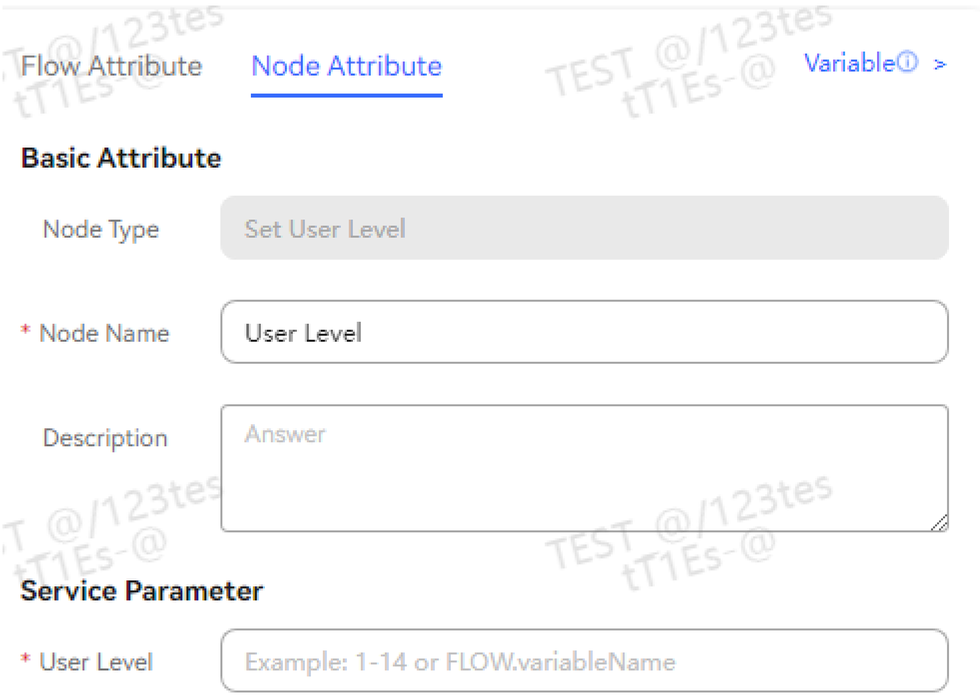
This diagram element is used to set the user level. When multiple users are in the queue, the user with a higher level can be connected to the idle agent first.

Diagram Element



Parameter Description

The following figure shows the parameters of the **User Level** diagram element.



The parameters are described as follows:

Node Name: Enter a diagram element name.

User Level: Enter a user level, which is used to set the level of the calling number. The calling number with a higher level is preferentially connected to an agent. Currently, user levels 1 to 14 are supported. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. (A decimal is not supported. If the value is a decimal, the default value **1** is used.)

Typical Application Scenario

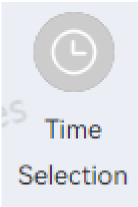
A user calls an IVR flow. The flow invokes a third-party interface to obtain the user level, uses the **User Level** diagram element to set the user level, and uses the **Transfer** diagram element to transfer the call to an agent.

If the user with highest level is in a queue, the call is preferentially connected to an agent.

2.6.3.10.30 Time Selection (Expired and Not Recommended)

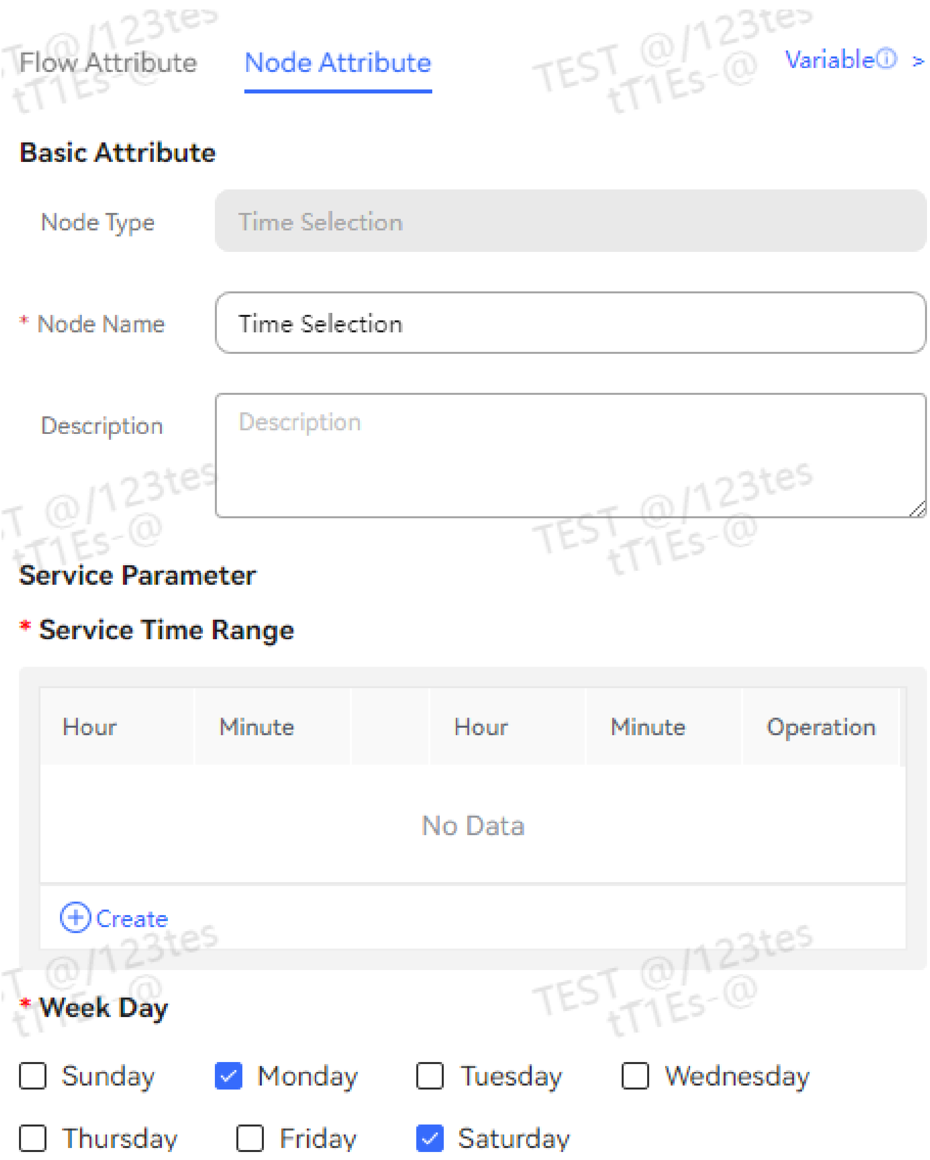
This diagram element is used to configure the service provision time by time range, week day, or date. The system provides services based on the configured service time range on selected week days within the period that is configured.

Diagram Element



Parameter Description

The following figure shows parameters of the **Time Selection** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.

- **Service Time Range**: This area is used to configure time ranges in which services are provided. The time ranges are specified in 24-hour format. Different time ranges cannot overlap each other.
- **Week Day**: week day on which services are provided.
- **Date**: period in which services are provided. You can specify one period or multiple inconsecutive periods. The system provides services based on **Service Time Range** only on the dates that fall within the periods specified by **Week Day** and **Date**.

NOTE

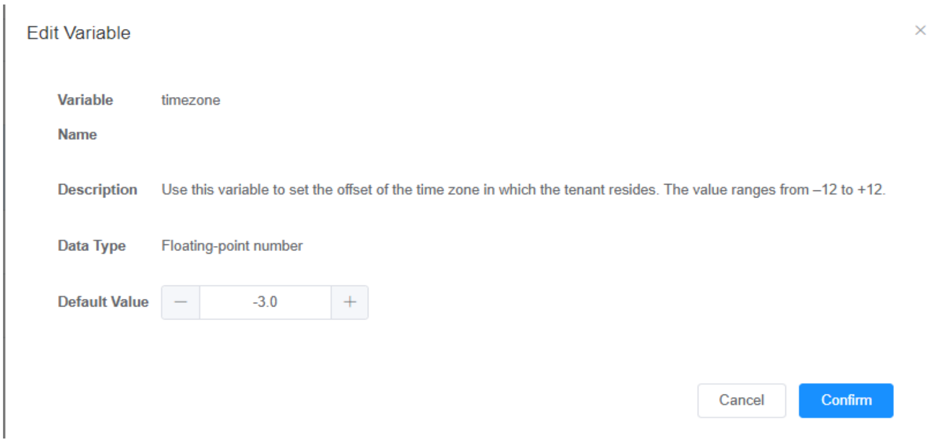
If **Date** is set to multiple inconsecutive periods and other services need to be provided in the period intervals, you need to add another time selection diagram element and configure the time for providing services in the intervals. In addition, you need to add a branch connection line between the two time selection diagram elements and set the branch condition to **Wrong Time**. For example, October 1, 2019 to October 7, 2019 are not workdays, but personnel need to be assigned on duty. In this case, you need to add another time selection diagram element with **Date** set to **2019-10-01** to **2019-10-07**, add a branch connection line between the two time selection diagram elements, and set the branch condition to **Wrong Time**.

By default, the **Time Selection** diagram element corresponds to the GMT+8 time zone. To set another time zone, perform the following steps:

a. Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**. On the page that is displayed, choose **Resource Management** > **Variable Management**.

   If you have not subscribed to the intelligent IVR feature, you cannot access the page in your tenant space. In this case, contact the system administrator to enable the corresponding function.

b. Click the **Built-in Variable** tab, click **Edit** next to **timezone** and set the value to the corresponding time zone. For example, set the value to **-3** for GMT-3, as shown in the following figure.



NOTE

The system identifies the time zone settings in the following sequence:

- The system preferentially uses the value of **GLOBAL.timezone**, that is, **timezone** added on the **Custom Variable** tab page under **Intelligent IVR** > **Resource Management** > **Variable Management**.

  The system variable **timezone** has been preset in the system. Therefore, you are advised not to set the time zone using the global variable.
- If **GLOBAL.timezone** is not added, the system obtains the value of **timezone** on the **Built-in Variable** tab page under **Intelligent IVR** > **Resource Management** > **Variable Management**.
- If neither of them is configured, the default time zone is GMT+8.

c. Click **Confirm**.

- Click **Save** to save all parameters set on the current page.

Typical Application Scenario

Businesses need to be provided at a restricted service time. For example, if business A can be handled at store A only between 08:00 and 17:30 on Monday to Friday all the year round, you need to set **Service Time Range** to 8:00-17:30, **Week Day** to Monday to Friday, and **Date** to **2019-01-01** to **2019-12-31** for business A.

2.6.3.10.31 Assignment (Expired and Not Recommended)

This diagram element is used to assign values to flow variables or global variables, and assign specified values to parameters.

NOTE

The call-associated data is carried in a call. The data is stored in the call until the call ends.

Diagram Element

Parameter Description

The following figure shows the parameters of the **Assign** diagram element.

Figure 2-316 Assign TransferData

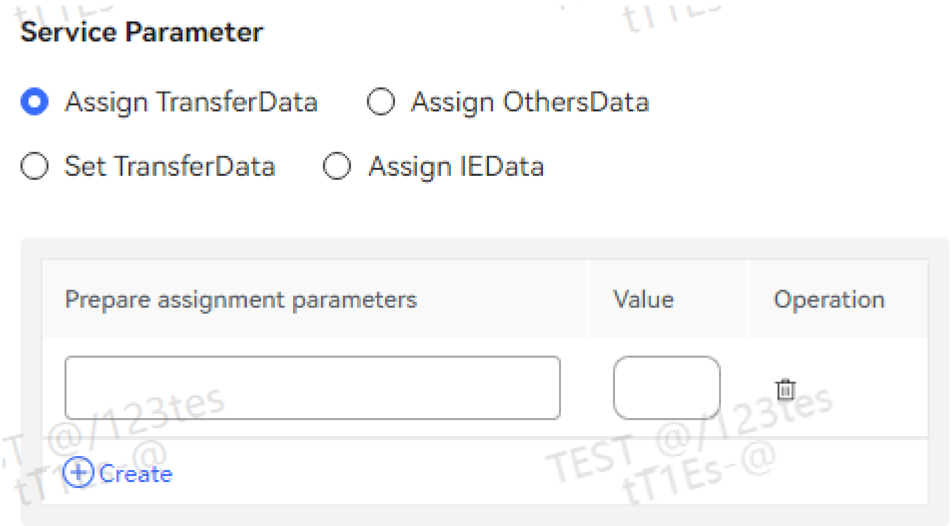


Figure 2-317 Assign OthersData

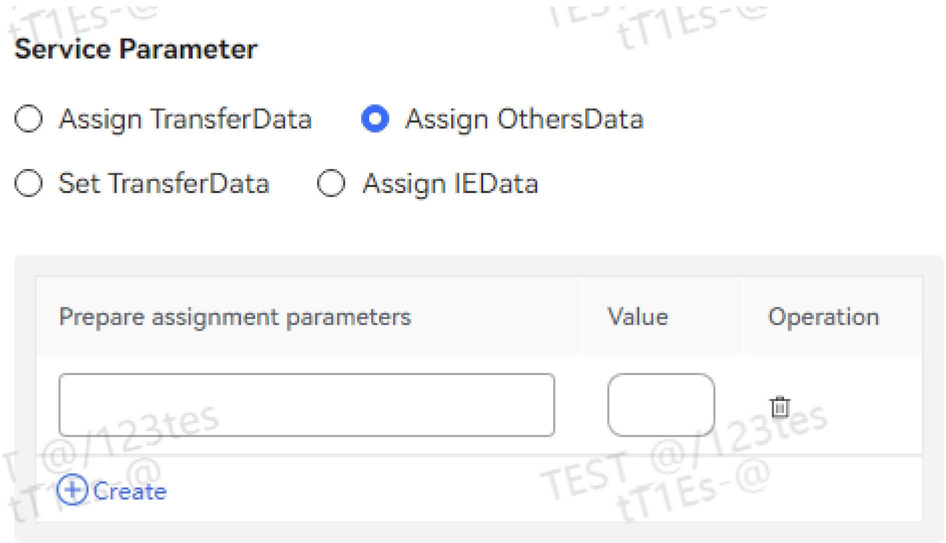


Figure 2-318 Set TransferData

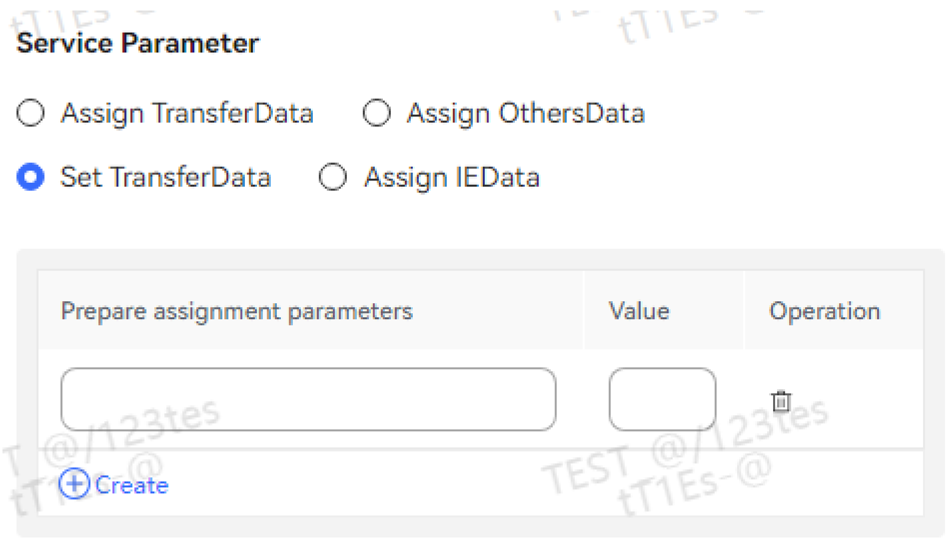
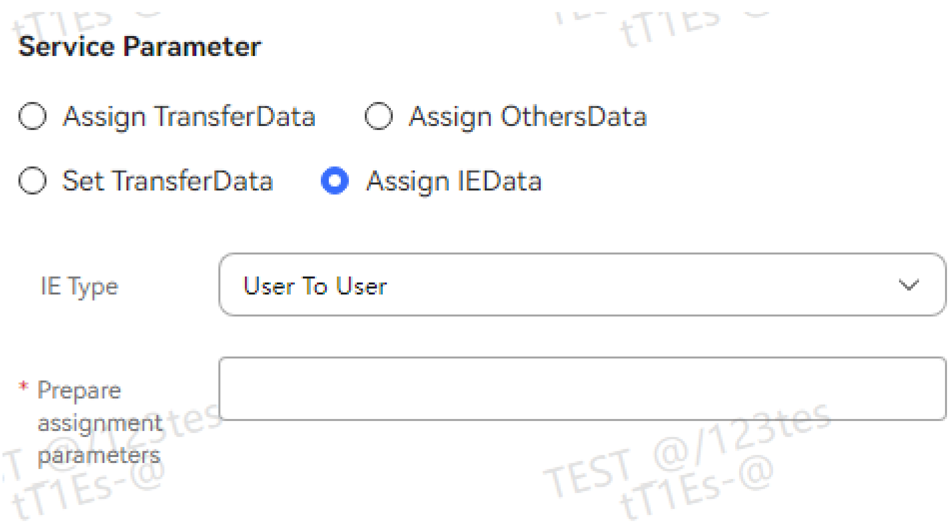


Figure 2-319 Assign IEData



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Data assignment**: Assign a value to the current flow in one of the following ways:
  - **Assign TransferData**
  - **Assign OthersData**
  - **Set TransferData**
  - **Assign IEData**
- **Prepare assignment parameters**: Configure the parameters to be carried when the value of the call-associated data or other data is assigned. Such parameters are used to carry remarks, which do not affect the flow logic.
  - **Value**: Enter a parameter value, which is optional.

i. **Assign TransferData**

Scenario: The agent transfers the call-associated data to the IVR flow. The IVR flow obtains the call-associated data. The call-associated data must be in the following format:

{"callid":"1598006316-4672","calldata":"{\\\"key1\\\":\\\"v1\\\", \\\"key2\\\":\\\"v2\\\"}","isDataEncoded":"false"}

The call-associated data is obtained based on **calldata.key1** and **calldata.key2**.

When a call is transferred from an intelligent IVR flow to a common one, the data is in the JSON format defined by the customer. The customer obtains parameter values by directly obtaining the values of parameters at the first layer and obtaining the values of parameters at the second layer in *a.b* format.

ii. **Assign OthersData**

During data value assignment, in addition to string and integer data, expression calculation is also supported.

Integer data supports the following arithmetic operations: +, -, *, and % (). Data supports **FLOW**, **GLOBAL**, and **SYS**.

Example: **(FLOW.xxx+FLOW.yyy)*GLOBAL.zzz**. Note that when / is used for division, the calculation result needs to be received using data of the string type. Integers do not support decimals.

String data supports comparison, case conversion, character string concatenation, substring calculation, and length calculation.

Example: **FLOW.aaa=="Huawei" FLOW.bb.to FLOW.a.toUpperCase() FLOW.A.toLowerCase() FLOW.hua +FLOW.wei FLOW.len.substring(0,3)FLOW.zzzz.length()**

iii. **Set TransferData**

When the IVR flow is running, you can set the call-associated data through this parameter to transmit data with sessions.

The call-associated data must be in key-value format. Multiple key-value pairs can be set and are combined as follows: **{"data": {"***key***":"***value***","***key1***":"***value1***"}}**. Agents can obtain the value of this parameter.

iv. **Assign IEData**

The IE information transmitted in the flow can be obtained. Currently, only the **User To User** option is available.

Click the **Prepare assignment parameters** text box. The global variable and flow variable lists are displayed for selection.

– Click **New** to add a parameter record. The value of **Transfer Parameters** must be unique in each record.

– Click **Delete** to delete the current record.

- Click **Save** to save all parameters set on the current page.

Typical Application Scenario

After an agent sets call-associated data and transfers the call to the IVR, the IVR can obtain the call-associated data from the **Assign** diagram element, assign a value to a parameter at any time, and add the parameter to a flow variable or global variable.

2.6.3.10.32 Transfer (Expired and Not Recommended)

This diagram element is used to transfer a call from the current flow to another channel, such as an agent, a third party, or an intelligent IVR. After the call is successfully transferred, the **Call Ending** diagram element needs to be connected.

NOTICE

If an agent clicks  on the connection bar and transfers a call to an IVR flow in hang-up transfer mode, the IVR flow cannot use the **Transfer** diagram element to further transfer the call to another device. The call transfer to another device will fail.

Diagram Element

Parameter Description

The following figure shows the parameters of the **Transfer** diagram element.

Figure 2-320 Transfer to Skill Queue

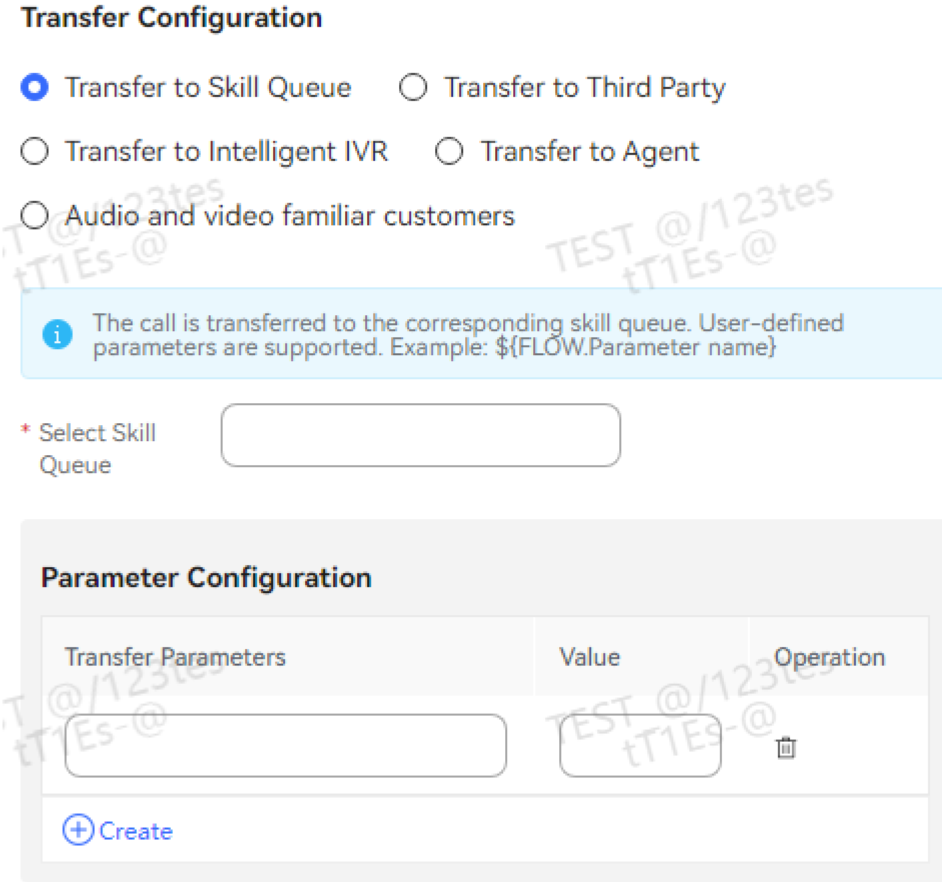


Figure 2-321 Transfer to Third Party

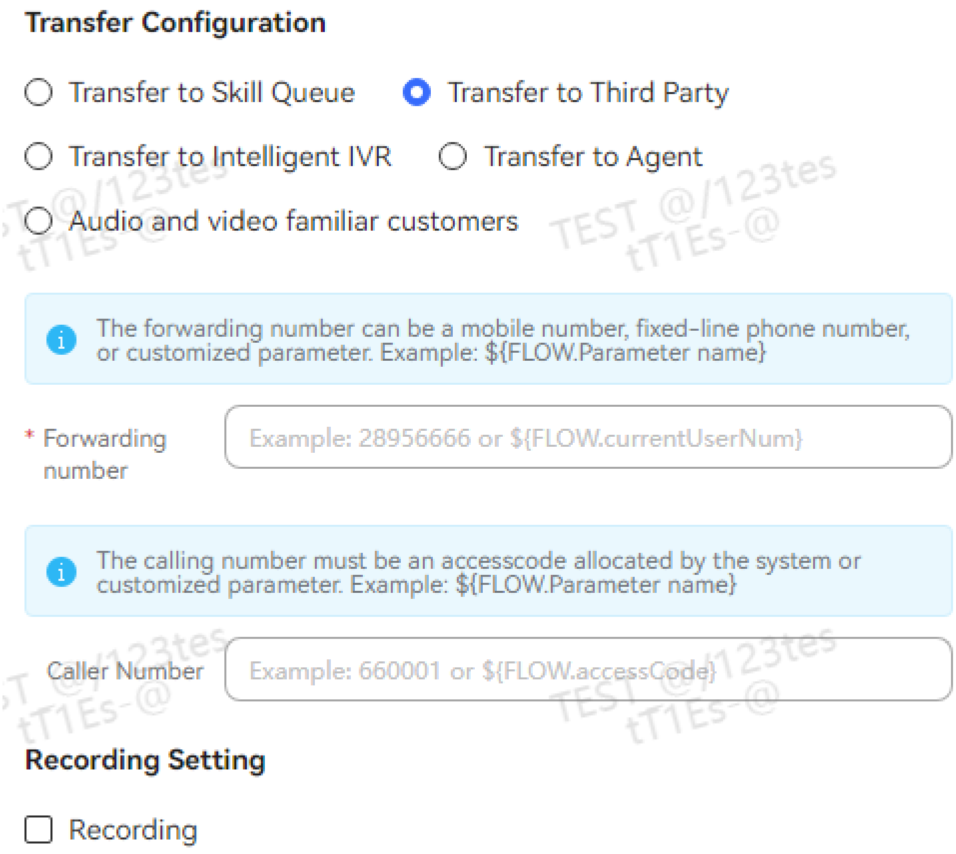


Figure 2-322 Recording File

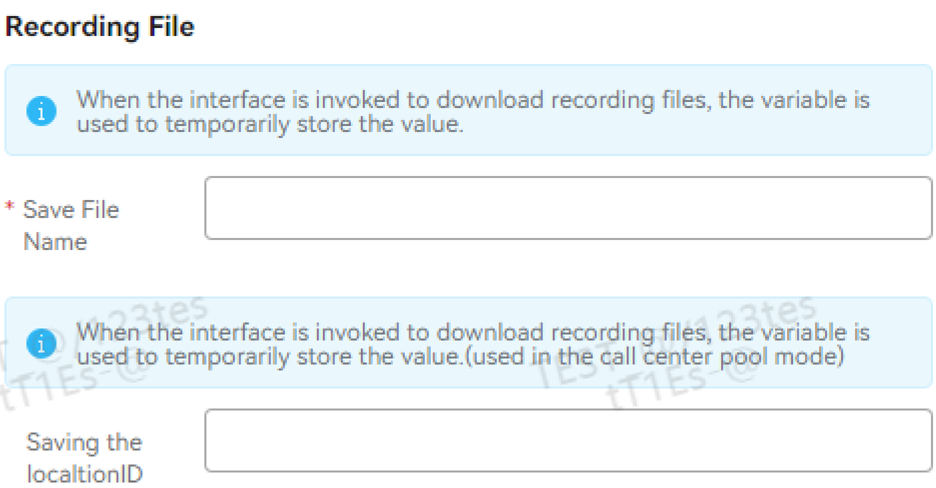


Figure 2-323 Transfer to Intelligent IVR

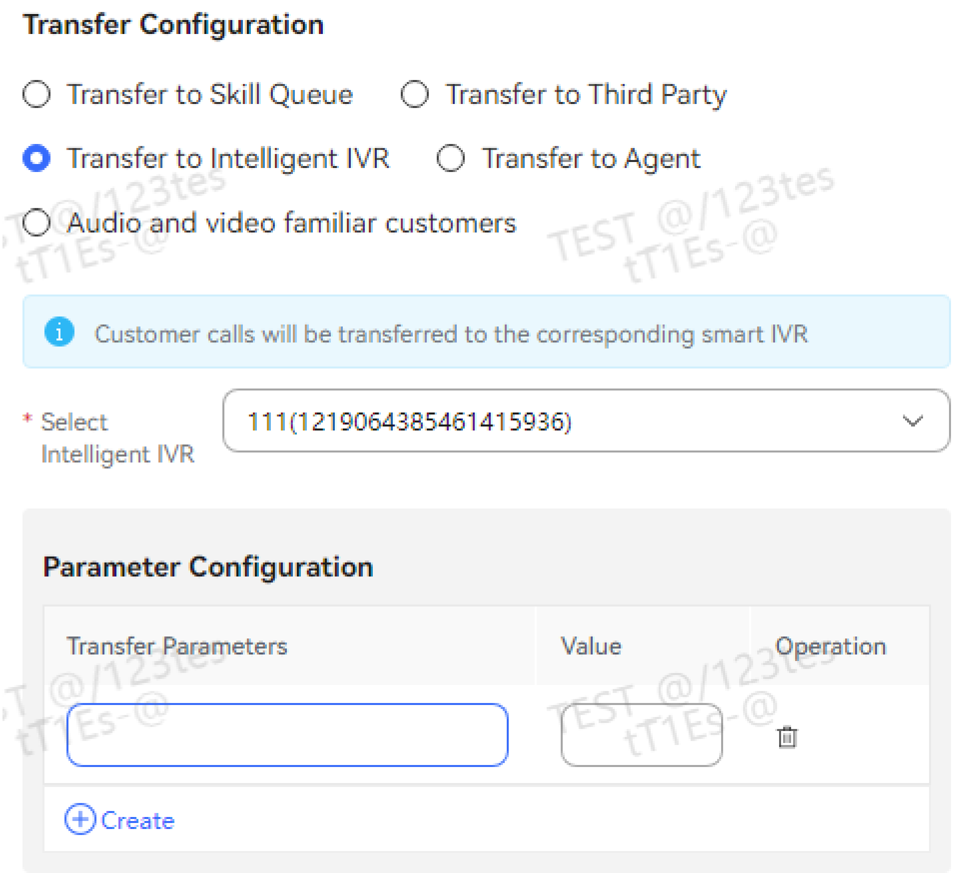


Figure 2-324 Transfer to Agent

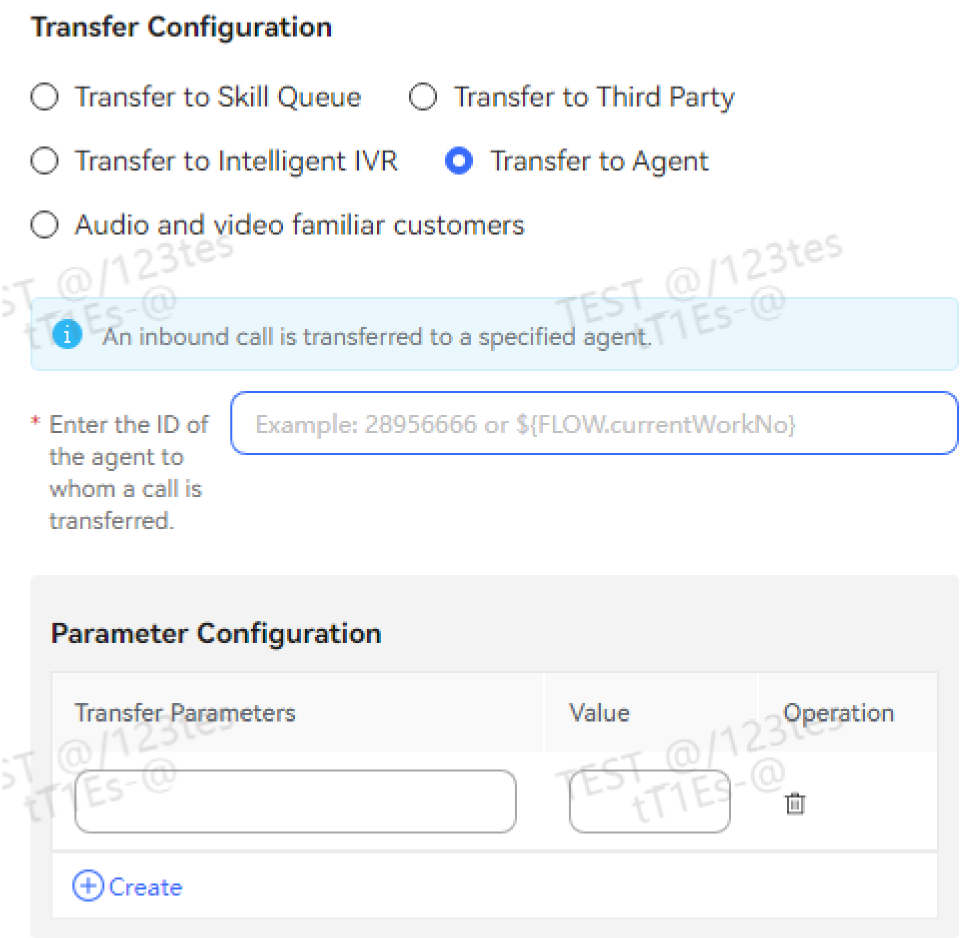
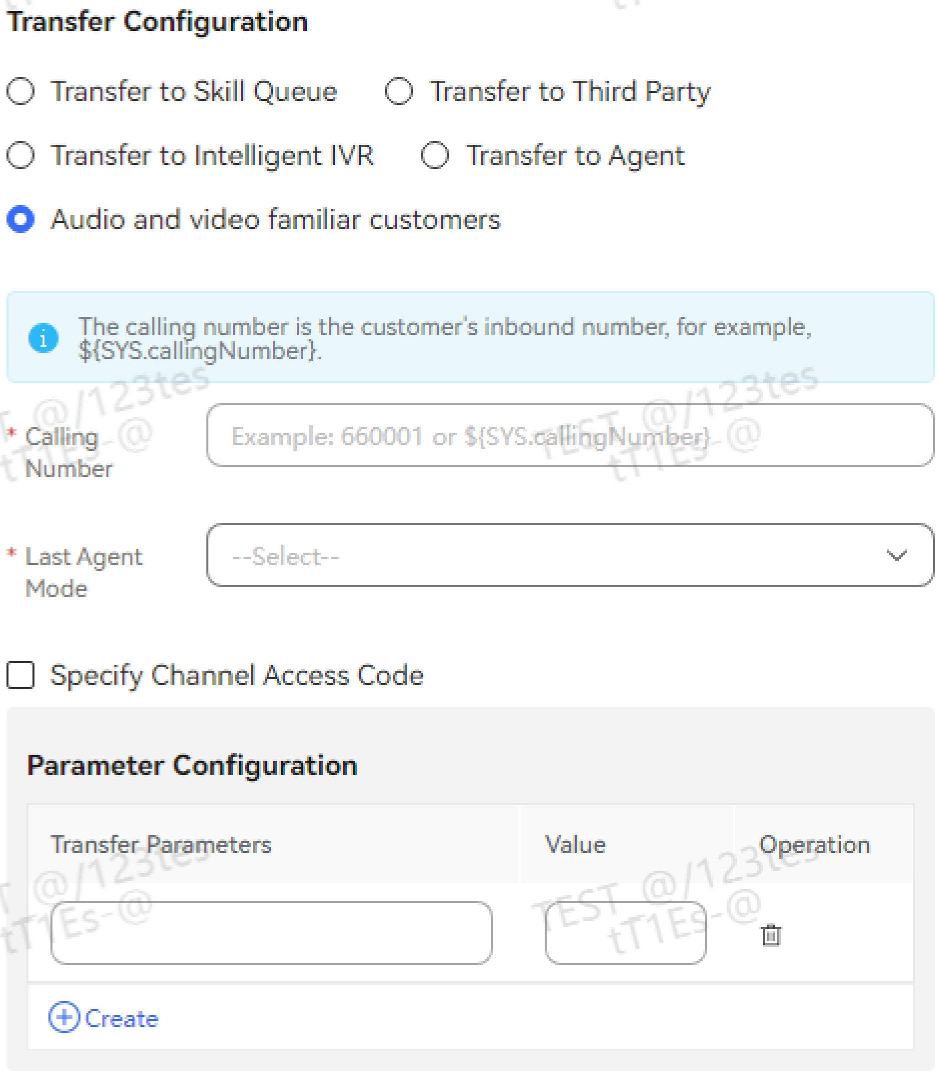


Figure 2-325 Audio and video familiar customers



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Transfer Configuration**: This area displays parameters for transferring a call from the current flow. The following transfer methods are available:
  - **Transfer to Skill Queue**: The system transfers a call from the current flow to an agent. If this method is selected, you need to select an agent from the **Select Skill Queue** drop-down list. You can also enter a self-defined parameter. The available skill queues are configured on the **Configuration Center** > **Employee Center** > **Skill Queue** page of the tenant. When a video call is transferred, select an agent that supports the video function.

    The customized parameter must be in **FLOW.***Parameter name* format, for example, **FLOW.IDNumber**. It must also be defined as a flow parameter. Otherwise, the parameter is meaningless. The value of the customized parameter is the latest one used before the transfer diagram element in the flow. If the parameter value is not reassigned in the flow, the initial value is used.

For example, if a customer enters the value of **FLOW.IDNumber** in the voice playback and digit collection diagram element, which is executed before the **Transfer** diagram element, the parameter value to be transferred in the **Transfer** diagram element is the latest one entered by the customer. Otherwise, the initial parameter value is used.

Click the text box. In the dialog box that is displayed, select a global variable or flow variable as required. The system saves the recording file name using a variable of the string type. Therefore, you can select only a variable of the string type.

- **Transfer to Third Party**: The system transfers a call from the current flow to a third party. If this method is selected, you need to set **Forwarding number** (mandatory) and **Calling Number** (optional). The forwarding number can be a mobile phone number, fixed-line phone number, or customized parameter. The calling number must be an access code allocated by the system or a customized parameter. When **Transfer to Third Party** is selected, you can select **Recording**. If **Recording** is selected, the dialogs between the user and the third party are recorded and saved, and the recording file name is saved to a variable of the string type. During recording, an announcement is played to notify the user that the conversation between the user and the third party will be recorded. The announcement can be configured in **Voice** or **TTS** mode. The variable for saving the recording service node ID is used in the call center pool mode.
- **Transfer to Intelligent IVR**: The system transfers a call from the current flow to an intelligent IVR flow. Select an IVR flow from the drop-down list. The intelligent IVR flow is published on the OIAP.
- **Transfer to Agent**: The system transfers a call from the current flow to a specific agent. If this method is selected, you need to enter the ID of the agent to whom the call is transferred. The **${FLOW.workNo}** flow variable is supported.
- **Transfer to last agent**: The system transfers a call from the current flow to the last agent. The last agent refers to the agent who has a call with a customer number recently within a period. Enter a customer number in the **Calling Number** text box. The **${SYS.callingNumber}** system variable is supported. You can set **Last Agent Mode** to **Time range** or **Current day**.
  - **Time range**: Enter an integer ranging from 1 to 10080. For example, if you enter **100**, the call is transferred to the last agent contacted in 100 minutes.
  - **Current day**: Select a time zone. The call is transferred to the last agent who is contacted on the current day in the specified time zone.

  Specify Channel Access Code: Select this check box to prevent transferring to an incorrect last agent when routing to the last agent is enabled for multiple channels.

- **Parameter Configuration**: This area is used to configure parameters to be carried when a call is transferred to a skill queue, an intelligent IVR, an agent, or the last agent. A maximum of 16 parameters are allowed. Such parameters are used to carry remarks, which do not affect the flow logic.
  - **Transfer Parameters**: Enter the name of a parameter to be transferred, which is optional.

- **Value**: Enter a parameter value, which is optional.

  NOTE

  The call-associated data consists of the transferred parameter, parameter value, and IVR type, which contains a maximum of 4000 bytes. The JSON format is supported. An example is as follows:

  {"data":{"xx": "aaa" , "yy":"bbb"}, "ivrType": "0"}

  To obtain the customer type field, set the transferred parameter to **customerEntityName** and set the parameter value to **account** or **contact**.

- Click **New** to add a parameter record. The value of **Transfer Parameters** must be unique in each record.
- Click **Delete** to delete the current record.

- Click **Save** to save all parameters set on the current page.

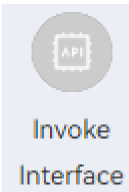
Typical Application Scenario

A voice call needs to be transferred from the current flow to a skill queue or third party.

2.6.3.10.33 Interface Invocation (Expired and Not Recommended)

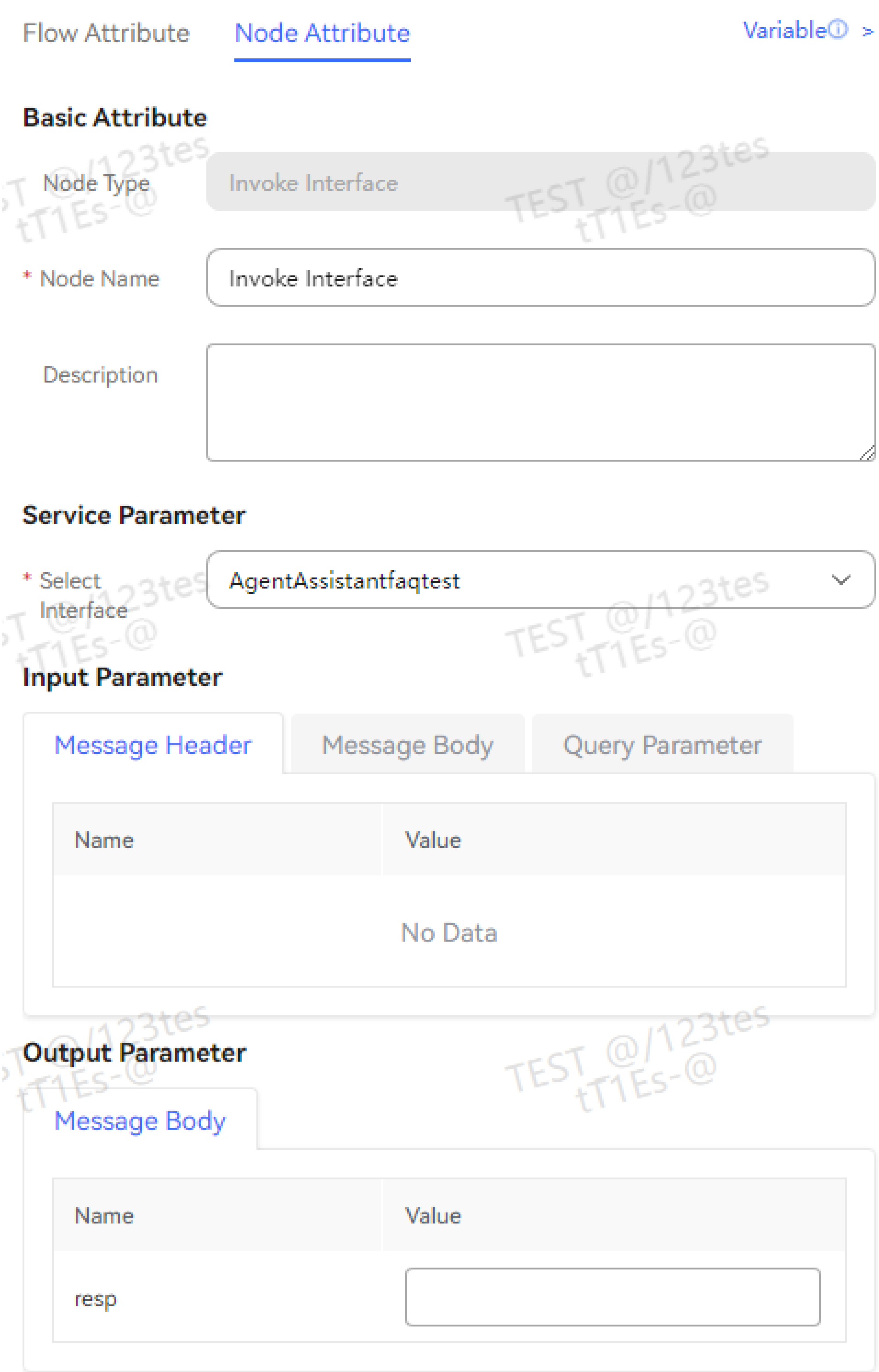
This diagram element is used to invoke a configured interface of a tenant. During interface invocation, you can assign values to the input and output parameters of the interface as required.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Invoke Interface** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Select Interface**: Select an interface name from the drop-down list box. The interfaces that can be selected have been configured for the current tenant. For details about the interface configuration, see **2.6.2.2.2 Adding Business Interfaces**.

- **Input Parameter**: This area displays the input parameters of the selected interface. When there are specific input parameters, constants and variables can be combined, for example, **id ${FLOW.ID}**. You can also assign values to input parameters. The values can be constants and variables. Note that the input variables such as **FLOW.ID** must be defined in the system.
- **Output Parameter**: This area displays the output parameters of the selected interface. If there are specific output parameters, you can assign values to the output parameters as required. You can associate **FLOW** or **GLOBAL** variables. When the value is obtained from the interface, JSON data nesting is supported. The value is obtained in the *result.name result.id* format.
- Click **Save** to save all parameters set on the current page.

Typical Application Scenario

This diagram element is used to invoke an interface.

2.6.4 Configuring the Preconfiguration Intelligent Flows

2.6.4.1 Importing Flows

By default, no flow exists for intelligent information matching after a tenant is created. If a tenant subscribes to the intelligent information matching service, operations personnel need to provide related flows for the tenant administrator to import. After the tenant administrator slightly configures or modifies the flows, functions such as intelligent knowledge recommendation can be implemented.

Flow packages are released with the AICC installation package and archived in the **AICC_**.*.**_ODFS.zip/flowinfo** directory in the installation package.

NOTE

.*. indicates the AICC version number.

- Agent assistant package

  This package is used in the intelligent agent assistant scenario to improve the ODFS flow of the agent assistant in the baseline version. The following information is added to the returned information in real time: speaking speed, silence and interruption information, sensitive words and categories, real-time notification of script violations (based on the configured real-time inspection rules), and emotion recognition.
- Information matching package

  This package is used in the intelligent agent assistant scenario to check forbidden words based on the quasi-real-time interaction records between agents and customers, send script reminders, and recommend content.

  This package is used in earlier versions. For versions later than 8.13.0, use the agent assistant flow package.
- **multiCellFLow.zip**

  This package contains preconfigured composite diagram elements and is used in the Q&A scenario. Q&As and answer branch processing in typical outbound calls are supported. If a subscriber enters incorrect questions for three consecutive times on the chatbot page, the system displays a message indicating that the number of attempts reaches the upper limit, and the chat text box is unavailable. This package is used in test outbound call Q&A flows and simple flows with common exception composite diagram elements.

- Satisfaction feedback package

  This package is used for customer satisfaction feedback on chatbot replies. Satisfaction feedback is required for Q&A-based replies, knowledge graph-based replies, and final replies in multiple rounds of dialogs.

- IVR test flow package

  This package is used to test IVR digit collection and voice playing.

- IVR test flow intention package

  This package contains intention data required by IVR test flows and is used together with the IVR test flow package.

- Intelligent revisit package

  This package is used for robots to make outbound calls to users for conducting satisfaction surveys after businesses are handled for the users.

- RPA intelligent case modification flow package

  This package is used for RPA robots to intelligently modify or supplement case information after agents create cases.

- Intelligent training package

  This package is used in the intelligent agent training scenario.

- RBT intention recognition package
- Package of address and person entities

NOTICE

A tenant administrator can contact O&M personnel to import the preceding flows or obtain them from O&M personnel. Perform the following steps to import the flows.

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration**, and click .

Step 2 In the dialog box that is displayed, click 

, select the flow package that needs to be imported, for example, the information matching package, and click 

.

----End

2.6.4.2 Configuring the Intelligent Agent Assistant

To implement the intelligent agent assistant function, perform related configurations on the **Intelligent IVR** page.

2.6.4.2.1 Overall Configuration

This section describes the overall process of configuring the intelligent agent assistant.

Step 1 Import and release the baseline flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. On the **Flow Configuration** page, choose **Flow** > **Orchestration** and click . In the dialog box that is displayed, click 

to select the archived flow package **ODFS_flow*****.zip** and click **Upload**.
3. Configure the preconfigured intelligent agent assistant flow. For details, see **2.6.4.2.5 Configuring the Intelligent Agent Assistant Flow**.
4. Click **Release**.

Step 2 Create a flow access code.

1. Choose **Intelligent Chatbot**.
2. Click 

to add an intelligent robot. Set **Dialog Type** and **Flow Name** to **Voice navigation** and the published baseline flow, respectively.

Step 3 Configure a flow access code. Sign in to the AICC and choose **Configuration Center** > **System Management** > **Tenant Information**. On the **Tenant Information** page, enable **Intelligent Recognition** and **Intelligent Agent Assistant**, select a robot assistant, and save the settings. The robot assistant name is the same as the value of **Chatbot Name** configured in **Step 2**.

----End

2.6.4.2.2 Scripts

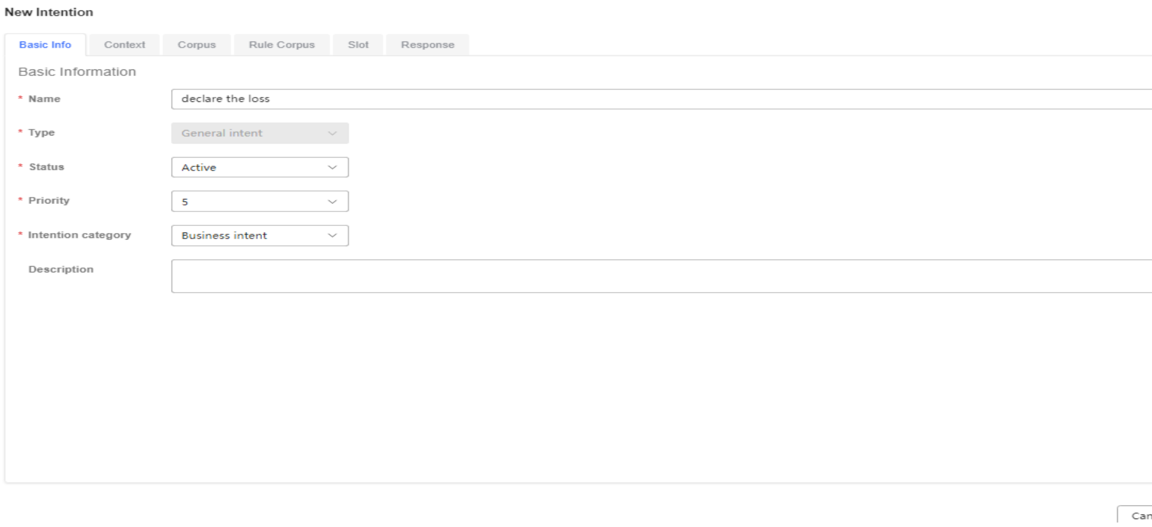
To use the intention and script recommendation functions of the intelligent agent assistant, perform the following operations.

Step 1 Configure a domain. Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management** and click **Create** to create a domain.

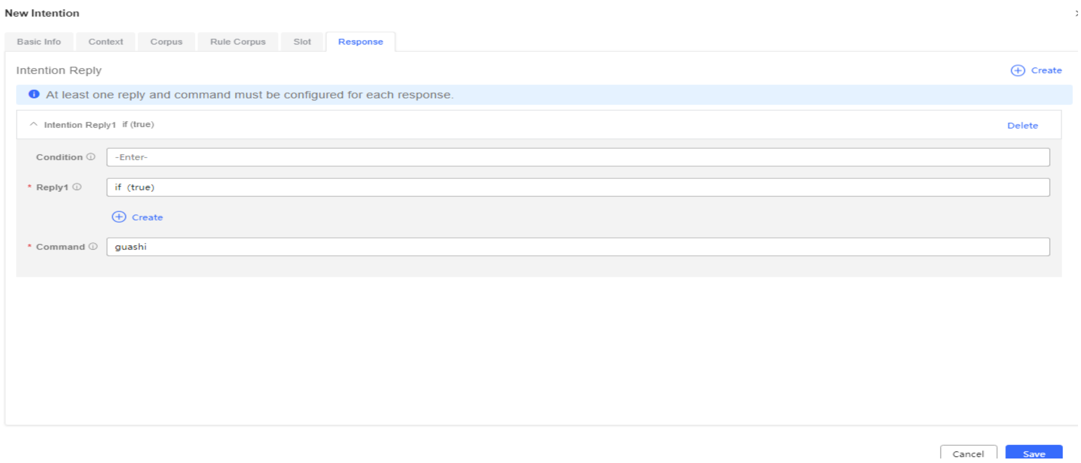
Step 2 Add an intention. Choose **Knowledge Management** > **Intention Management** and create intentions and scripts as intentions.

For example, in the intention of a loss report, the script may be "your ID card number" or "your mobile number". Therefore, create three intentions at a time.

1. Click **Create** to create a general intention. On the **Basic Info** tab page, set **Name** to the name of a script or intention displayed on the GUI.



2. Click the **Corpus** tab. Corpus indicates the keywords for recognition. Click **Create** to create a corpus. For example, set the corpus for the loss report to **Loss Report**.
3. Click the **Response** tab to set an intention command. The intent command must be unique. Click **Create** to create a response.



4. After configuring the **Loss Report**, **Your Mobile Number**, and **Your ID Card Number** intentions, click **Train** to train the robot.

Step 3 Configure a resource template.

1. Choose **Resource** > **Resource Template** and click **New** to add a resource template. Set **Type** to **TTS**. Enable **Configure Intention Template**.
2. Click **Add Top Node** and set the configured **Loss Report** intention to the top node.
3. Click **Add** on the right of the **Loss Report** intention, set the **Your Mobile Number** intention to the lower-level node, and save the settings.
4. Set the **Your ID Card Number** intention to the lower-level node in a similar way and save the settings.

Step 4 Configure a greeting. Greetings are preconfigured in the baseline flow. To customize greetings, modify **GreetingWord** in the resource template. For details about how to set other TTS texts to greetings, see **Greeting Resource Templates**. To match a greeting, create an intention on the **Intention Management** page. It is recommended that the name and keyword of the intention be the same as those of the greeting. The intention command must be set to **GreetingWord**.

For details about how to add an intention, see **Step 2**.

----End

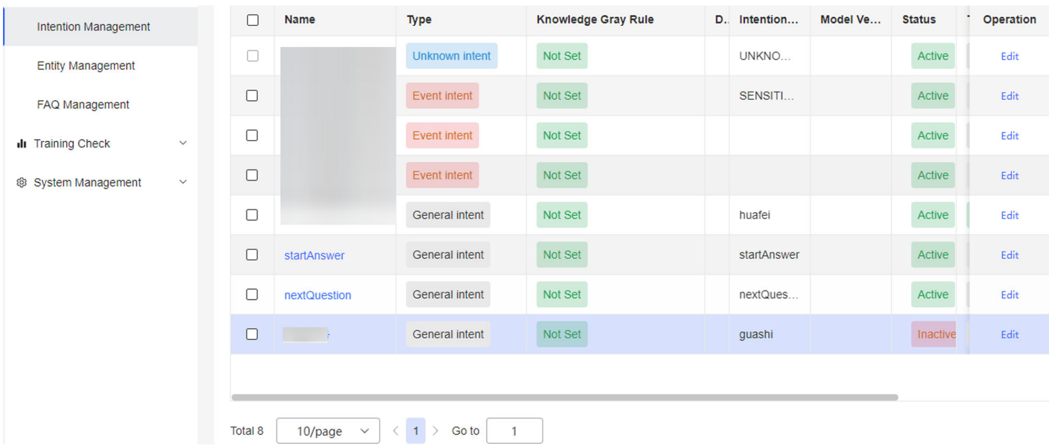
2.6.4.2.3 Q&As

To use the FAQ recommendation function of the intelligent agent assistant, configure Q&As in the intelligent IVR.

Step 1 Choose **Knowledge Management** > **FAQ Management** and click  to create an FAQ group. Multiple Q&A pairs can be created in an FAQ group.

> **NOTE**
>
> To use a URL, set **Description** in the markdown format (**[Description](https://url)**, for example, **[Baidu](https://www.baidu.com))**.

Step 2 After the configuration is complete, return to the **Intention Management** page and click **Active** to activate the intention.



----End

2.6.4.2.4 Sensitive Words

To use the sensitive word prompt function of the intelligent agent assistant, create sensitive words on the **Intelligent IVR** page.

Step 1 Choose **Knowledge Management** > **Entity Management** and click the **SENSITIVE WORD** tab.

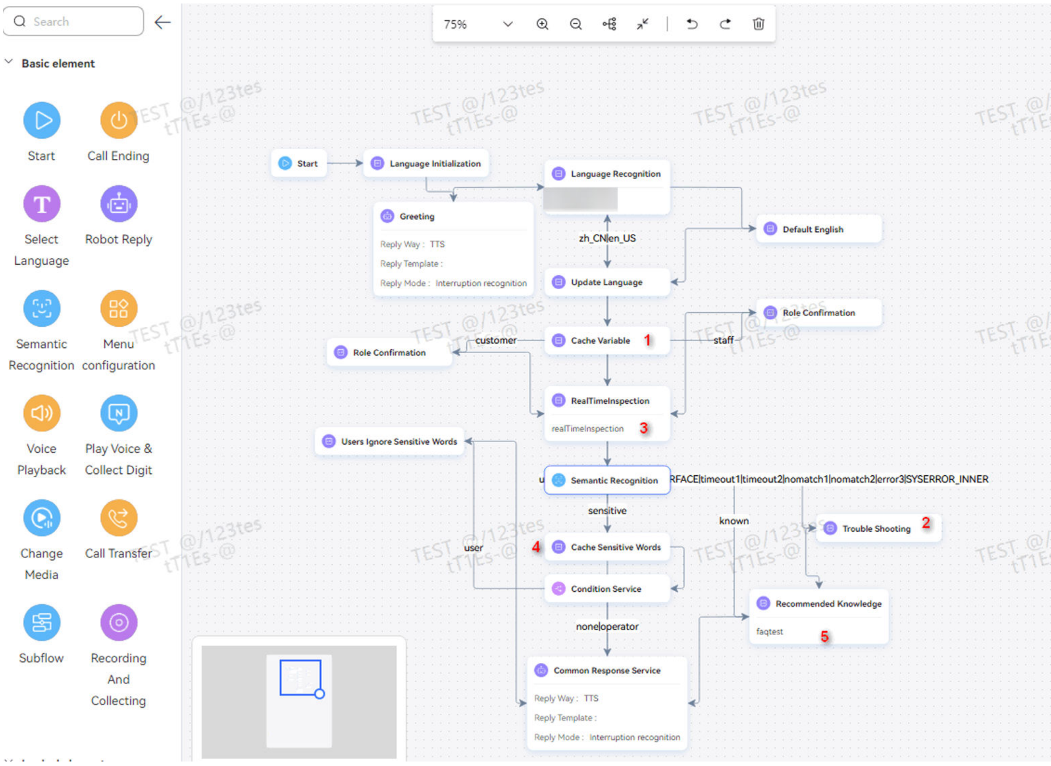
Step 2 Click **Add** to create a sensitive word category. You can configure multiple sensitive word categories based on the site requirements.

Step 3 Click **Add** on the right to create a sensitive word. For example, create a forbidden word category, and then create a password under the category as a forbidden word.

----End

2.6.4.2.5 Configuring the Intelligent Agent Assistant Flow

The following figure shows the preconfigured intelligent agent assistant flow.



This flow implements the following functions:

1. The **Greeting** response diagram element plays the greeting to the customer. Customize the voice files in Chinese and English.
2. The **Interface Invoking** diagram element at position 1 separates the texts sent by the client by spaces based on the interaction records, and records whether the texts are sent by the customer or agent.
3. The diagram element at point 3 performs real-time inspection on conversations based on the interaction records.
4. The **Semantic Recognition** diagram element identifies the interaction information as follows:
   - If sensitive words exist, the sensitive word prompt is triggered. The **Interface Invoking** diagram element at point 4 assigns the sensitive words to flow variables.
   - If no sensitive word exists and the intention is matched, the **Interface Invoking** diagram element at point 5 is entered, and the matched intention name is used to invoke the Q&A interface to obtain a recommended reply.
   - If an error such as timeout or unknown intention occurs, the **Interface Invoking** diagram element at point 2 is invoked. The interaction information is directly used to invoke the Q&A interface to obtain a recommended reply.
5. The response diagram element returns the recommended replies and sensitive words.

6. If the reply is sent to a customer, the sensitive words are empty. If the reply is sent to an agent, the sensitive words are not empty and the next cycle starts.

Modify the greeting voice templates and invoke the specific recommendation and knowledge obtaining interfaces in an **Interface Invoking** diagram element to implement the intelligent agent assistant function.

Greeting Resource Templates

Resource templates in the first response of the intelligent agent assistant flow can be configured and modified by the customer or preconfigured by the business personnel based on the customer requirements.

Step 1 Choose **Flow** > **Orchestration** and click **Edit** corresponding to the agent assistant flow.

Step 2 Click the first response diagram element to view the response template name on the right.

Step 3 Choose **Resource** > **Resource Template**.

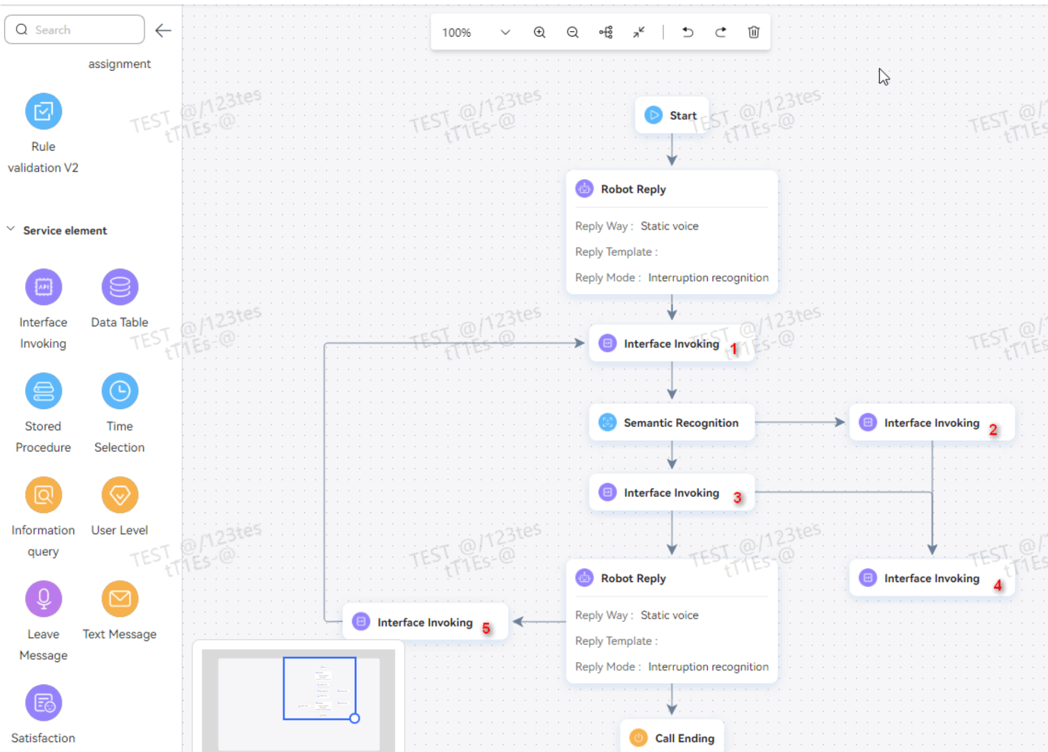
Step 4 Click **Edit** next to the template described in **Step 2**.

Step 5 On the **Edit Template** page, modify the template as required and click **Confirm**.

----End

2.6.4.3 Configuring the Intelligent Information Matching Flow

The following figure shows the preconfigured intelligent information matching flow.



This flow implements the following functions:

1. The response diagram element plays the greeting to the customer. Customize the voice files.
2. The **Interface Invoking** diagram element at position 1 separates the texts sent by the client by spaces based on the interaction records, and records whether the texts are sent by the customer or agent.
3. The **Semantic Recognition** diagram element identifies the interaction information as follows:
   - If sensitive words exist, the sensitive word prompt is triggered. The **Interface Invoking** diagram element at point 3 assigns the sensitive words to flow variables.
   - If no sensitive word exists and the intention is matched, the **Interface Invoking** diagram element at point 4 is entered, and the matched intention name is used to invoke the Q&A interface to obtain a recommended reply.
   - If an error such as timeout or unknown intention occurs, the **Interface Invoking** diagram element at point 2 is invoked. The interaction information is directly used to invoke the Q&A interface to obtain a recommended reply.
4. The response diagram element returns the recommended replies and sensitive words.
5. After a reply is triggered, the sensitive words are empty and the next cycle starts.

Modify the greeting voice templates and invoke the specific recommendation and knowledge obtaining interfaces in an **Interface Invoking** diagram element to implement the information matching function.

2.6.4.3.1 Greeting Resource Templates

Resource templates in the first response of the information matching flow can be configured and modified by the customer or preconfigured by the business personnel based on the customer requirements.

Step 1 Choose **Flow Management > Flow Orchestration** and click next to the information matching flow.

Step 2 Click the first response diagram element to view the response template name on the right.

Step 3 Choose **Resource Management** > **Resource Template**.

Step 4 Click **Edit** next to the template described in **Step 2**.

Step 5 On the **Edit Template** page, modify the template as required and click **Confirm**.

----End

2.6.4.3.2 Interface Invoking Diagram Element

The information matching flow supports user-defined modification and update of invoked diagram element types and settings based on business requirements.

Step 1 Choose **Flow** > **Orchestration** and click **Edit** next to the information matching flow.

Step 2 Click the **Interface Invoking** diagram element and set **Select Interface** on the right to implement the knowledge or script recommendation function.

NOTE

Modify the configuration based on site requirements.

To configure the knowledge base for a customer, invoke the corresponding interface. If no interface is required, the cache parameter **recommand** is not invoked, but the attribute name in the response must be set to a fixed character string. This step can be performed by the customer or preconfigured by the business personnel by using interface parameters.

Perform operations based on site requirements. To configure a business interface, choose **Resource** > **Business Interface**. For details, see "Adding Business Interfaces" in *20-AICC IVR Flow Configuration Guide*.

----End

2.6.4.3.3 Response Templates Returned to the Semantic Recognition Invoker

Response templates can be configured by the customer or configured by the business personnel based on the customer requirements. After a template is configured, the backend automatically reads the parameter information.

The JSON format of the response template **PromptText** in the second response diagram element in the information matching flow is fixed. Ensure that the referenced parameter name is the same as the variable name defined in the flow.

Step 1 Choose **Flow Management** > **Flow Orchestration** and click next to the information matching flow.

Step 2 Click the **Response** diagram element in the lower part to view the response template name.

Step 3 Choose **Resource Management** > **Resource Template**.

Step 4 Click **Edit** next to the template described in **Step 2**.

Step 5 On the **Edit Template** page, modify the JSON content as required. Ensure that the parameter names in the JSON file are the same as the variable names defined in the information matching flow.

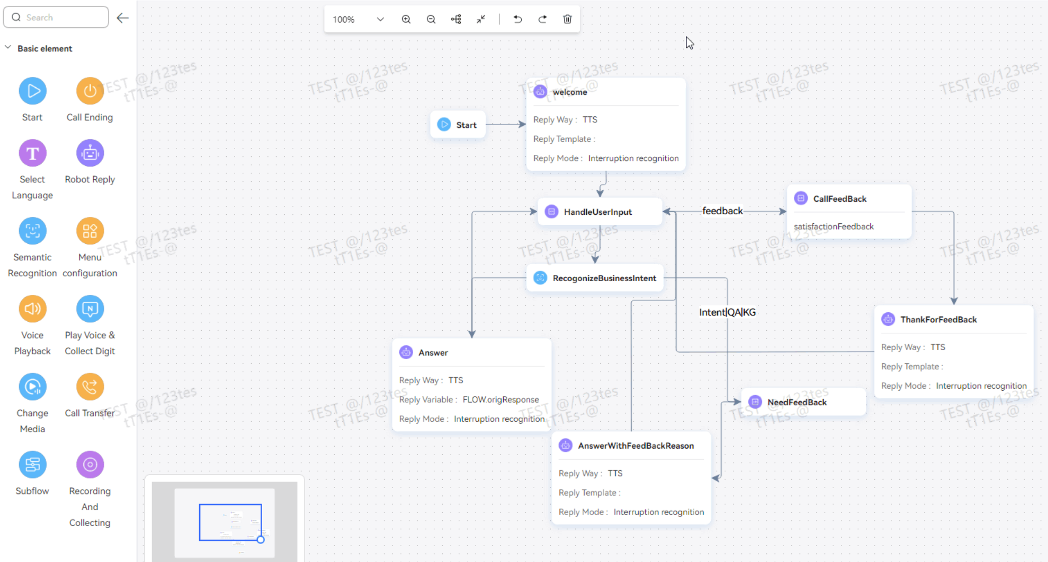
----End

2.6.4.4 Configuring the Satisfaction Feedback Flow

In a call test, the GUI and flow orchestration are used to implement the satisfaction feedback function.

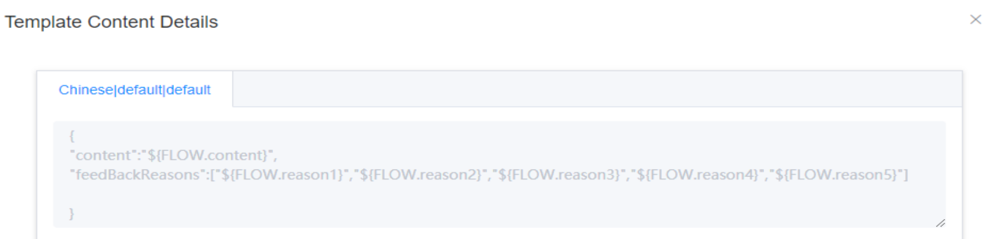
During flow orchestration, determine the businesses for which satisfaction feedback is required. Generally, satisfaction feedback is not required for chat sessions, auxiliary sessions, slotted sessions, and clarification sessions. It is required for Q&A-based replies, knowledge graph replies, and final replies in multiple rounds of dialogs.

The following figure shows the preconfigured satisfaction feedback flow.

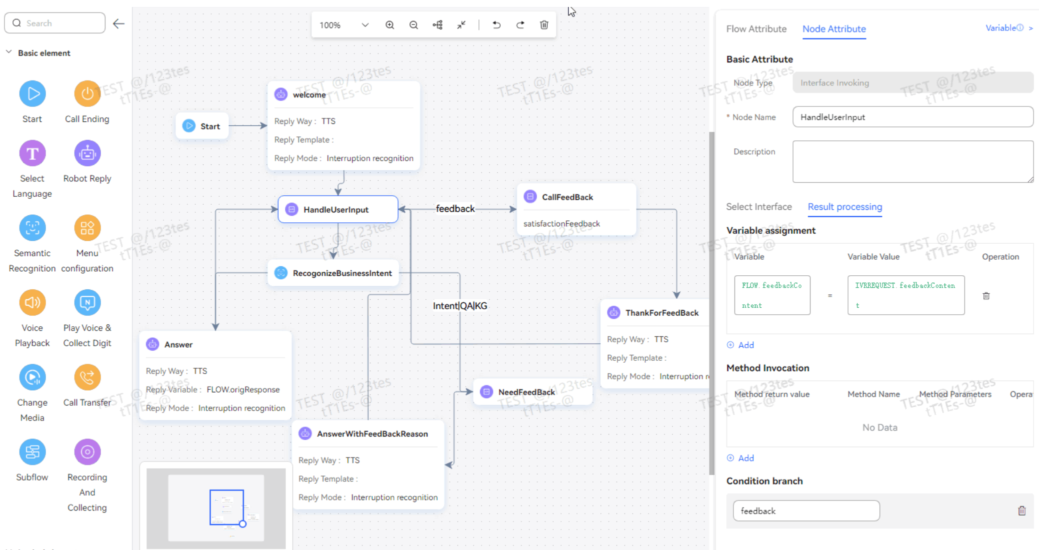


Step 1 Return the **needFeedBackResponse** response template in the branch that requires feedback. The data structure in the response template must be the same as that agreed by the frontend.

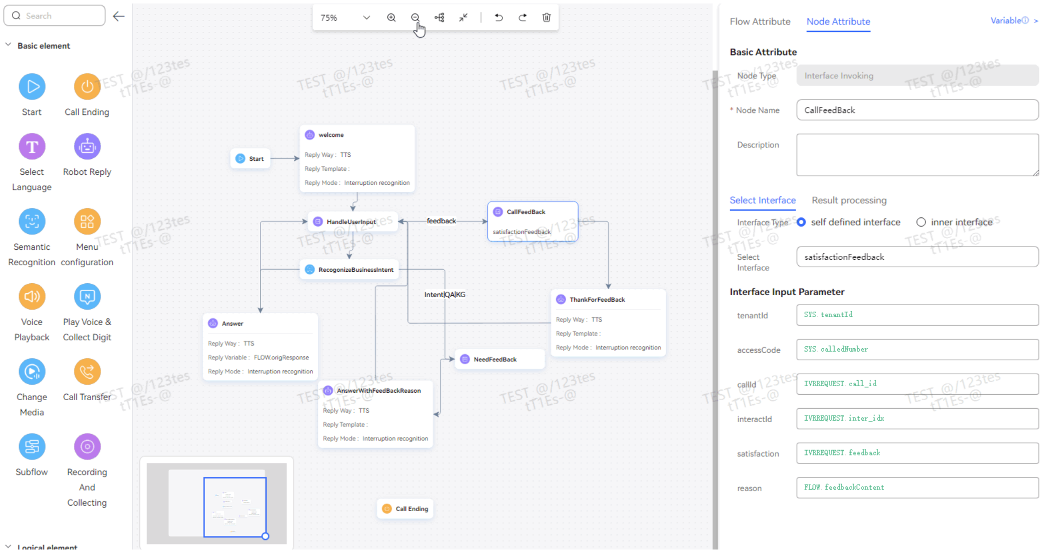
The response template **needFeedBackResponse** provides the result to be returned for the current business and the reason for dissatisfaction. The frontend parses the result for display.



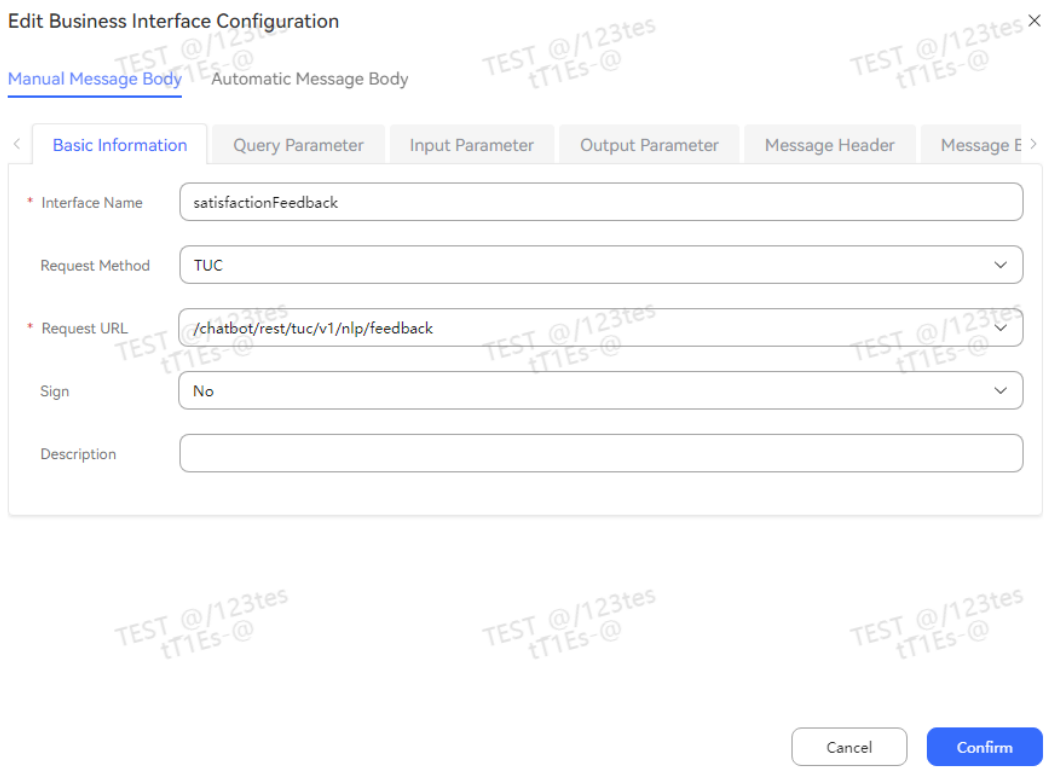
Step 2 Check the user input. If the value of **IVRREQUEST.feedback** is **0** or **1**, the user is satisfied and the satisfaction feedback enters the feedback branch.



Step 3 Check whether the feedback branch invokes the CallFeedBack interface provided by the TUC.



Step 4 Check the configuration of the satisfaction feedback interface in the following figure.



----End

2.6.4.5 Releasing Flows and Testing Calls

This section describes how to release a flow and how to test the released flow.

2.6.4.5.1 Flows

After a flow is imported, it is in **Invalidate** state. The flow can be used only after it is successfully released. The call test can be performed only after the configuration takes effect.

Step 1 Choose **Flow Management > Flow Orchestration**.

Step 2 Click  next to a flow to release the flow for it to take effect.

----End

2.6.4.5.2 Call Tests

You can test the configured chatbot to determine whether the configuration is correct.

Step 1 Choose **Chatbot Management**.

Step 2 Click **Add** to add an access code. Set required information, select the flow to be tested, and click **Confirm**.

Step 3 Click **Test Call** in the last column of the desired access code.

Step 4 In the dialog box that is displayed, enter the information to perform the test.

----End

2.6.5 Large Language Model Service Zone

2.6.5.1 LLM-based Application Services

The ODFS provides a series of intelligent tools based on large language models to assist customer service personnel in knowledge collection, editing, and Q&A, improving agent work efficiency and customer satisfaction.

2.6.5.1.1 Preparation

Configuring a Model

The LLM Engine provides multiple common models for users to select from based on the actual service and budget.

Prerequisites

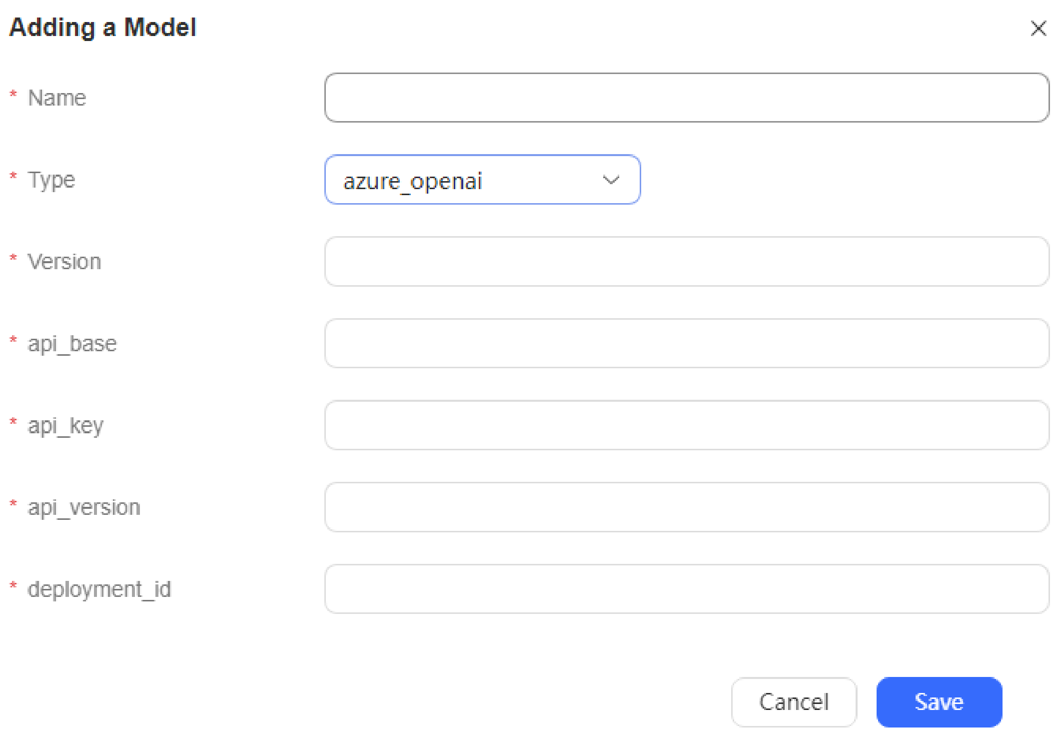
You have contacted the system administrator to enable the LLM Engine feature for the tenant.

Procedure

Step 1 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **System Management** > **Model Management**, and bind a model.

Step 2 On the **Large Model** tab, click Create. The **Adding a Model** page is displayed.

Figure 2-326 Adding a model



Parameter	Description
Name	This parameter is user-defined. It is recommended that this parameter be related to the model type for future use.
Type	Select a model based on the actual service.
Version	Large language model version which is set as required.
Using **azure_openai** as an example	
api_base	URL for requesting a large model.
api_key	● Function: **api_key** is a key used for identity authentication. It needs to be provided each time a request is sent to the OpenAI API. This is the key to ensuring that only authorized users can access the API service. ● Obtaining method: To obtain the value of **api_key**, you need to register with the **OpenAI official website** and create an account. After you create an account and log in to the system, you can find your API key on the OpenAI user console. ● Security: **api_key** is sensitive information and must be kept properly. Do not expose your API key in public code libraries or client codes to prevent unnecessary fees and security risks.

Parameter	Description
api_version	• Function: **api_version** allows users to specify the version to be used through an API request. This is especially important when the API is updated, because a new version may introduce new functions or change existing functions. If you want to use an API of a specific version or ensure backward compatibility, set **api_version**. • Obtaining method: The API version information can be found in the official documents or release notes of OpenAI. The API version may be displayed in the URL of the API or the specific version information may be provided in the API document. • Setting method: In some API client libraries or invocations, you may need to specify the API version in the request configuration. For example, you may set the version number in the request URL or request header, or set **api_version** in the configuration of some libraries.
deployment_id	• Function: **deployment_id** is used to specify a specific model deployment instance. This parameter is used to select a specific deployment for API invocation when multiple models or versions are deployed. • Model management: During model management and O&M, **deployment_id** allows users to control and reference different model deployments. This is very important for managing multiple model versions or performing A/B testing of models in the PR environment.

Step 3 Click **Save**. The large model is created successfully.

----End

2.6.5.1.2 LLM-based Agent Assistant

The agent assistant is a function that assists agents in serving customers based on the large language model (LLM). It provides operation support for the services of the voice and video workbench and online chat workbench, including sentiment analysis and knowledge search.

Selecting a Model Type.

The following model types of the agent assistant are supported: **Large Model**, **Combined Model**, and **Small Model**, of which capabilities are in descending order. You can select a model based on cost and service requirements.

Prerequisites

You have contacted the system administrator to enable the LLM Engine feature for the tenant.

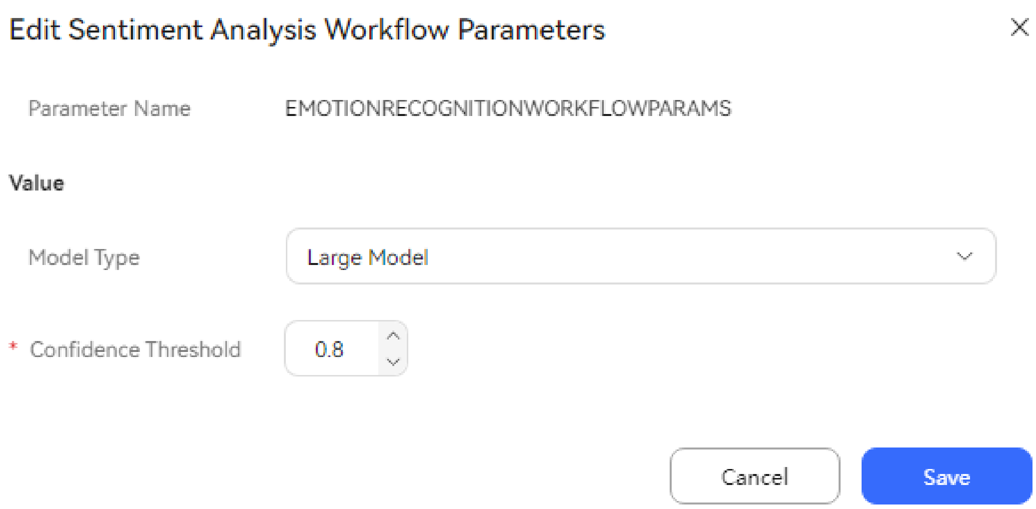
Procedure

Step 1 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, and click the **System Settings** tab.

Step 2 Enter **EMOTIONRECOGNITIONWORKFLOWPARAMS** in the search box and click  to view the parameter.

Step 3 Click **Edit** on the right of the parameter and select a model type.

Figure 2-327 Edit Sentiment Analysis Workflow Parameters page



- **Model Type**: Options are **Large Model**, **Small Model**, and **Combined Model**. A large language model has powerful sentiment analysis capabilities, but its cost is higher than that of a small language model. Select a model based on actual requirements.
- **Confidence Threshold**: Retain the default value.

Step 4 Click **Save**.

----End

Configuring Information on the LLM Engine

Prompt templates help a model narrow down the text generation scope, preventing generation of texts that differ greatly from expected content. For example, if the template content theme is sport, the model generates sports game content. The AICC provides preset prompt templates. This section describes how to download and import a prompt template.

Prerequisites

Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, enable the **LLM Engine** feature for the tenant space, and select **Sentiment analysis**, **Q&A retrieval**, and **Intent recognition**.

Procedure

Step 1 Contact Huawei technical support to download the **AICC_*.*.*_ODFS.zip** package from https://support.huawei.com.

Step 2 Decompress the **AICC_*.*.*_ODFS.zip** package.

NOTE

..* indicates the AICC version number.

Step 3 Go to the **/flowinfo/LLM_Agent_Assistant.zip/** directory to obtain the **workflow.zip** package.

Step 4 Decompress the **workflow.zip** package.

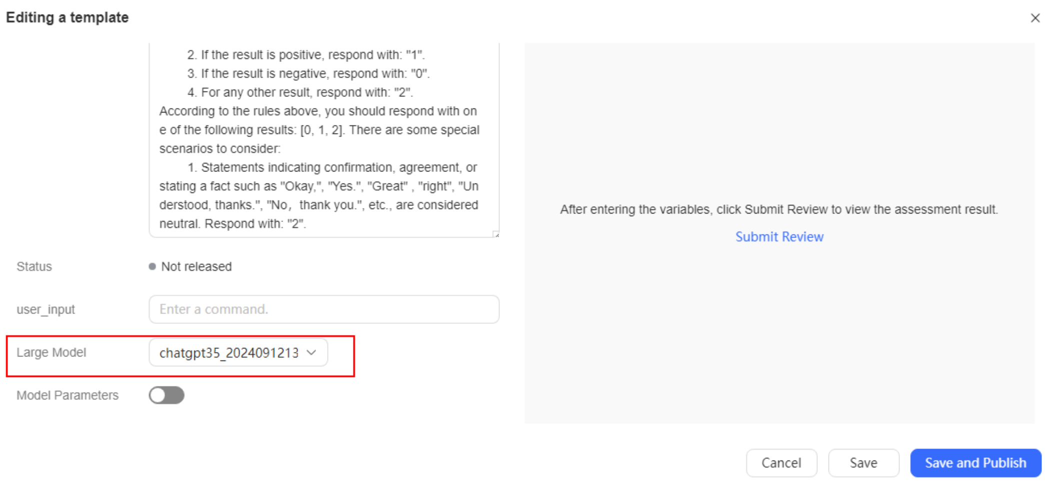
Step 5 Obtain the **emotionRecognition.tar.gz** package.

Step 6 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Workflow Management** > **Workflow Orchestration**, and click the import button to import the **emotionRecognition.tar.gz** package.

Step 7 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Large Model Zone** > **Prompt Template**, and click the **Customized Template** tab.

Step 8 Click the **emotion** scenario, edit the **emotion** prompt template, and select an available model from the **Large Model** drop-down list. For details about how to configure a model, see **Configuring a Model**.

Figure 2-328 Large model drop-down list



Step 9 Click **Save and Publish** to publish the prompt template.

Step 10 Obtain the **intentRecognition.tar.gz** package.

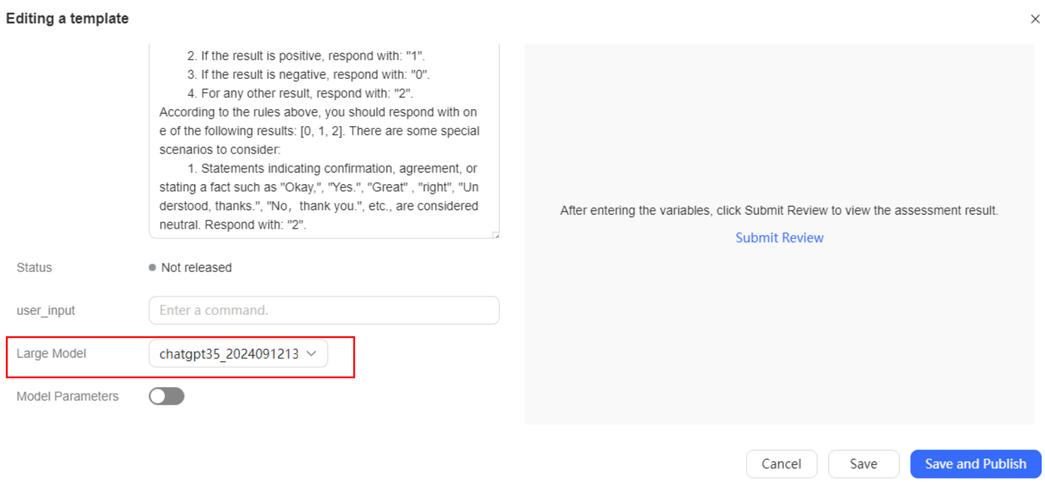
Step 11 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Workflow Management** > **Workflow Orchestration**, and click the import button to import the **intentRecognition.tar.gz** package.

Step 12 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Large Model Zone** > **Prompt Template**, and click the **Customized Template** tab.

Step 13 Click the **Intent recognition** scenario and click the **Intent recognition** prompt template. On the **Template Details** page that is displayed, click **Unpublish** to change the status of the template to **Not released**.

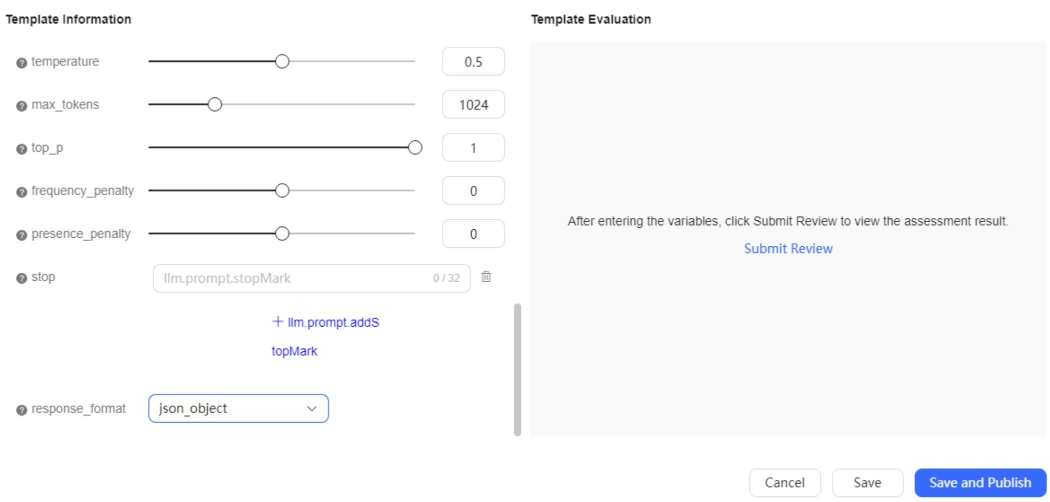
Step 14 Edit the **Intent recognition** prompt template and select an available model from the **Large Model** drop-down list. Configure the model by referring to **Configuring a Model**.

Figure 2-329 Large model drop-down list



Step 15 On the **Editing a template** page, turn on  to enable model parameters, and set **response_format** to **json_object**.

Figure 2-330 Enabling model parameters



Step 16 Click **Save and Publish** to publish the prompt template.

Step 17 Obtain the **recommendFaq.tar.gz** package.

Step 18 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Workflow Management** > **Workflow Orchestration**, and click the import button to import the **recommendFaq.tar.gz** package.

----End

Configuring Information on the ODFS

This section describes how to import a flow to create an intelligent robot.

Prerequisites

Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **Intelligent IVR** feature for the tenant space.

Procedure

Step 1 Contact Huawei technical support to download the **AICC_*.*.*_ODFS.zip** package from https://support.huawei.com.

Step 2 Decompress the **AICC_*.*.*_ODFS.zip** package.

NOTE

..* indicates the AICC version number.

Step 3 Go to the **/flowinfo/LLM_Agent_Assistant.zip/** directory to obtain the **LLM_Agent_Assistant_FLOW.zip** package.

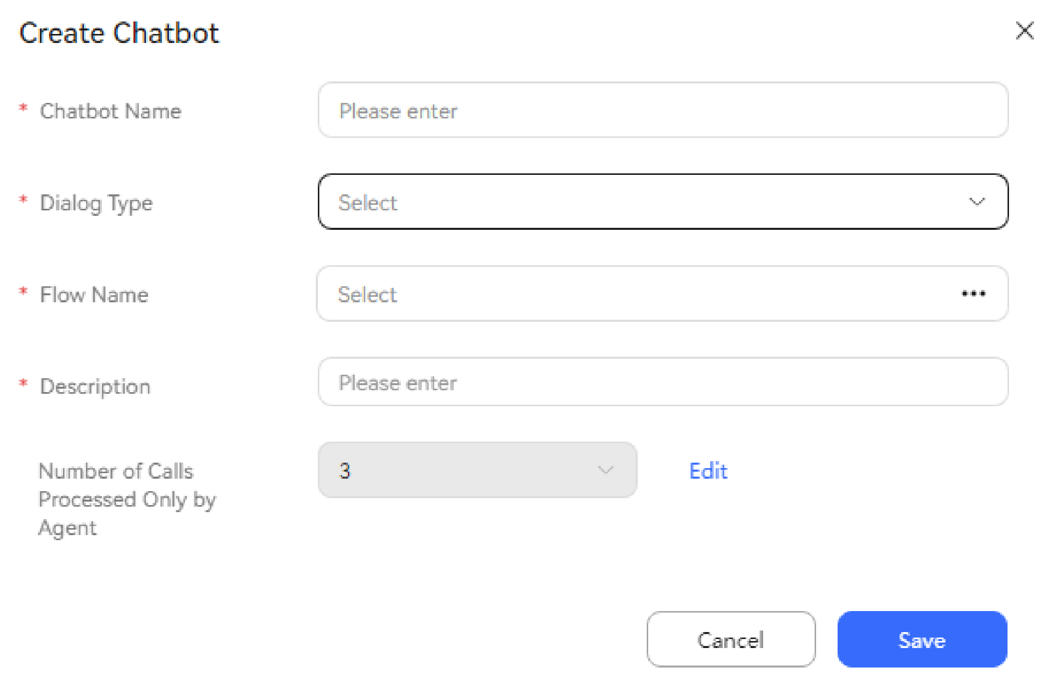
Step 4 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 5 Choose **Flow Management** > **Flow Orchestration**, click , import **LLM_Agent_Assistant_FLOW.zip**, check the imported flow, and publish the flow.

Step 6 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 7 Click **Intelligent Chatbot**. Click **Create** to create a robot, as shown in the following figure.

Figure 2-331 Create Chatbot page



Dialog Type: Voice navigation

Flow Name: Select the flow created in step **Step 5**.

Step 8 Click **Save**. The intelligent robot is created successfully.

----End

Configuring Information on the TUC

This section describes how to create intents, FAQs, and sensitive words.

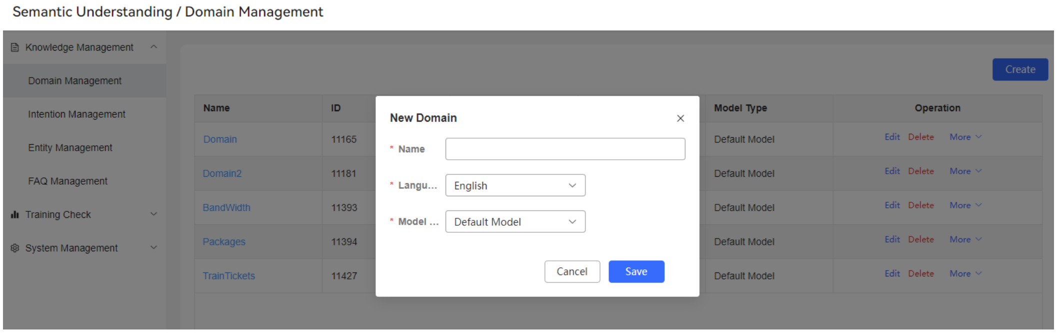
Prerequisites

None

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management**, and click **Create** to create a domain.

Figure 2-332 Domain management



Step 2 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Intention Management**. Configure, activate, and train an intent, as shown in the following figure.

Figure 2-333 Selecting a domain

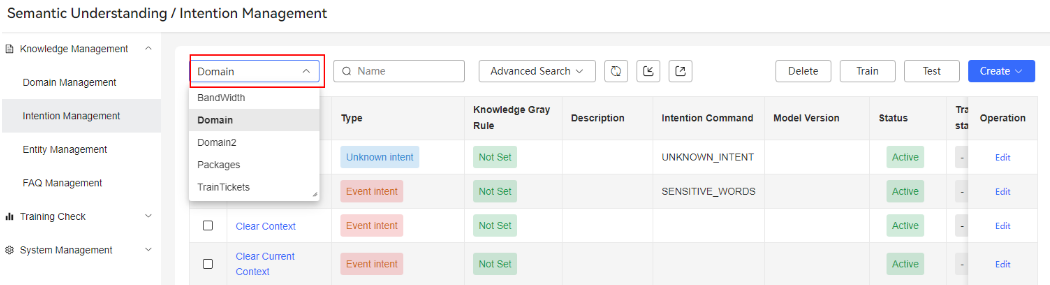


Figure 2-334 Configuring an intent - Basic Information

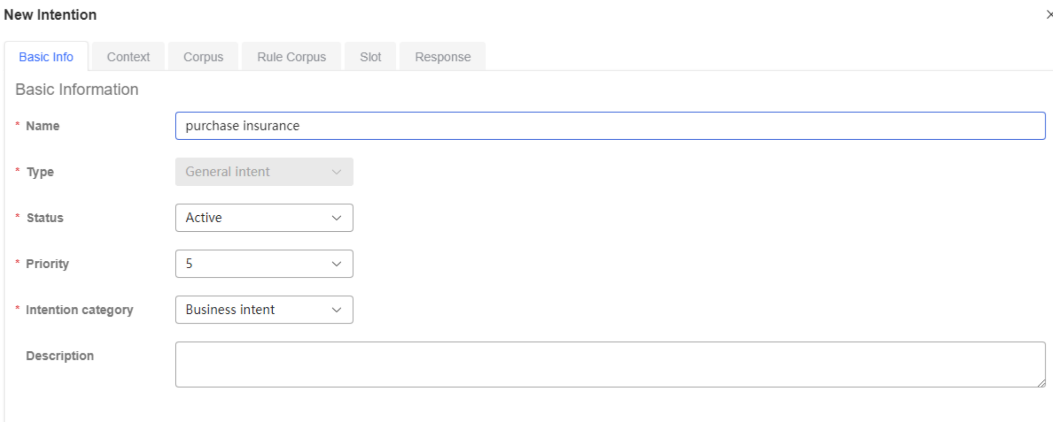


Figure 2-335 Configuring an intent - Corpus

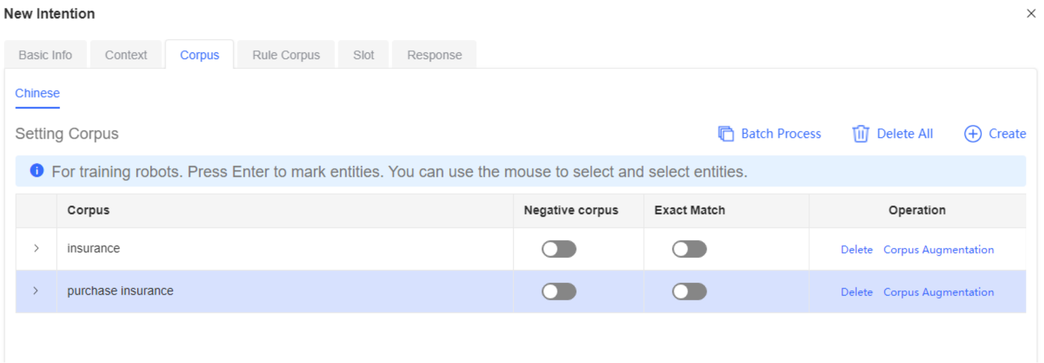
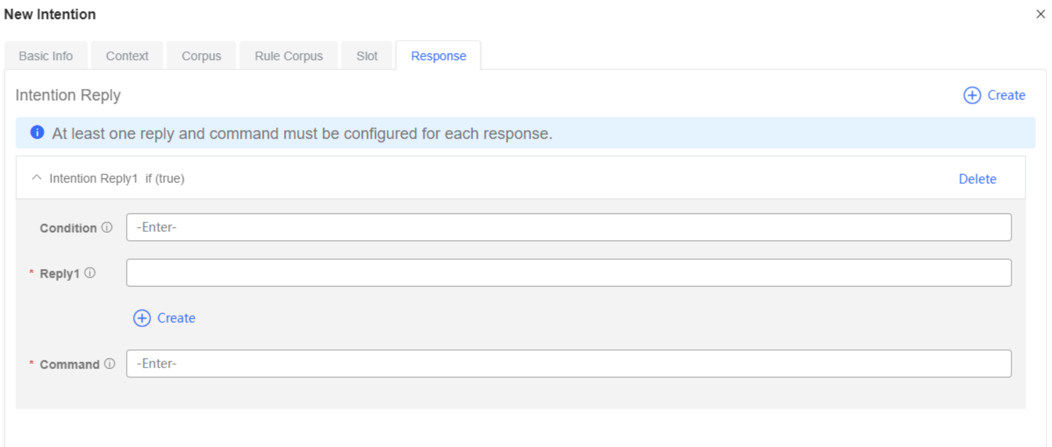
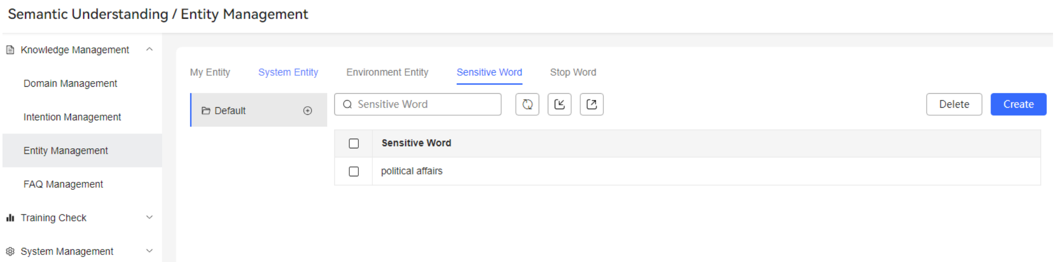


Figure 2-336 Configuring an intent - Response



Step 3 Choose **Configuration Center** > **ChatBot Management** > **Semantic Understanding** > **Knowledge Management** > **Entity Management** > **Sensitive Word** and configure sensitive words.

Figure 2-337 Configuring sensitive words



Step 4 Choose **Configuration Center** > **ChatBot Management** > **Semantic Understanding** > **Knowledge Management** > **FAQ Management** and configure FAQs. Activate and train the corresponding FAQs after the configuration is complete.

Figure 2-338 Creating FAQs

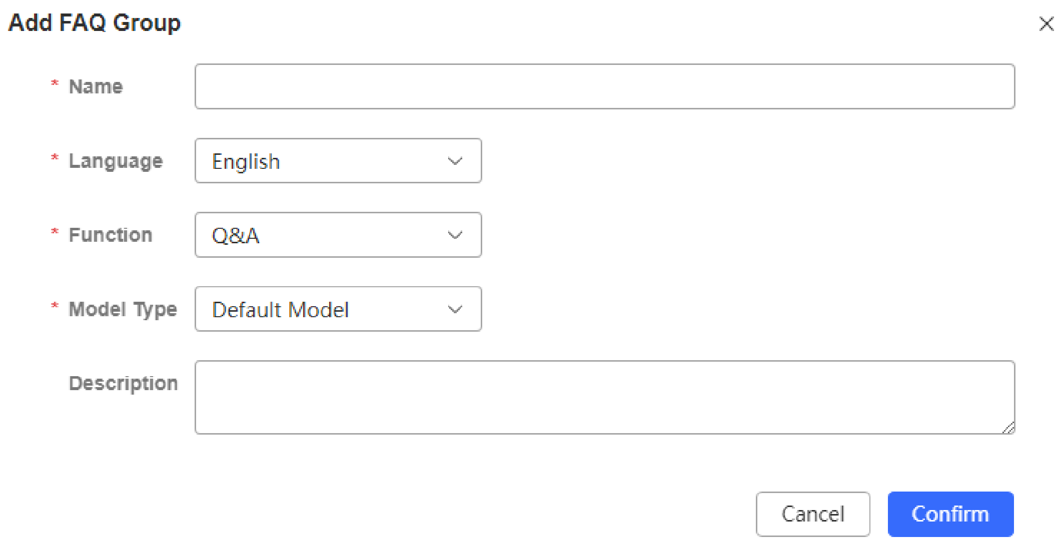
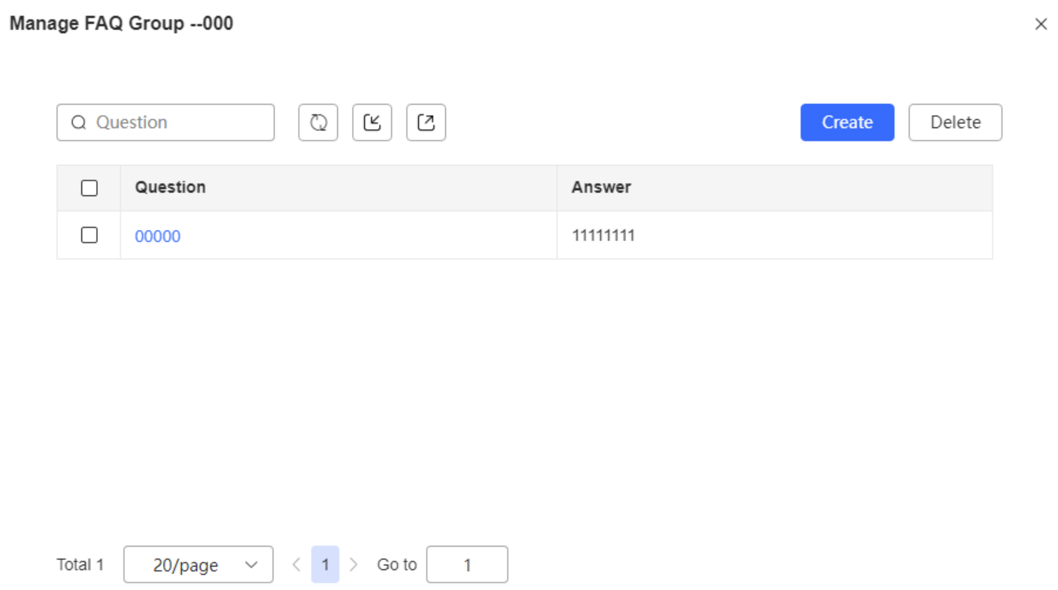


Figure 2-339 Adding Q&As



----End

Configuring Information on the Workbench

This section describes how to bind an agent assistant on the workbench.

Prerequisites

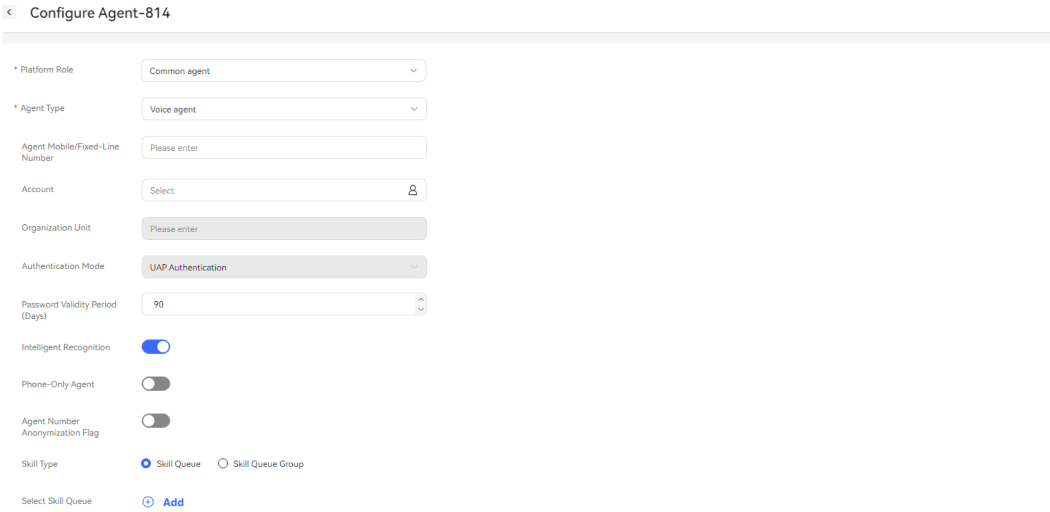
- You have contacted the system administrator to enable the intelligent agent feature for the tenant space.
- The system administrator has commissioned the intelligent transcription function and intelligent agent assistant. Note that the optional operations related to the intelligent agent assistant also need to be performed.
- The system administrator has commissioned the manual voice service.

- To use the LODAS sentiment analysis model, you have commissioned the sentiment analysis function. For details, see "Commissioning the Sentiment Analysis Model Function" in *OIAP Product Documentation*.

Procedure

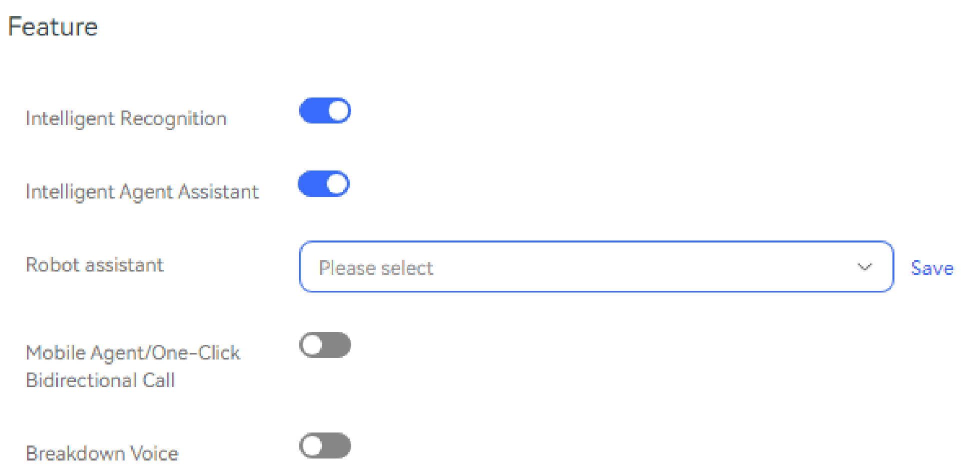
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Employee Center** > **Agent Management**, and enable the intelligent recognition feature for agents.

Figure 2-340 Enabling the Intelligent Recognition feature



Step 2 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **System Management** > **Tenant Information**, and enable **Intelligent Recognition** and **Intelligent Agent Assistant** features. Bind the robot assistant to the intelligent robot created in **Step 8**.

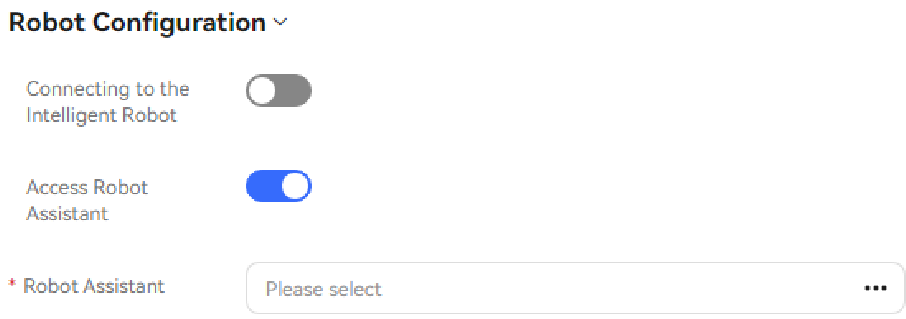
Figure 2-341 Binding an intelligent robot



Step 3 Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, and click **New** to bind the intelligent robot created in **Step 8** to the robot assistant

in **Access Robot Assistant** on the **Configure Channel** page that is displayed before the online workbench function can be used.

Figure 2-342 Channel configuration page



----End

Verification

Verifying the agent assistant function by referring to this section.

Prerequisites

None

Procedure

Step 1 The agent accesses the audio and video workbench and clicks on the right if the voice call mode is selected. If the question reported by the customer matches a keyword in **Intention Management** and **FAQ Management** on the TUC configured in **Configuring Information on the TUC**, the corresponding script recommendation and FAQ recommendation are generated. Click to view the transcription result, agent's sentiment analysis result, and customer emotion.

Step 2 The agent accesses the online chat workbench and clicks on the right to view the customer emotion, intent, script recommendation, and FAQ recommendation if the multimedia chat mode is selected. If an agent enters sensitive words or content with negative emotions, the corresponding prompt is displayed and the content cannot be sent to the customer.

Figure 2-343 FAQ recommendation

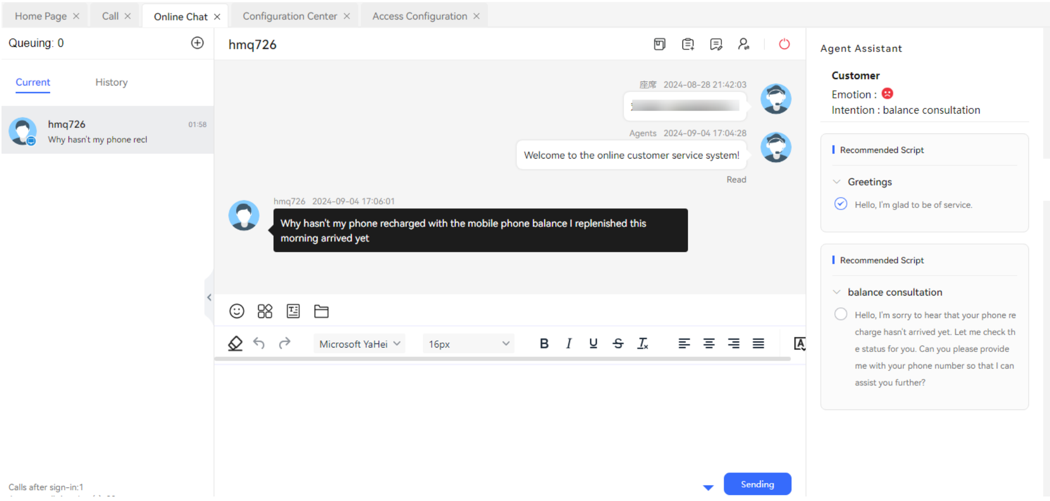


Figure 2-344 Script recommendation

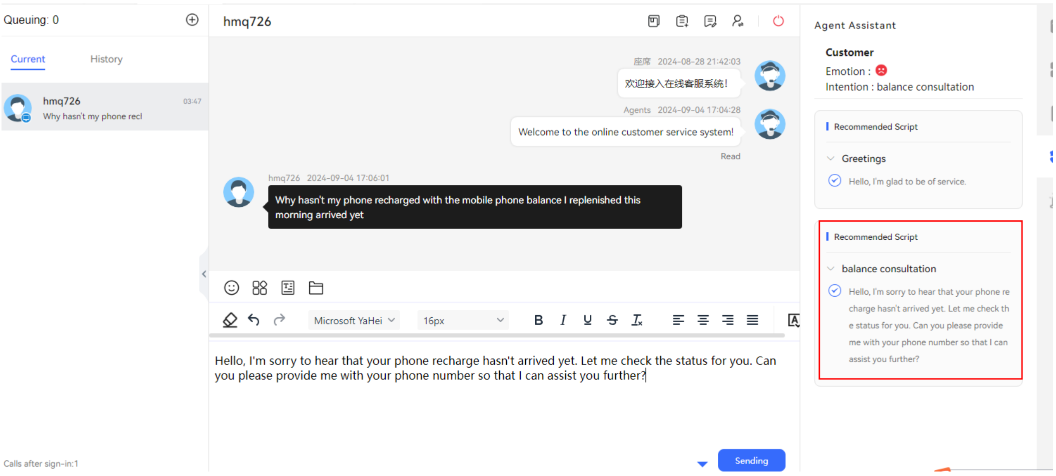


Figure 2-345 Negative emotion

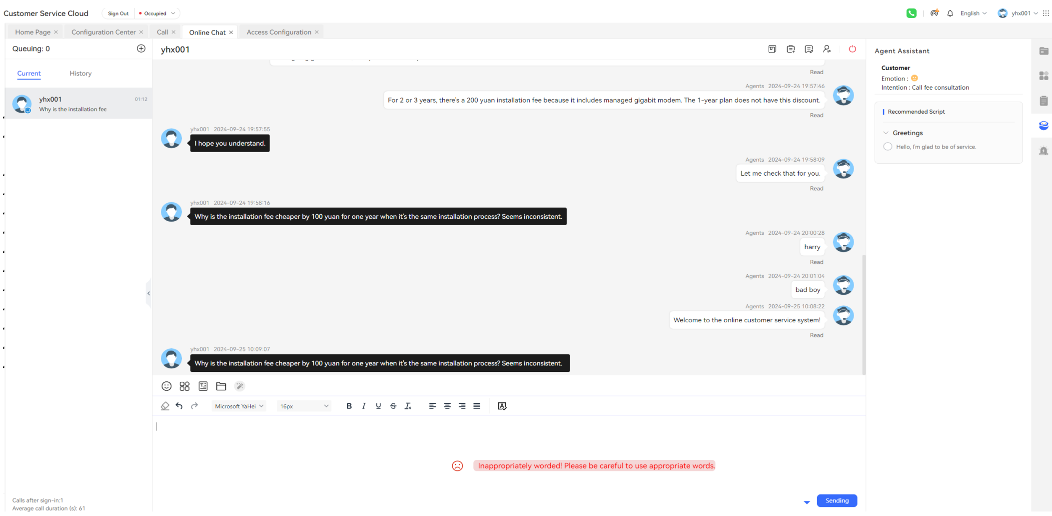
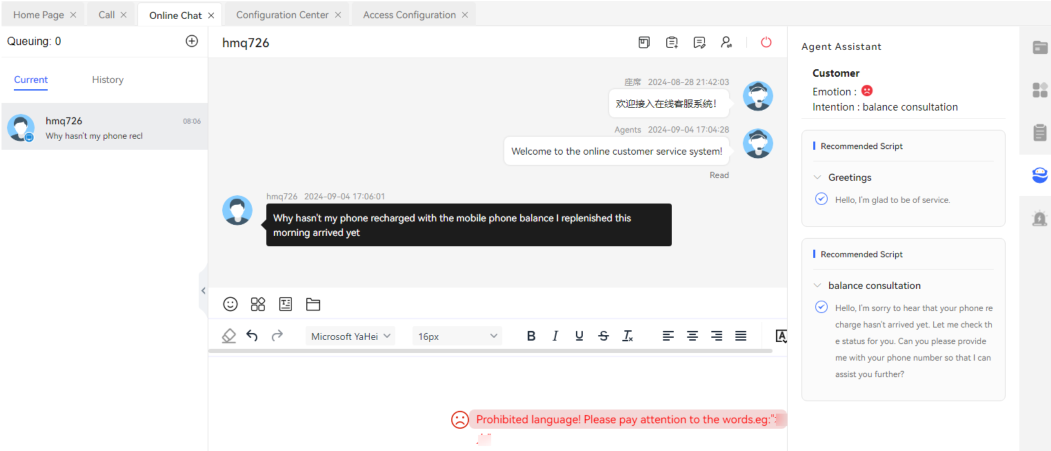


Figure 2-346 Sensitive word



----End

2.6.5.1.3 Building the LLM-based Intelligent Case Filling Service

Intelligent case filling uses the LLM technology to automatically extract information from the texts of conversations between customers and agents as well as quickly and accurately fill the information in the corresponding case form, reducing the pressure of manual case filling.

Prerequisites

- The **LLM Engine**, **Intelligent order filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features have been enabled for the tenant space, and the **Case type identification** and **Case field identification** services have been selected for the LLM Engine feature.
- The tenant parameter **Intelligent order filling** has been enabled for the tenant space on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- The tenant space administrator has enabled the **Smart Form Filling** feature for agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

Configuring Information on the LLM Engine

The case type identification and case field identification features included in the intelligent case feature based on large language models are implemented by invoking workflows of the LLM Engine. This section describes how to create the workflow and prompt templates.

Procedure

Step 1 Contact Huawei technical support to download the **AICC_*.*.*_ODFS.zip** package from https://support.huawei.com.

Step 2 Decompress the **AICC_*.*.*_ODFS.zip** package.

NOTE

..* indicates the AICC version number.

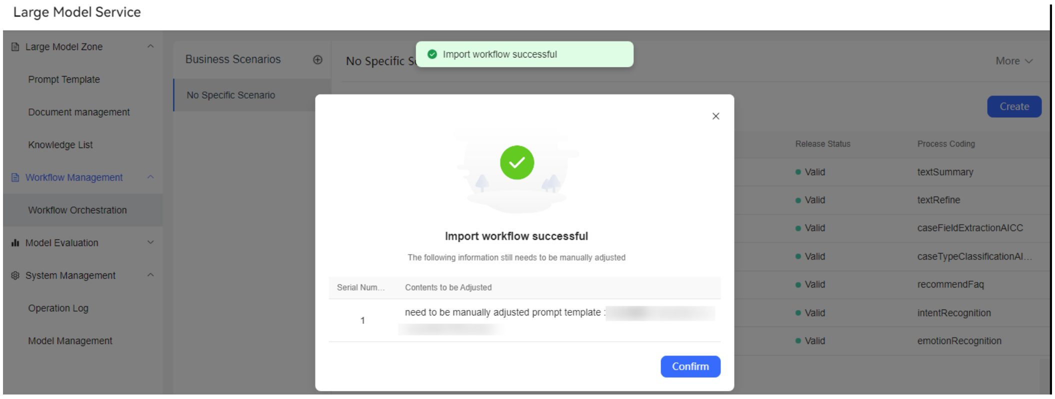
Step 3 Go to the **/flowinfo/LLM_Agent_Assistant.zip/** directory to obtain the **workflow.zip** package.

Step 4 Decompress the **workflow.zip** package.

Step 5 Obtain the **caseTypeClassificationAICC.tar.gz** package.

Step 6 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Workflow Management** > **Workflow Orchestration**, and click the import button to import the **caseTypeClassificationAICC.tar.gz** package.

Figure 2-347 Workflow import success page



Step 7 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Large Model Zone** > **Prompt Template**, and click the **Customized Template** tab.

Step 8 Click the **Intelligent order filling** scenario, edit the **Work order type identification** prompt template, and select an available large model from the **Large Model** drop-down list. For details about how to configure a model, see **Configuring a Model**.

Step 9 Click **Save and Publish** to publish the prompt template.

Step 10 Obtain the **caseFieldExtractionAICC.tar.gz** package from the **workflow.zip** package in step **Step 4**.

Step 11 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Foundation Model Service** > **Workflow Management** > **Workflow Orchestration**, and click the import button to import the **caseFieldExtractionAICC.tar.gz** package.

Step 12 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Large Model Zone** > **Prompt Template**, and click the **Customized Template** tab.

Step 13 Click the **Intelligent order filling** scenario, edit the **Work order field extraction** prompt template, and select an available large model from the **Large Model** drop-down list. For details about how to configure a model, see **Configuring a Model**.

Step 14 Click **Save and Publish** to publish the prompt template.

----End

Configuring Case 2.0 Information

?.1. Customized Case Field

An enterprise can flexibly set fields based on the business scenario.

Prerequisites

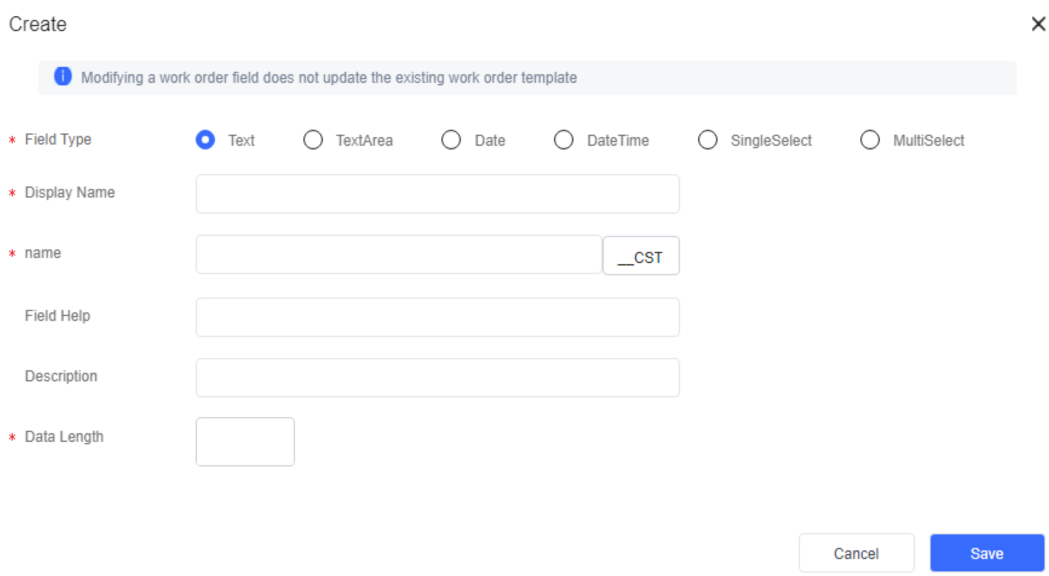
- The Case 2.0 feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Field**.

Step 2 Click **Create**. In the **Create** dialog box, set field parameters as required.

Figure 2-348 Create

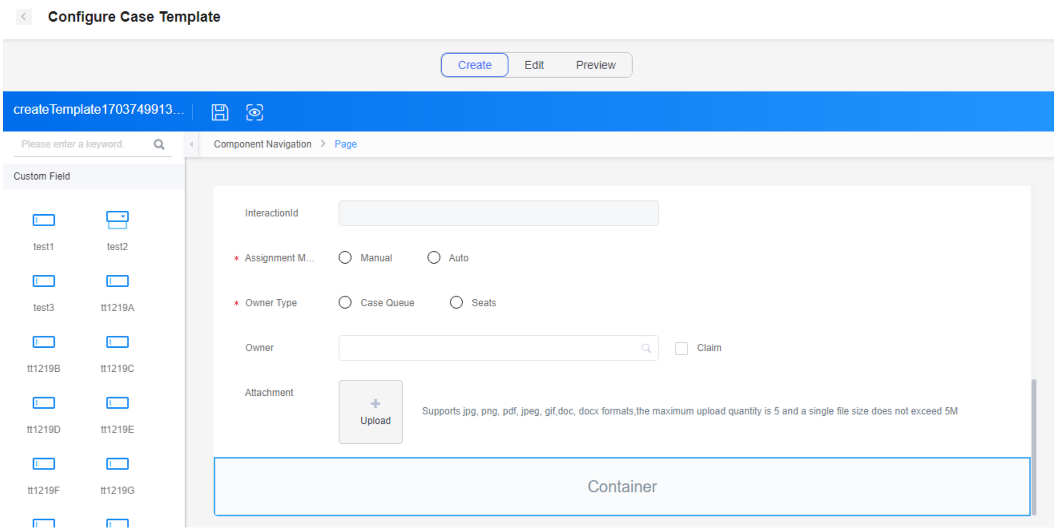


Step 3 Click 

.

Step 4 (Follow-up operation) Choose **Case Configuration** > **Case Template** and click **Config** corresponding to a template. The new field is displayed under **Custom Field**. Drag the field to the **Container** area so that it is referenced by the template.

Figure 2-349 Configure Case Template



----End

?.2. Case Template

A case template contains the information to be collected from cases and the display format of the information, including the format of the page displayed during case creation, modification, or query. You can define the fields to be displayed in the case template and the layout of the fields.

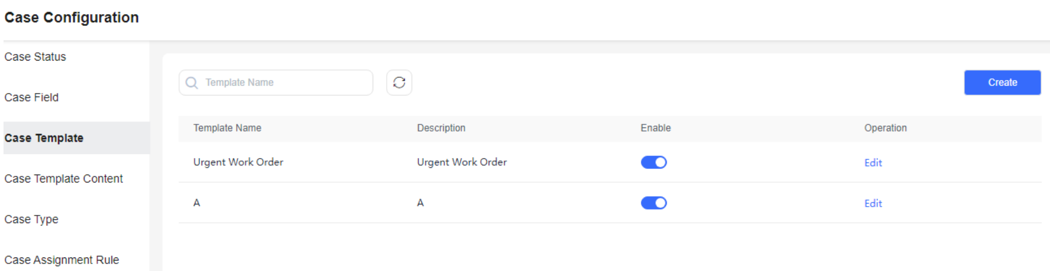
Prerequisites

- The case 2.0 feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.

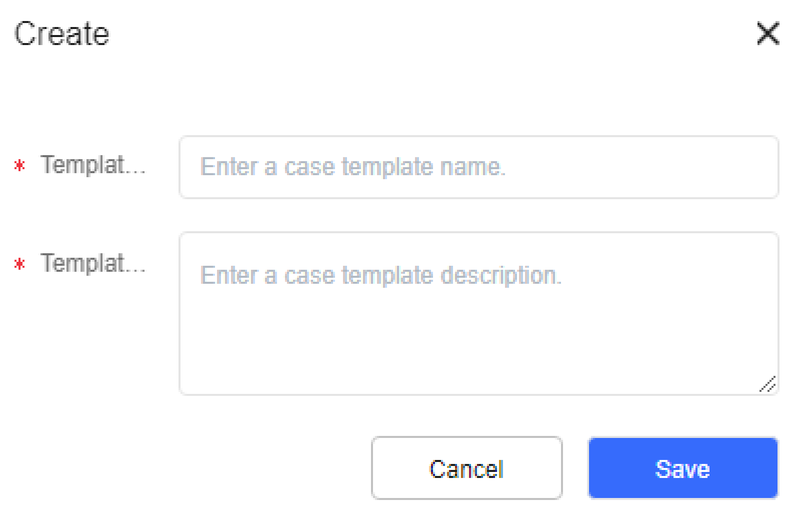
Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Template**.

Figure 2-350 Case Template

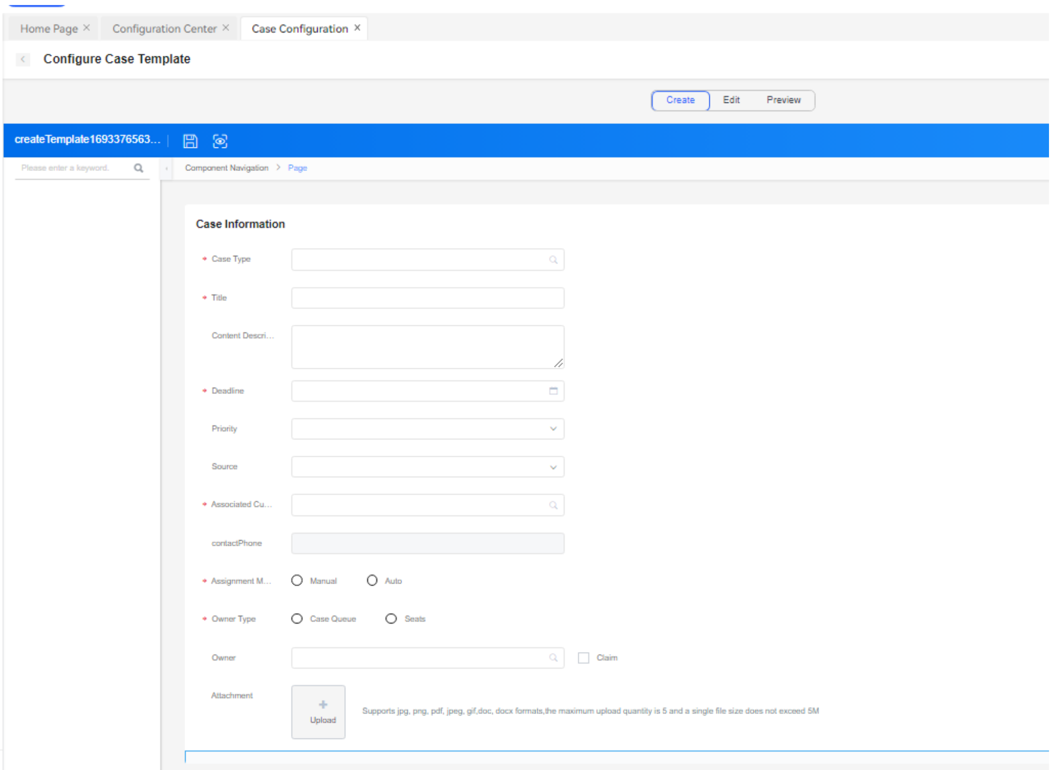


Step 2 Click **Create**. On the **Create** page, enter a template name and template description, and click **Save**.



Step 3 Click **Config** corresponding to the new template to access the view page and add content. If a customized field is set as a mandatory field, you must add the customized field to the create view.

Figure 2-351 View page



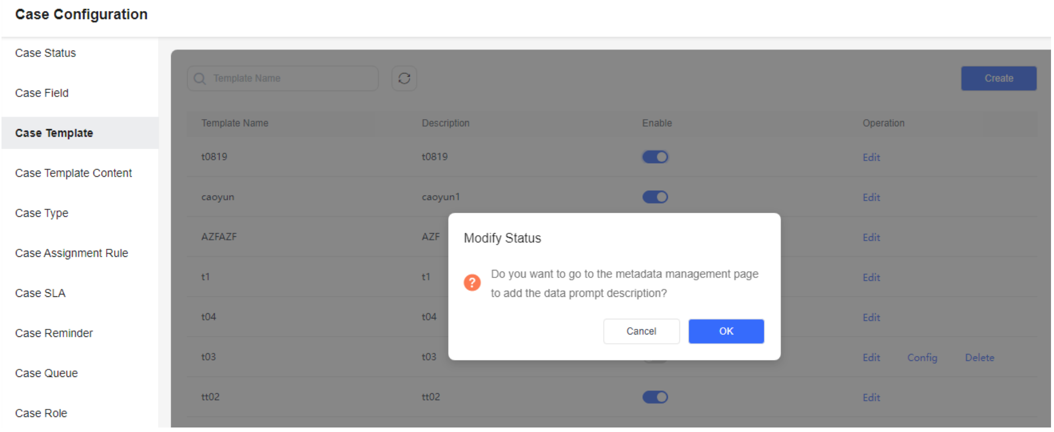
Step 4 Click  to save the content and click  to preview the content.

NOTE

Save the content after adding a field to the create view to prevent the content from being lost. For example, after adding field A to the edit view, if you do not save the content before previewing it, field A will be lost.

Step 5 (Follow-up operation) Enable a case template so that you can reference it when configuring a case content template and synchronize it to the **Metadata Management** page.

Figure 2-352 Synchronizing a case template to the Metadata Management page



----End

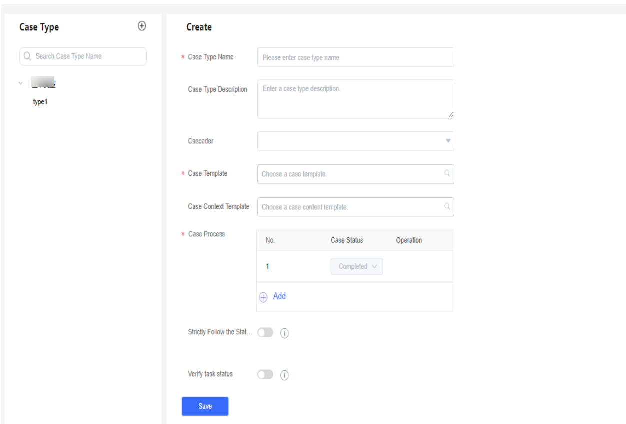
?.3. Case Type

To differentiate businesses, you can classify cases into different types, such as complaint or consultation cases. Different types of cases can be associated with different statuses to meet business requirements.

Procedure

Step 1 Sign in to the AICC, choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type**, and click  .

Figure 2-353 Create



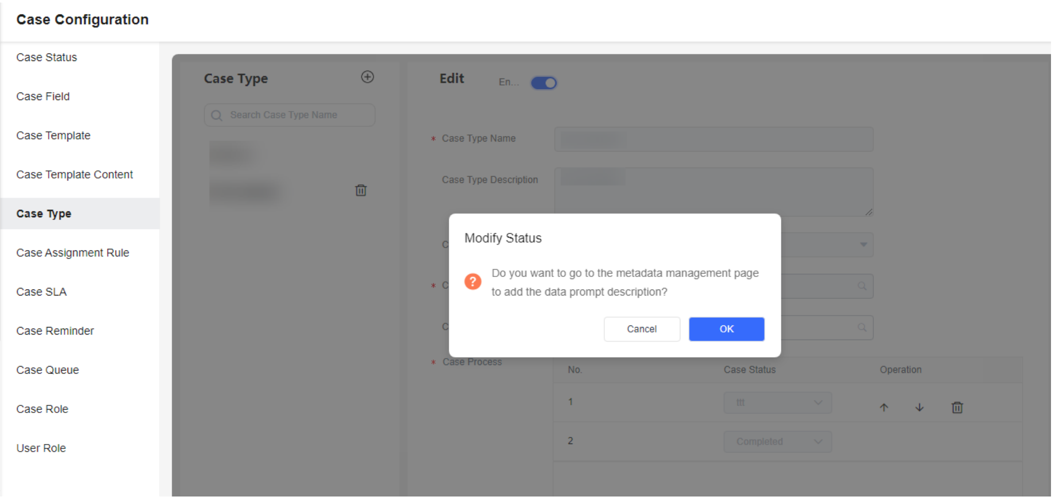
Step 2 On the **Create** page, enter case type information and click **Save**.

Table 2-141 Case type parameters

Parameter	Description
Case Type Name	Enter a case type name, for example, **Complaint**.
Case Type Description	Enter a case type description, for example, **Complaint content**, **Complaint target**, or **Complaint source**.
Cascader	Select an upper-level case type.
Case Template	Select a value from the drop-down list.
Case Context Template	Associate a case content template.
Case Process	Add case statuses.
Strictly Follow the Status Sequence	Enable or disable this function. If this function is enabled, the case can only be handled step by step. If disabled, the case status can be transitioned to any status as required.
Verify task status	Enable or disable this function. If this function is enabled, the status of the associated tasks is verified when the case is closed. If disabled, the status of the associated tasks is not verified.

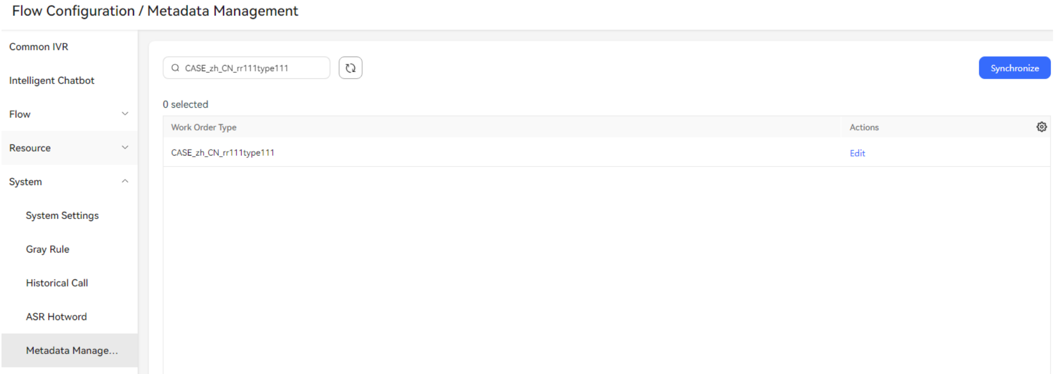
Step 3 After the case type is created, you can switch its status to  to enable it. You can select only an enabled case type when creating a case on the **Case 2.0** > **Case Workbench** page.

Figure 2-354 Enabling a case type



Step 4 After a case type is enabled, synchronize it to the **Metadata Management** page.

Figure 2-355 Metadata Management



Step 5 If the case type has not been referenced, you can switch its status to to disable the case type. After the case type is disabled, you can edit or delete the case type.

----End

Configuring Information on the ODFS

On the **Metadata Management** page, prompt words are added to service fields so that large language models can better understand services and accurately extract key fields. The metadata comes from the case types under **Configuration Center** > **Case Configuration** > **Case Type** and the case fields under **Configuration Center** > **Case Configuration** > **Case Template**.

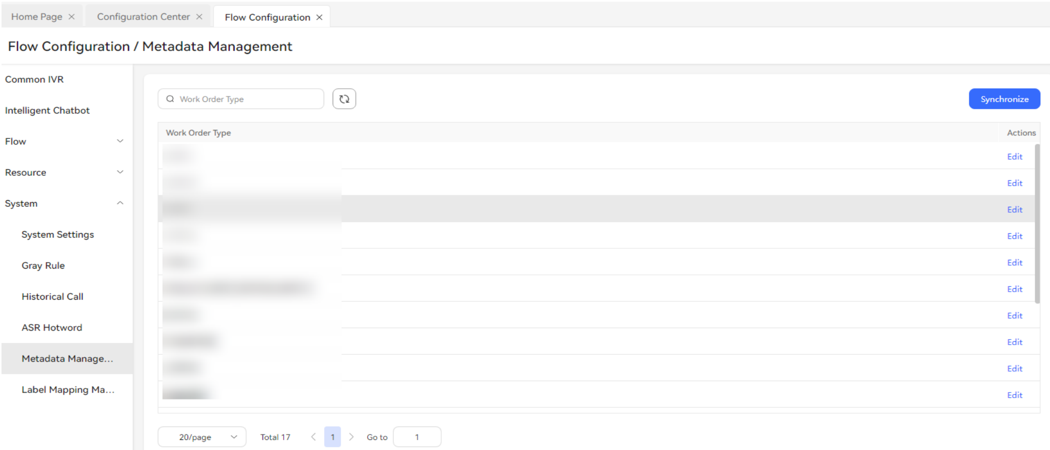
Prerequisites

- The **LLM Engine**, **Intelligent order filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features have been enabled for the tenant space, and the **Case type identification** and **Case field identification** services have been selected for the LLM Engine feature.
- The tenant parameter **Intelligent order filling** has been enabled for the tenant space on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- The tenant space administrator has enabled the **Smart Form Filling** feature for agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **Metadata Management**. The **Metadata Management** page is displayed.

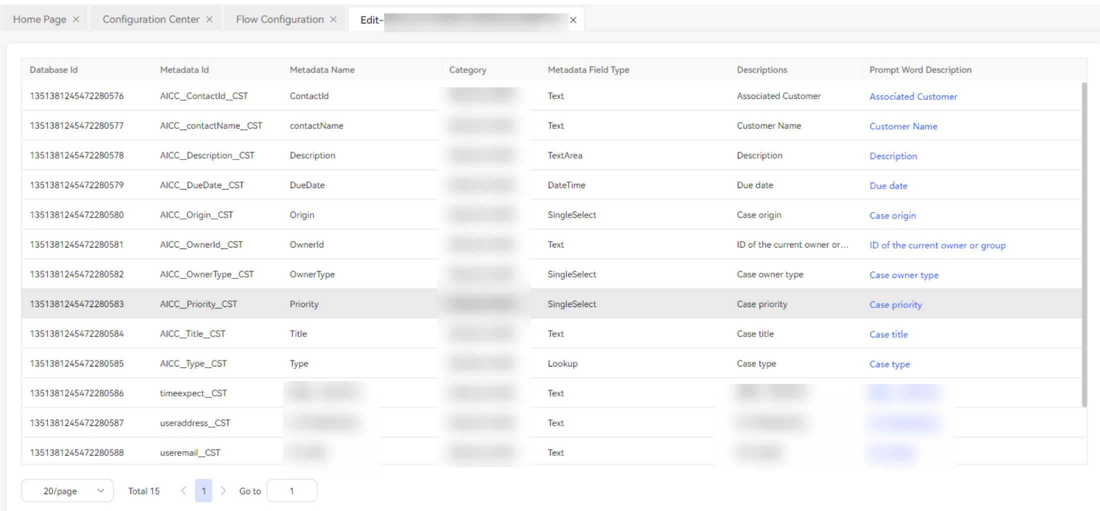
Figure 2-356 Metadata management page



Step 2 (Optional) Synchronize historical data in the case system to the AICC if the case system has been running before the large language model feature is enabled for the tenant space. Click **Synchronize** to synchronize the enabled existing case types and templates in the case system to the ODFS database.

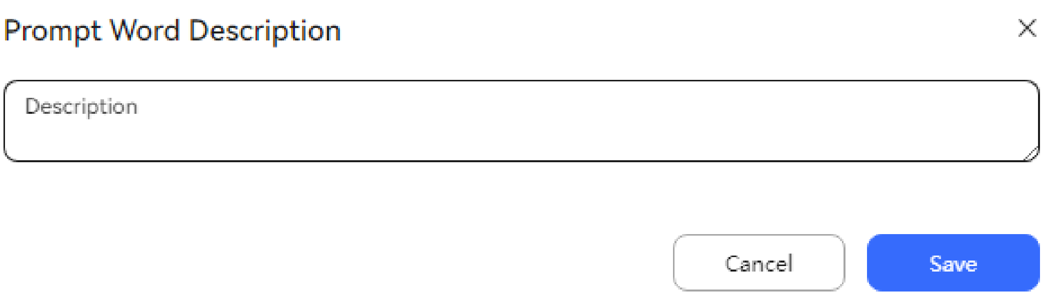
Step 3 Select a data record and click **Edit**. The metadata editing page is displayed.

Figure 2-357 Metadata editing page



Step 4 Click the prompt word description to be modified, modify the description, and click **Save**. The modified prompt word description is synchronized to the LLM Engine.

Figure 2-358 Editing prompt word description



----End

Verification

Both the **Online Chat** and **Call** workbenches support the intelligent case filling function.

Prerequisites

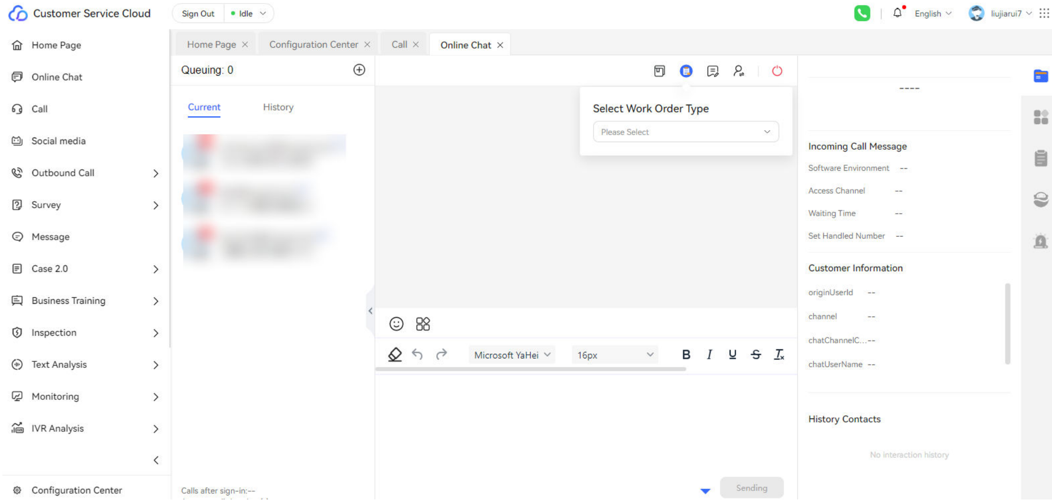
- The **LLM Engine**, **Intelligent order filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features have been enabled for the tenant space, and the **Case type identification** and **Case field identification** services have been selected for the LLM Engine feature.
- The tenant parameter **Intelligent order filling** has been enabled for the tenant space on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- The tenant space administrator has enabled the **Smart Form Filling** feature for agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

Procedure

Step 1 Sign in to the AICC as an agent and click **Sign In**.

Step 2 Click  in the upper right corner on the online workbench. The **Select Work Case Type** drop-down list is displayed.

Figure 2-359 Smart form filling button



Step 3 Select a case type to display the case information on the right. In addition, the system automatically obtains the customer name, address, contact information, and fault description based on the dialog content and adds them to the case information on the right.

Step 4 Click **Save**. The case is saved successfully.

Step 5 Choose **Case 2.0** > **Case Workbench** and view the intelligent case created on the workbench.

NOTE

Currently, the case system supports only Chinese, English, and Spanish.

----End

2.6.5.1.4 Mining the FAQ Knowledge Base Based on a Large Language Model

Large language models can be used to upload documents to the knowledge base and extract Q&A pairs from the documents. After being reviewed and edited, the Q&A pairs can be directly used for Q&A management of the semantic understanding service.

Configuring Information on the LLM Engine

Prerequisites

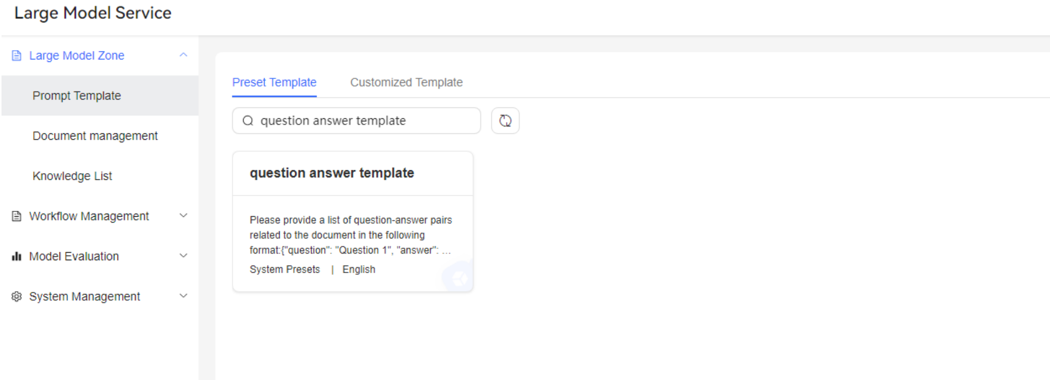
Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **LLM Engine** and **FAQ-assisted mining** features for the tenant space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator.

Step 2 Choose **Configuration Center** > **Large Model Service** > **Prompt Template**. The prompt template management page is displayed.

Figure 2-360 Prompt template management page



Step 3 Choose **Preset Template** > **question answer template** and click **Copy** to create a user-defined template.

Figure 2-361 Prompt template details page

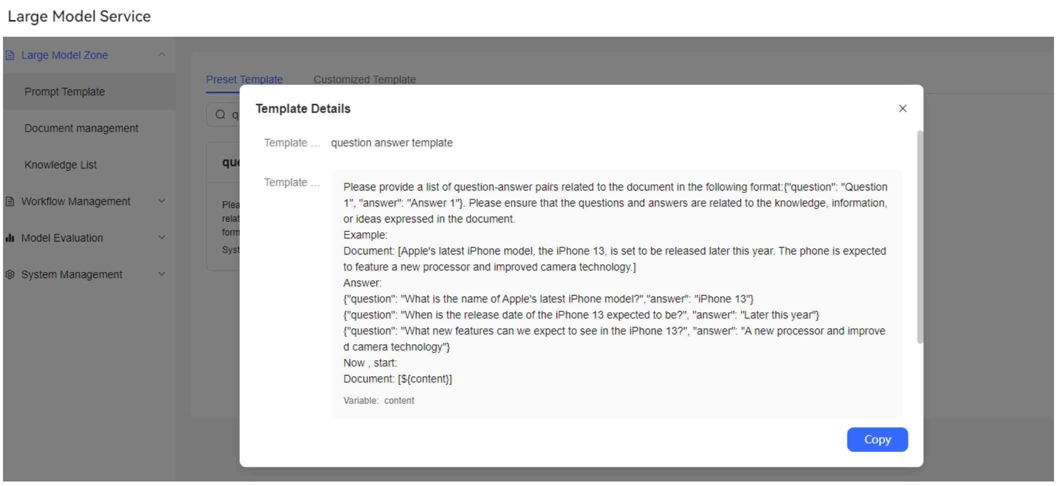
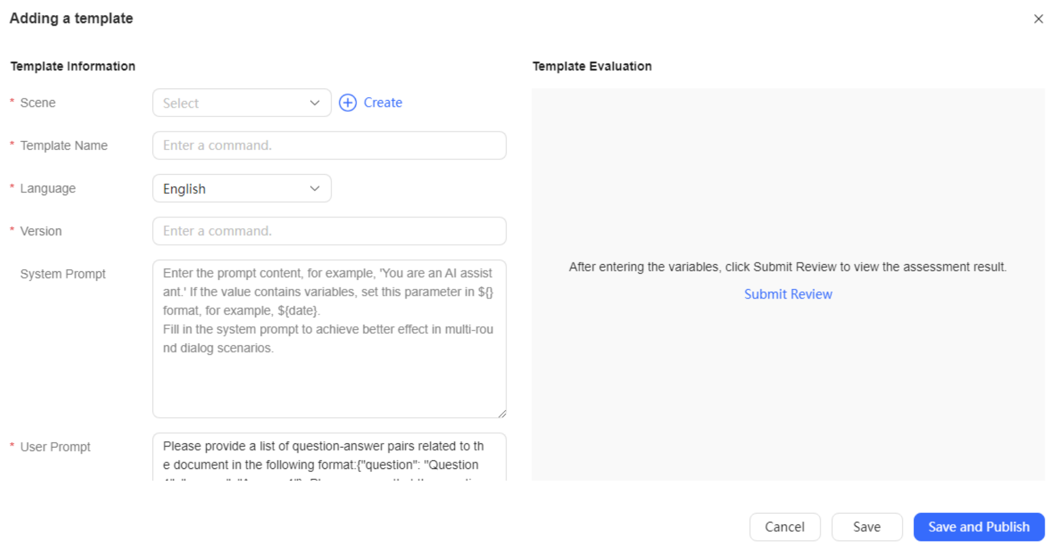


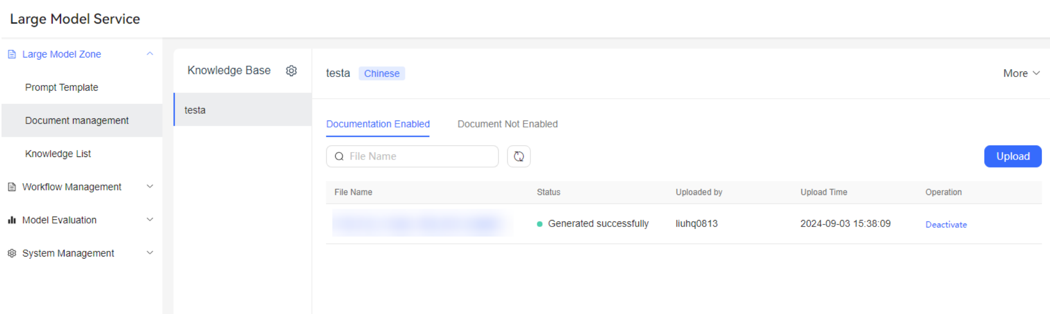
Figure 2-362 Template creation page



- **Scene**: Indicate the template application scenario. You can click Create to create a scenario.
- **Template Name**: Indicate the prompt template name.
- **Language**: Only Chinese and English are supported.
- **Version**: This parameter must start with letter **v** or **V** followed by at least one digit.
- **Template Content**: Generate the LLM prompt template.
- **content**: Indicates the variable in the template content. The input content can be submitted for assessment.
- **Large Model**: Select a large language model service created by the tenant.
- **Model Parameters**: Indicate the model parameter switch.
- **Submit Review**: Test the Q&A pair extraction result related to the current content.
- **Save and Publish**: Save and publish the prompt template.

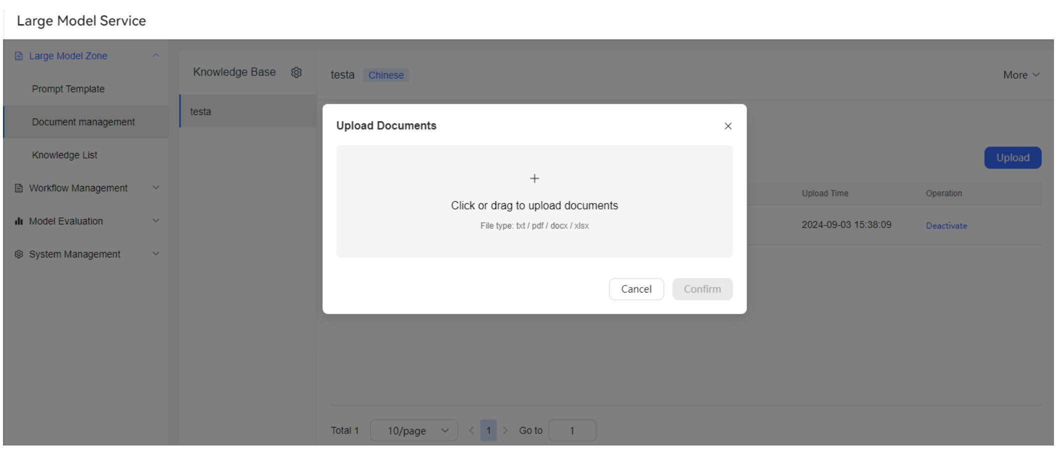
Step 4 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Large Model Zone** > **Document management**. Click to create a knowledge base.

Figure 2-363 Document management page



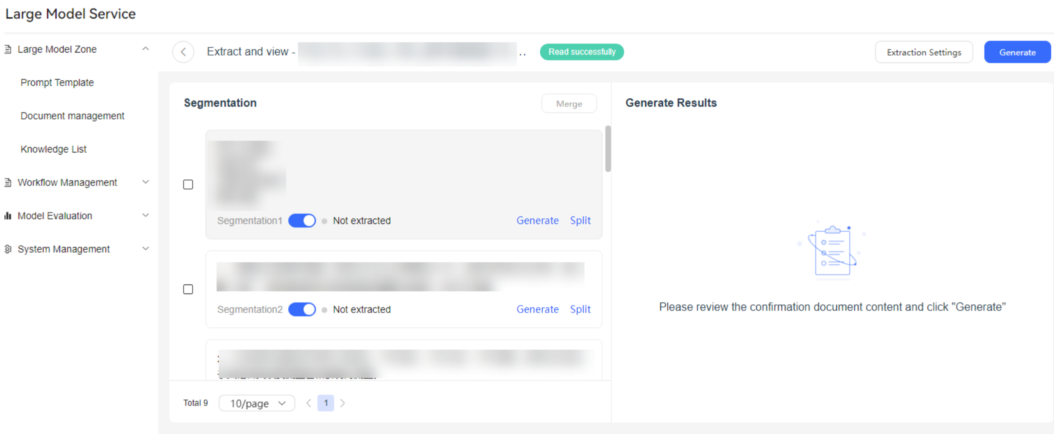
Step 5 Choose **Document Management** > **Documentation Enabled** and click **Upload** to upload documents to the knowledge base.

Figure 2-364 Document upload page



Step 6 After the document status changes to **Read successfully**, click the document name to view the text segments.

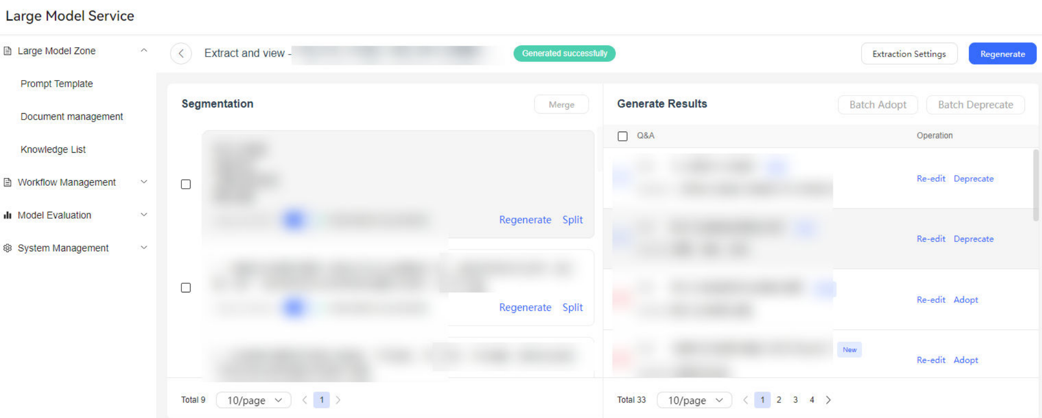
Figure 2-365 Document details page



Step 7 Click **Generate**. Then the document status changes to **Generated successfully**. Q&A pairs are generated based on the text segments.

Step 8 Wait for the result generation to be complete. You can edit, accept, or discard the Q&A pairs.

Figure 2-366 Q&A result generation page



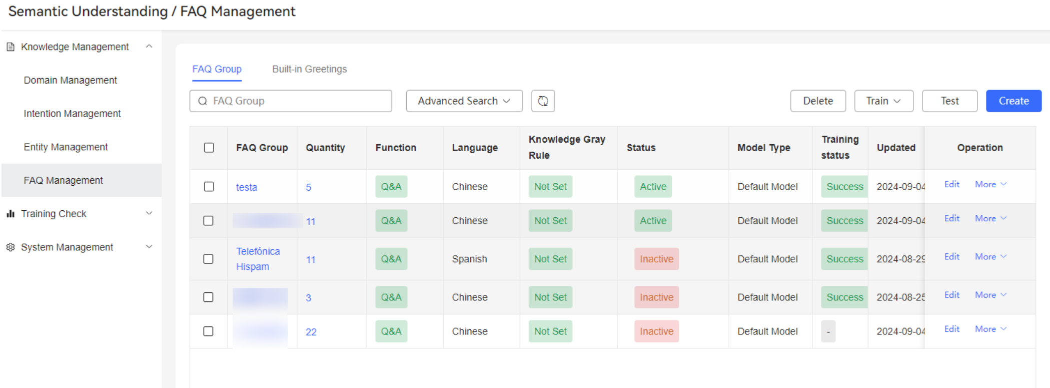
----End

Configuring Information on the TUC

Procedure

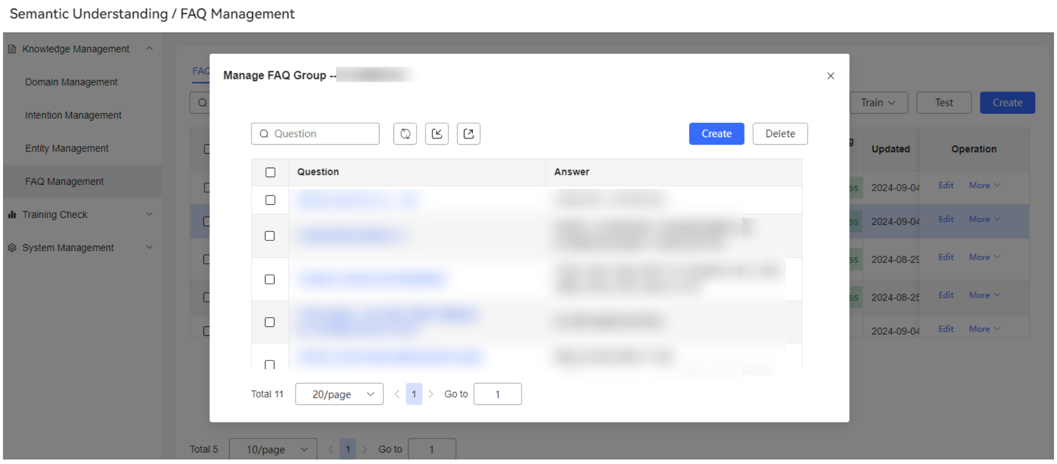
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Semantic Understanding** > **FAQ Management** > **FAQ Group**, and check whether an FAQ group with the same name as the knowledge base created in step **Step 8** is generated.

Figure 2-367 FAQ management page



Step 2 Click the number in the **Quantity** column and check whether the Q&A pairs in the Q&A group are the same as those used in step **Step 8**.

Figure 2-368 Q&A details page



Step 3 Click **Inactive** in the **Status** column to activate the FAQ group.

Step 4 Select an FAQ group, click **Train** in the upper right corner, and select **Training Selection**.

----End

Configuring Information on the ODFS

This section describes how to configure an intelligent robot to demonstrate Q&A group usage in the intelligent robot. Create an intelligent robot that meets the service requirements based on the actual service scenario.

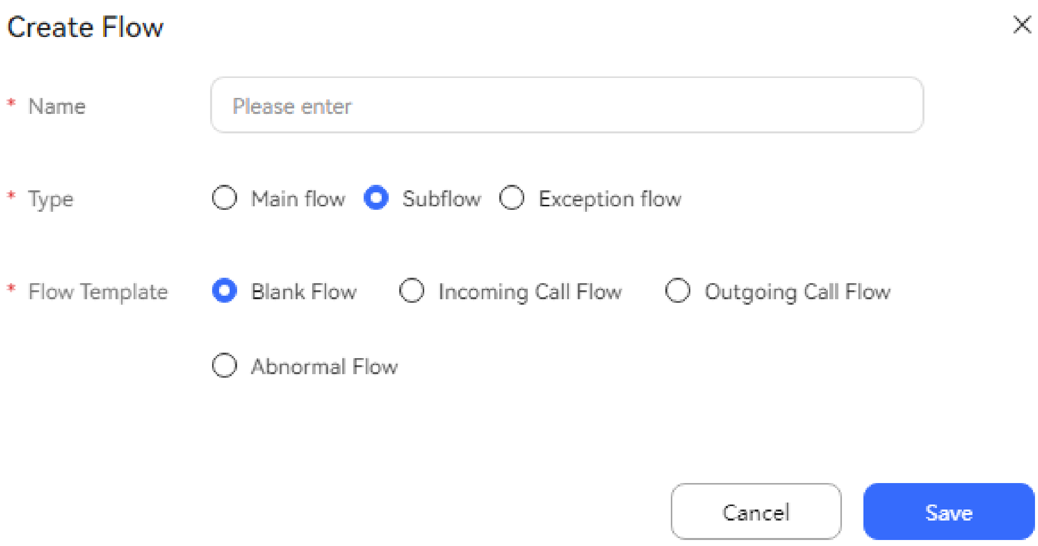
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Flow** > **Orchestration** and click **Create**.

Step 3 Set the flow template to **Blank Flow**, enter the flow name, and click **Save**. The canvas is displayed.

Figure 2-369 Create Flow page



Step 4 Drag diagram elements to the canvas, as shown in the following figure.

Figure 2-370 Canvas

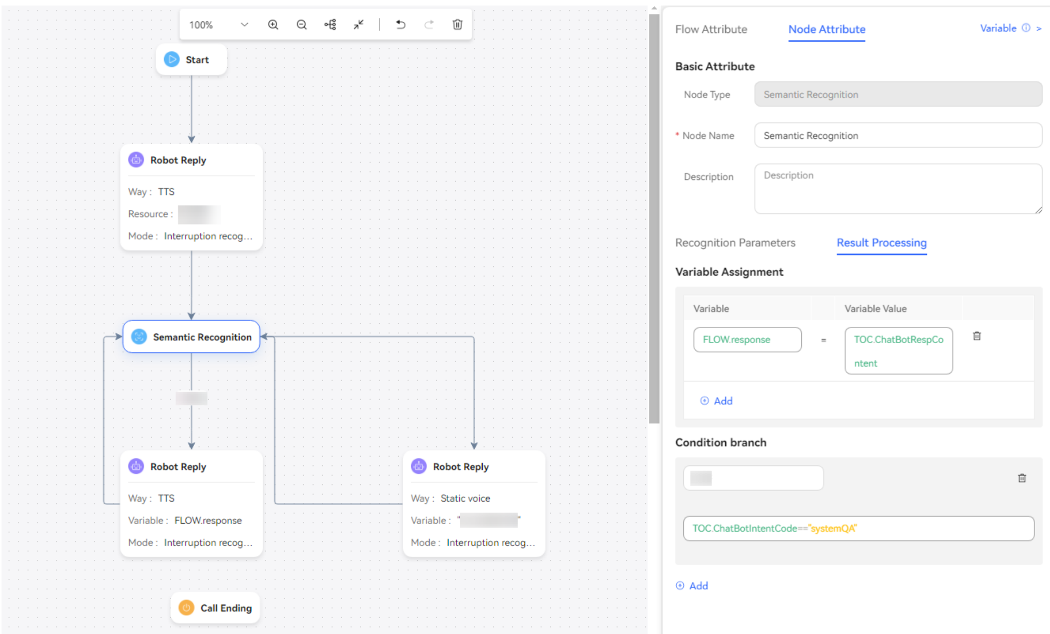


Table 2-142 Diagram element description

Diagram Element	Node Attribute	Remarks
	-	-

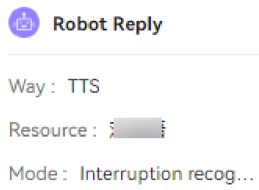
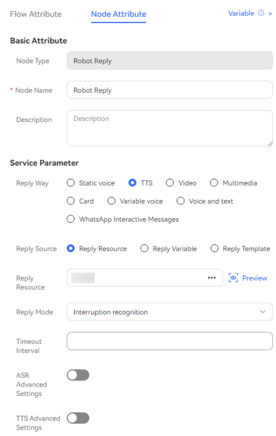
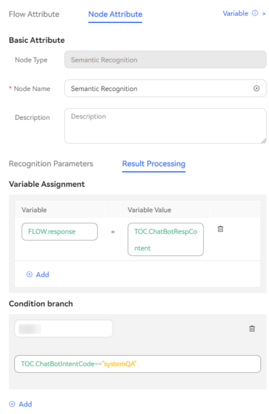
Diagram Element	Node Attribute	Remarks
	• Set **Reply Way** to **TTS**. • Set **Reply Source** to **Reply Resource**. • Set **Reply Mode** to **Interruption recognition**.	
	• **Variable Assignment**: FLOW.response=TOC.ChatBotRespContent • **Condition branch**: TOC.ChatBotIntentCode=="systemQA"	

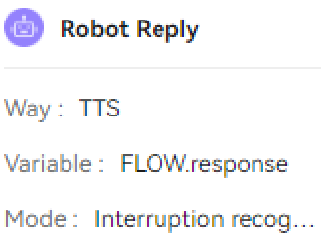
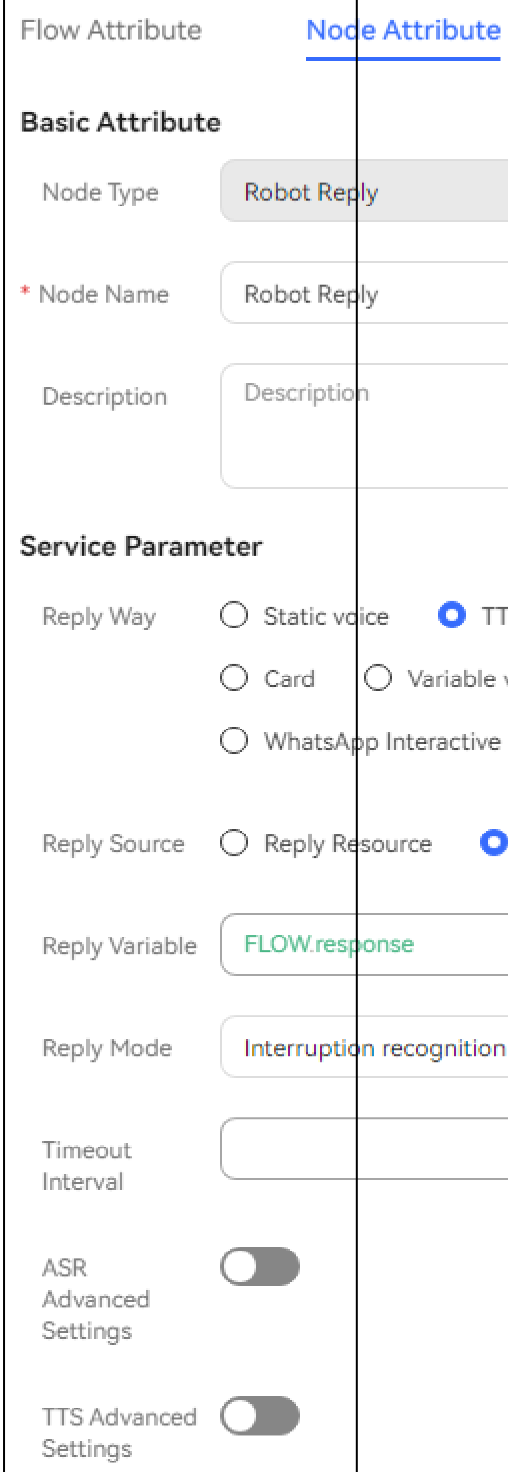
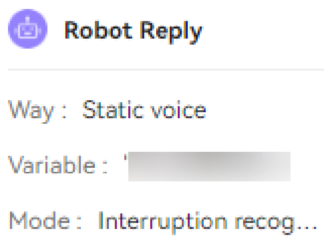
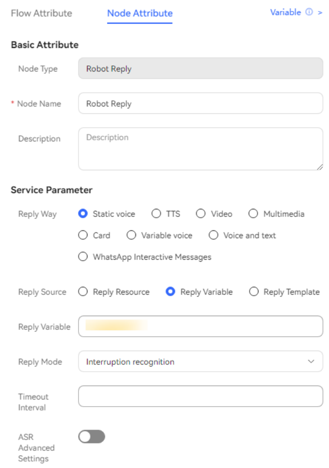
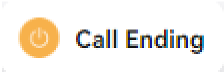
Diagram Element	Node Attribute	Remarks
	• Set **Reply Way** to **TTS**. • Set **Reply Source** to **Reply Variable**. • Enter **FLOW.response** in **Reply Variable**.	

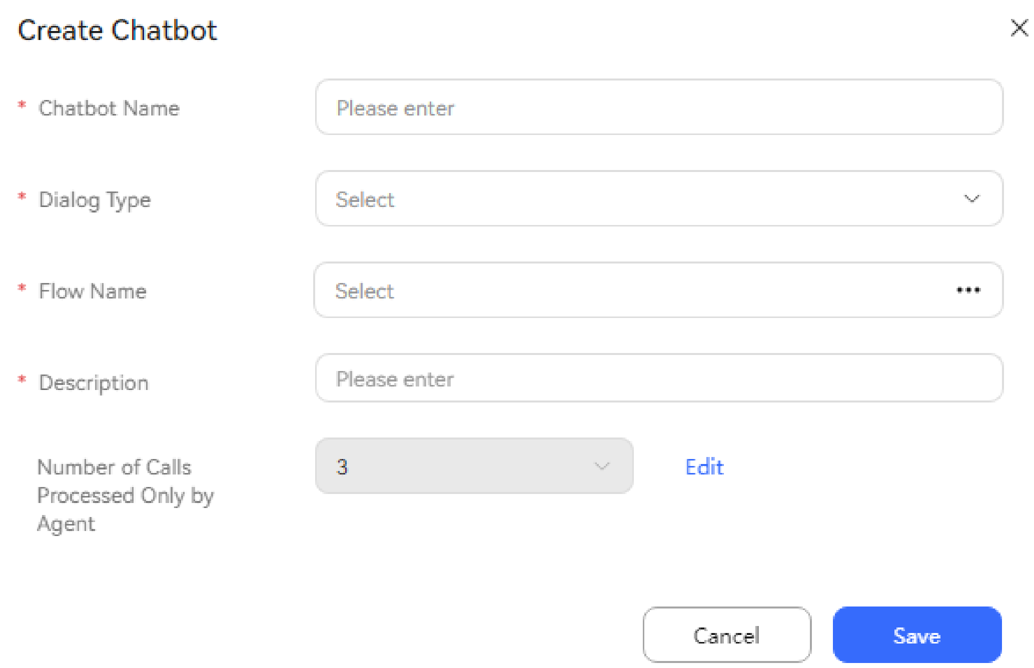
Diagram Element	Node Attribute	Remarks
	• Set **Reply Way** to **Static voice**. • Set **Reply Source** to **Reply Variable**. • Enter **No matching Q&A** in **Reply Variable**. • Set **Reply Mode** to **Interruption recognition**.	
	-	-

Step 5 After the flow is created, click **Save and Publish** to publish the flow.

Step 6 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 7 Click **Intelligent Chatbot**. Click **Create**, enter the information shown in the following figure, and click **Save** to save the configuration.

Figure 2-371 Create Chatbot page



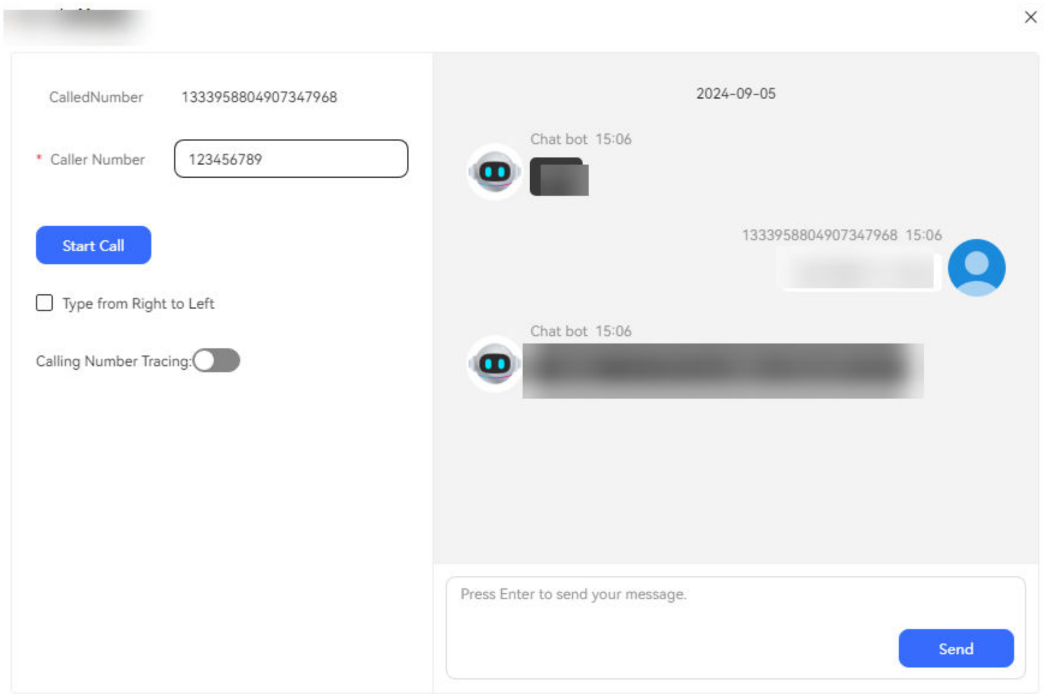
- **Dialog Type**: Select **Chatbot**.

- **Flow Name**: Select the flow created in step **Step 5**.

Step 8 Click **Save**. The intelligent robot is created successfully.

Step 9 Select the created intelligent robot and click **Test Call** to test it. Click **Start Call** to start a dialog, and enter the Q&A pairs configured in the **Step 7**. If the dialog is normal, the correct result is returned, as shown in the following figure.

Figure 2-372 Intelligent robot test



----End

2.6.5.1.5 Refining Response Based on a Large Language Model

Refining response means processing reply texts for higher smoothness, accuracy, and completeness. This process usually includes checking for grammatical and spelling mistakes, ensuring that words are used accurately and friendly, adding relevant information and content to provide more context, and reorganizing the text structure to make it easier for customers to understand.

Configuring Information on the LLM Engine

Prerequisites

Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **LLM Engine** feature for the tenant space.

Procedure

Step 1 Contact Huawei technical support to download the **AICC_*.*.*_ODFS.zip** package from https://support.huawei.com.

Step 2 Decompress the **AICC_*.*.*_ODFS.zip** package.

NOTE

..* indicates the AICC version number.

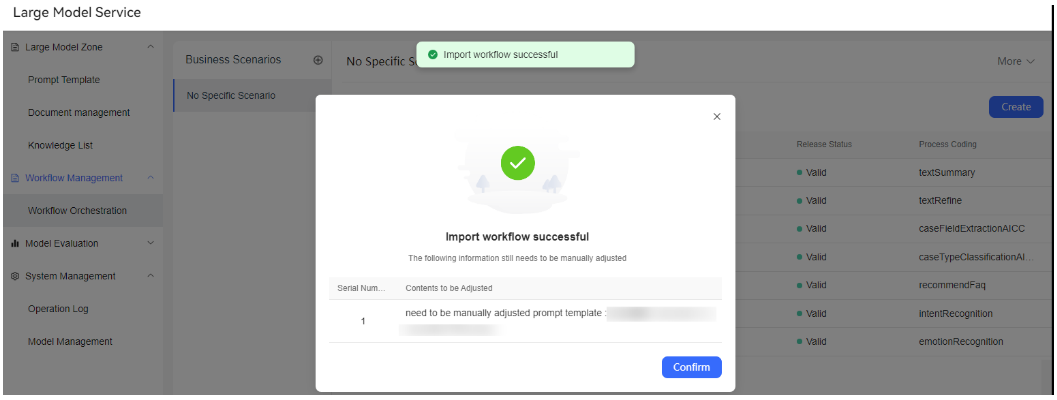
Step 3 Go to the **/flowinfo/LLM_Agent_Assistant.zip/** directory to obtain the **workflow.zip** package.

Step 4 Decompress the **workflow.zip** package.

Step 5 Obtain the **textRefine.tar.gz** package.

Step 6 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Workflow Management** > **Workflow Orchestration**, and click the import button to import the **textRefine.tar.gz** package.

Figure 2-373 Import success page



Step 7 Choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Large Model Zone** > **Prompt Template** and click the **Customized Template** tab.

Step 8 Select the **Refine response** scenario and click the **Refine response** prompt template. The **Template Details** page is displayed. Click **Unpublish** to change the status of the template to **Not released**.

Step 9 Edit the **Refine response** prompt template and select an available model from the **Large Model** drop-down list. For details about how to configure a model, see **Configuring a Model**.

Step 10 Click **Save and Publish** to publish the prompt template.

----End

Verification

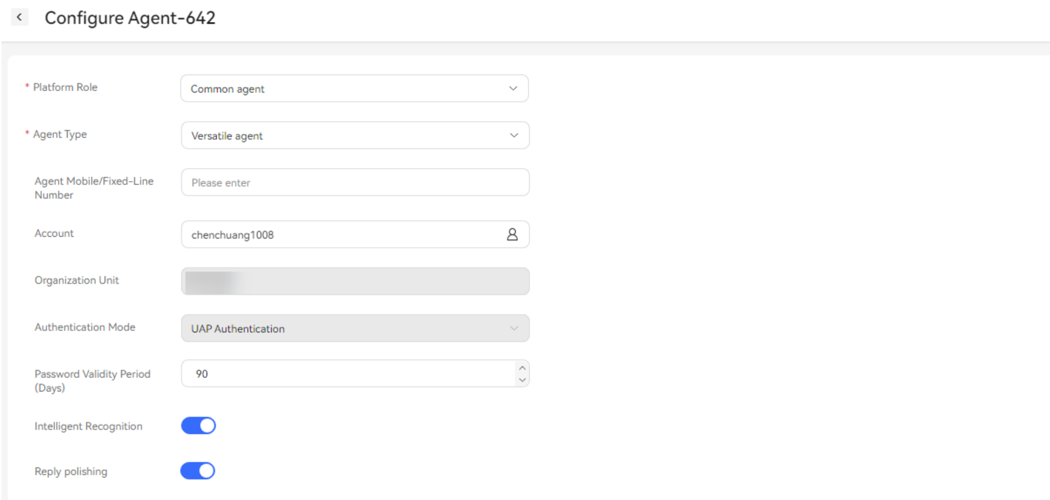
Prerequisites

- The LLM Engine, reply polishing, and intelligent agent features have been enabled for the tenant.
- The agent type is versatile agent or multimedia agent.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Employee Center** > **Agent Management**, and turn on the **Intelligent Recognition** and **Reply polishing** switches.

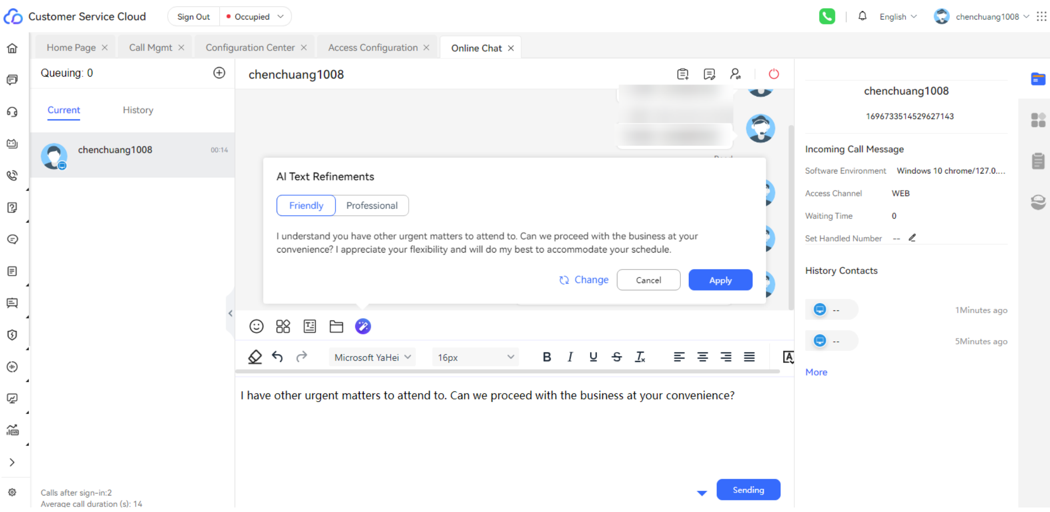
Figure 2-374 Agent configuration page



Step 2 Sign in to the AICC as a multimedia agent and click  on the top to sign in to the platform and access the online workbench.

Step 3 The agent clicks  to polish the texts during a text chat with a customer. Only 10 AI polishing operations are supported in a single session. AI polishing supports friendly and professional styles.

Figure 2-375 Text chat workbench page



----End

2.6.5.1.6 Summarizing Sessions Based on a Large Language Model

Based on the large language model technology, a workflow is constructed to extract key sentences or phrases from sessions, such as customer requirements and agent answers, generate an abstract, and record the abstract in the call reason.

Prerequisites

- You have contacted the system administrator to enable the **LLM Engine** and **Automatic Conversation Summary** features for the tenant.
- The intelligent transcription function has been commissioned for voice agents.

Configuring Information on the LLM Engine

The session summary function based on large language models needs to be implemented by invoking the workflows of the LLM Engine. This section describes how to create the workflow and prompt templates.

Prerequisites

Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **LLM Engine** and **Automatic Conversation Summary** features.

Procedure

Step 1 Contact Huawei technical support to download the **AICC_*.*.*_ODFS.zip** package from https://support.huawei.com.

Step 2 Decompress the **AICC_*.*.*_ODFS.zip** package.

NOTE

..* indicates the AICC version number.

Step 3 Go to the **/flowinfo/LLM_Agent_Assistant.zip/** directory to obtain the **workflow.zip** package.

Step 4 Decompress the **workflow.zip** package.

Step 5 Obtain the **textSummary.tar.gz** package.

Step 6 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Workflow Management** > **Workflow Orchestration**, and click the import button to import the **textSummary.tar.gz** package.

Step 7 Sign in to the AICC as a tenant space administrator, choose **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Large Model Zone** > **Prompt Template**, and click the **Customized Template** tab.

Step 8 Click the **Automatic Conversation Summary** scenario and click the **Automatic Conversation Summary** prompt template. The **Template Details** page is displayed. Click **Unpublish** to change the status of the template to **Not released**.

Step 9 Click the **Automatic Conversation Summary** prompt template and then click **Edit**. On the editing page that is displayed, select an available LLM. For details about how to configure a model, see **Configuring a Model**. Turn on the **Model Parameters** switch and set **temperature** to **0.2** and **max_tokens** to **300**.

Step 10 Click **Save and Publish** to publish the prompt template.

----End

Verification

Verifying the session summary function by referring to this section.

Prerequisites

None

Procedure

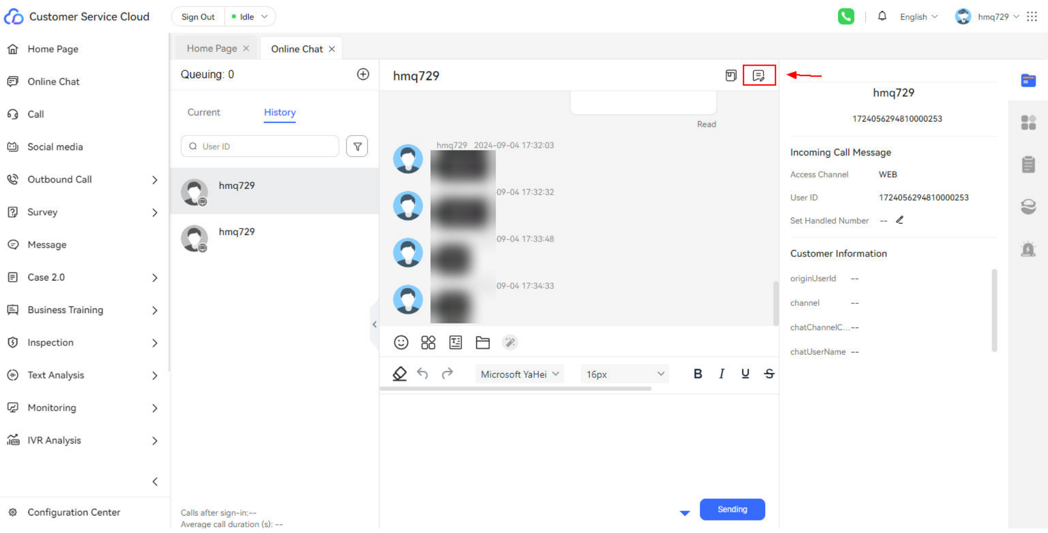
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Employee Center** > **Agent Management**, and enable the **Automatic Conversation Summary** function for agents.

Step 2 Sign in to the AICC as a multimedia agent and click 

on the top to sign in to the platform and access the online workbench.

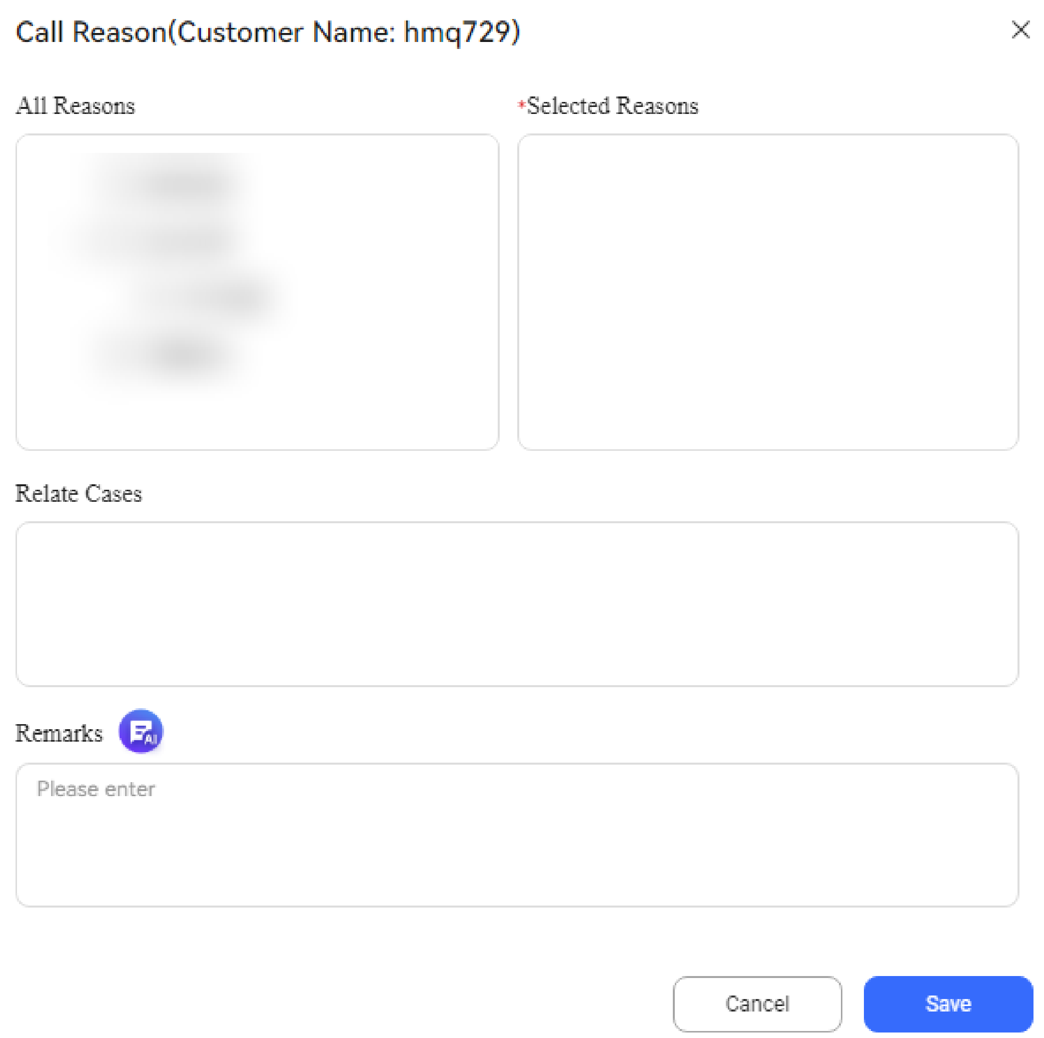
Step 3 Click the **History** tab and then  after the conversation with the customer ends. The call reason page is displayed.

Figure 2-376 Call reason page



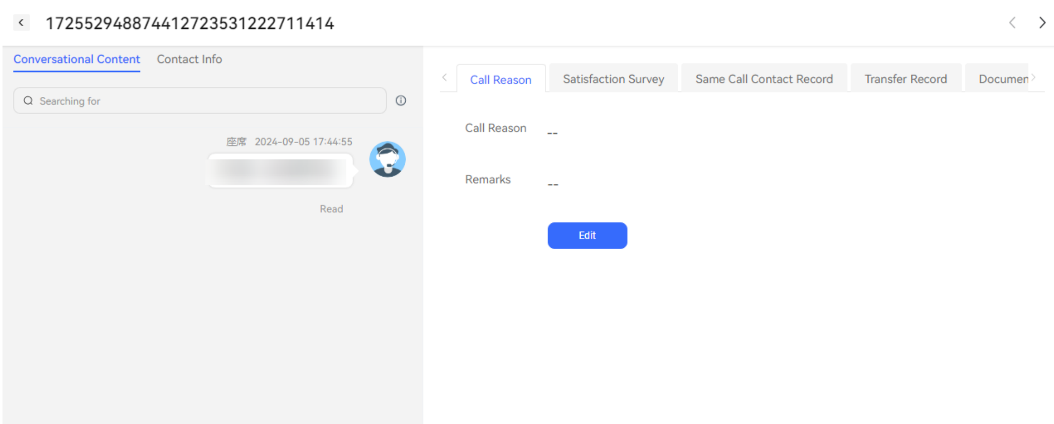
Step 4 Click  to generate a session summary on the call reason page. Click **Save** to save the call reason and session summary.

Figure 2-377 Intelligent summary page



Step 5 (Optional) Sign in to the AICC as a tenant administrator and choose **Contact History** > **Contact**. Click **Call S/N** to access the call reason page and summarize the session.

Figure 2-378 Contact record details page



NOTE

The number of summarization times of a single session is restricted by the **Number of text refine API calls allowed per session** parameter, which can be set on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** > **System Settings** page.

----End

2.6.6 Small Language Model Zone

2.6.6.1 Building the Intelligent Case Filling Service Based on a Small Language Model

Intelligent case filling uses the TUC and LODAS models to automatically extract information from the texts of conversations between customers and agents as well as quickly and accurately fill the information in the corresponding case form, reducing the pressure of manual case filling.

Prerequisites

- Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **Intelligent Case Filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features.
- The LLM Engine feature has been disabled for the tenant, or the case type identification and case field identification services are not selected after the LLM Engine feature is enabled.
- The tenant space administrator has set **Enabling the Intelligent TT Filling Feature** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- The tenant space administrator has enabled the **Smart Form Filling** feature for agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

2.6.6.1.1 Configuring Case 2.0 Information

For details, see **Configuring Case 2.0 Information**.

2.6.6.1.2 Configuring Information on the ODFS

When the AICC uses the entity recognition model configured in the TUC to extract case fields, the fields for offline training on the entity mapping management page need to be mapped to the case fields on the case configuration page to ensure that fields in the output result of the small language model and those on the intelligent order filling page are in one-to-one mapping relationship.

Prerequisites

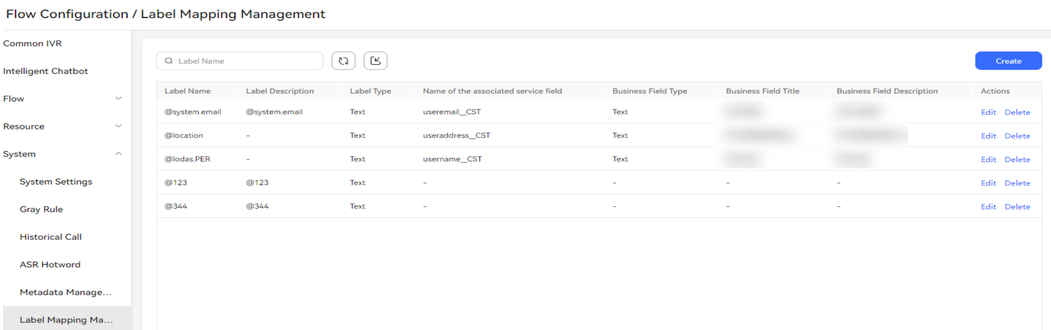
- Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **Intelligent Case Filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features.

- The LLM Engine feature has been disabled for the tenant, or the case type identification and case field identification services are not selected after the LLM Engine feature is enabled.
- The tenant space administrator has set **Enabling the Intelligent TT Filling Feature** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- The tenant space administrator has enabled the **Smart Form Filling** feature for agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

Procedure

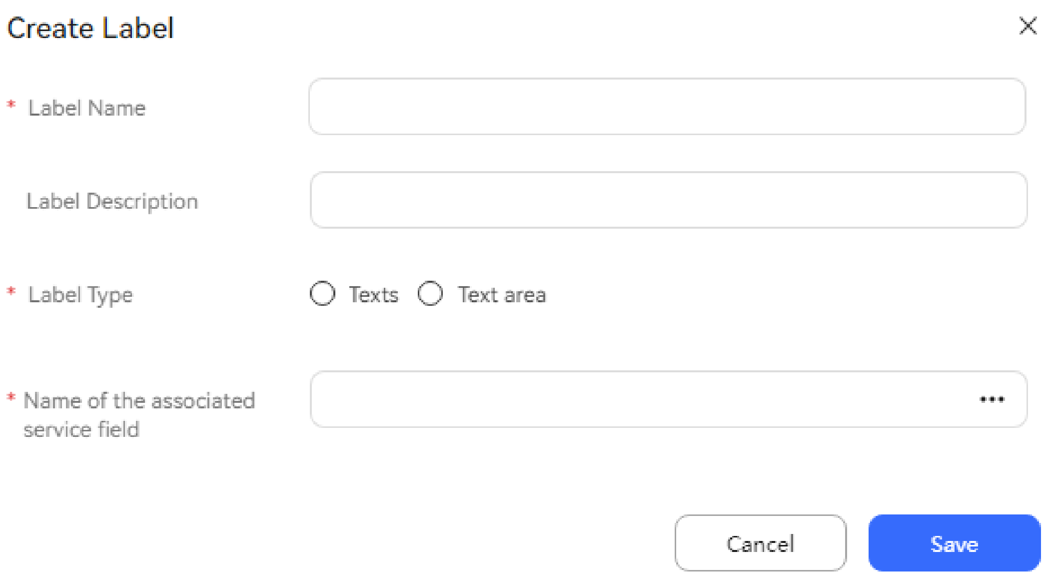
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Chatbot Management** > **Flow Configuration** > **System** > **Label Mapping Management**. The label mapping management page is displayed.

Figure 2-379 Label mapping management page



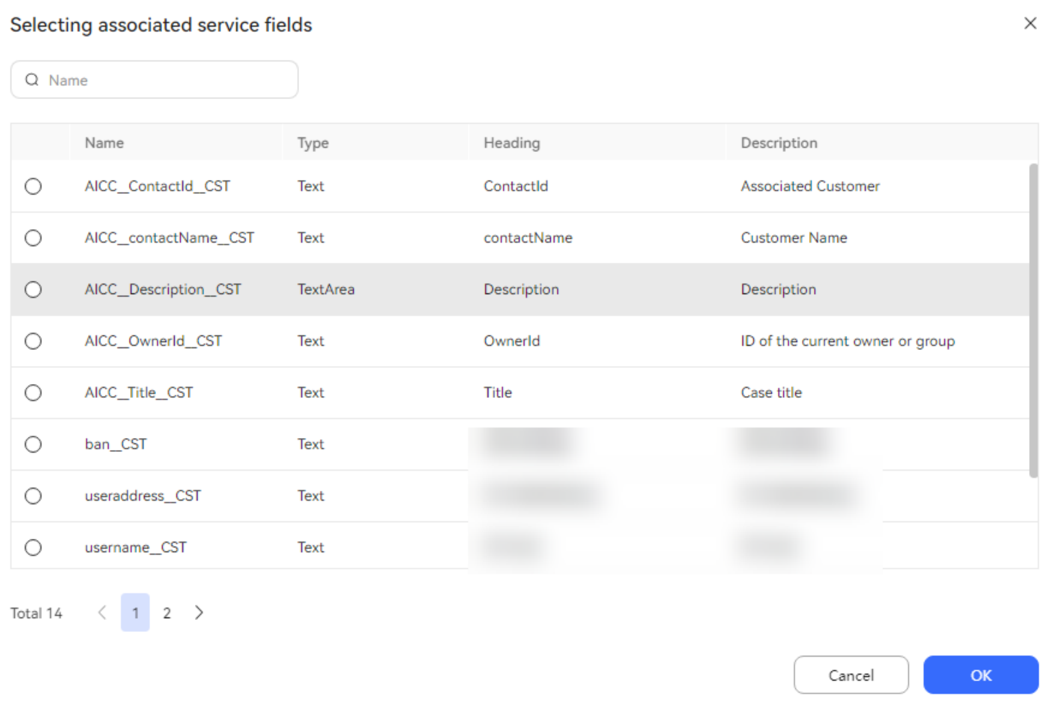
Step 2 Click **Create**. On the page that is displayed, enter the label name, label description, and label type.

Figure 2-380 Label data creation page



Step 3 Select an associated service field name, click **OK**, and then click **Save**.

Figure 3 Selecting an associated service field



----End

2.6.6.1.3 Verification

Both the **Online Chat** and **Call** workbenches support the intelligent case filling function.

Prerequisites

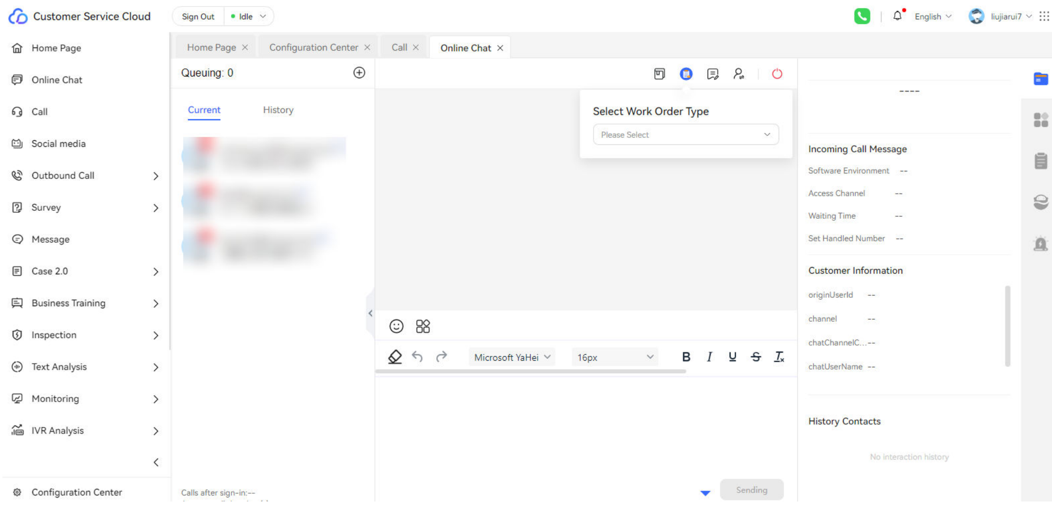
- The **LLM Engine**, **Intelligent order filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features have been enabled for the tenant space, and the **Case type identification** and **Case field identification** services have been selected for the LLM Engine feature.
- The tenant parameter **Intelligent order filling** has been enabled for the tenant space on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- The tenant space administrator has enabled the **Smart Form Filling** feature for agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

Procedure

Step 1 Sign in to the AICC as an agent and click **Sign In**.

Step 2 Click  in the upper right corner on the online workbench. The **Select Work Case Type** drop-down list is displayed.

Figure 2-381 Smart form filling button



Step 3 Select a case type to display the case information on the right. In addition, the system automatically obtains the customer name, address, contact information, and fault description based on the dialog content and adds them to the case information on the right.

Step 4 Click **Save**. The case is saved successfully.

Step 5 Choose **Case 2.0** > **Case Workbench** and view the intelligent case created on the workbench.

NOTE

Currently, the case system supports only Chinese, English, and Spanish.

----End

2.7 IVR Journey Analysis

2.7.1 KPI Description

This section describes the KPIs that you need to understand before using the IVR analysis system.

Table 2-143 KPIs involved in the IVR analysis

Category	KPI	Definition	Description	Formula
Business KPIs	Direct	Number of calls that reach the node through the shortest path.	If a customer does not press the asterisk (*) or pound (#) key before reaching a business node, the customer's call is considered as a direct call.	Direct = Visits – Non Direct
	Direct Rate	Percentage of direct calls to total visits to the business node.	Direct Rate + Non Direct Rate = 1	Direct Rate = Direct/Visits
	Non Direct	Number of IVR calls that pass through other nodes at the same level with the target node or lower-level nodes before reaching the target node.	-	Non Direct = Visits – Direct
	Non Direct Rate	Percentage of non-direct calls to total visits to the business node.	Direct Rate + Non Direct Rate = 1	Non Direct Rate = Non Direct/Visits
	Visits	Total number of calls that reach the business node.	-	Visits = Number of Successes + Number of Failures + Number of abandoned calls

Category	KPI	Definition	Description	Formula
	Hang Up	Number of calls that are hung up after they reach the business node.	On a navigation node, if a customer does not press the asterisk (*) key as prompted to return and hangs up the call instead after pressing an incorrect key, the customer's call is not considered as a hung-up call.	-
	Number of calls in which customers return to previous menus	Number of calls in which customers press the asterisk (*) key to return to previous menus after reaching the business node.	This KPI does not include the number of times that customers press the asterisk (*) key to return after pressing incorrect keys on navigation nodes.	-
	Number of calls in which customers return to the main menu	Number of calls in which customers press the pound (#) key to return to the main menu after reaching the business node.	-	-

Category	KPI	Definition	Description	Formula
	Number of Successes	Number of calls with successful business handling, consultation, or query.	A call is considered as a success if more than half of the business consultation voice is played or the SMS message, MMS message, WAP Push message, or email is successfully triggered.	Number of Successes = Visits – Number of Failures – Number of abandoned calls
	Number of Failures	Number of calls with failed business handling, consultation, or query.	A call is considered as a failure if the voice indicating business failure is played on a query, consultation, or business handling node. This KPI is inapplicable to navigation nodes.	Number of Failures = Visits – Number of Successes – Number of abandoned calls

Category	KPI	Definition	Description	Formula
	Number of abandoned calls	● Less than half of the consultation voice is played on a consultation node. ● No voice indicating business success or failure is played on a query or business handling node, for example, when a call is hung up during password verification.	This KPI is inapplicable to navigation nodes and transfer-to-manual nodes.	Number of abandoned calls = Visits – Number of Successes – Number of Failures
	Success rate	Percentage of calls with successful business handling, consultation, or query to total visits.	-	Success rate = Number of Successes/ Visits
	Failure Rate	Percentage of calls with failed business handling, consultation, or query to total visits to the business node.	-	Failure Rate = Number of Failures/Visits

Category	KPI	Definition	Description	Formula
	Abandon rate	Percentage of abandoned calls to total visits to the business node.	-	Abandon rate = Number of abandoned calls/Visits
	Rehear	Number of nodes on which voices are replayed.	If the voice is replayed for multiple times in a node visit, the value increases only by 1.	-
	Rehear Rate	Percentage of nodes on which voices are replayed to total visits.	-	Rehear Rate = Rehear/Visits
	Rehear Once	Number of nodes on which voices are replayed once.	-	-
	Rehear Twice	Number of nodes on which voices are replayed twice.	-	-
	Average Service Duration	Average duration of business handling, query, or consultation on a business node.	Proportion of IVR service duration to node visits.	Average Service Duration = IVR service duration/ Visits

Category	KPI	Definition	Description	Formula
	Reduced manual service duration	Product of the number of successful calls for a business node and the average duration of manual service for the business node.	The average duration of manual service is automatically synchronized from the IVRMAP.	-
	Average business path length before the business node	The path length before calls reach the business node indicates the number of business nodes which calls pass through before reaching the target business node.	Proportion of the total path length before calls reach the business node to total node visits.	Average business path length before the business node = Total path length before the business node/Visits
	Average key pressing times before the business node	Total number of key pressing times before calls reach the business node, including invalid key pressing times on a navigation node and excluding key pressing times for the collection of multi-digit numbers.	Proportion of key pressing times before the business node to total node visits.	Average key pressing times before the business node = Number of key pressing times before the business node/Visits

Category	KPI	Definition	Description	Formula
	Flowing into lower-level menus	Number of calls that access lower-level menus through upper-level menus.	-	-
	Transfer-to-manual rate	Number of visits that are transferred to agents because IVR flows cannot meet the business handling requirements of customers.	Percentage of visits that are transferred to manual service to total visits to the business node, for example, the percentage of visits that are transferred to manual service at the main menu.	Transfer-to-manual rate = Number of transferred-to-manual calls/Visits
	Number of sent SMS/MMS messages	The number of sent SMS or MMS messages for consultation, query, and business handling is determined by the number of times the system plays the voice indicating SMS or MMS message sending success.	-	-

Category	KPI	Definition	Description	Formula
	Number of sent faxes	The number of faxes sent for consultation, query, and business handling is determined by the number of times the system plays the voice indicating fax sending success.	-	-
	Number of sent emails	The number of emails sent for consultation, query, and business handling is determined by the number of times the system plays the voice indicating email sending success.	-	-

Category	KPI	Definition	Description	Formula
	Number of sent WAP Push messages	The number of sent WAP Push messages for consultation, query, and business handling is determined by the number of times the system plays the voice indicating WAP Push message sending success.	-	-
	Number of businesses that are successfully handled	Total number of business requests that are successfully handled on all business handling subnodes, including requests for business subscription, cancellation, and modification.	-	-
	Number of successful business queries	Total number of successful business requests on all query subnodes.	-	-

Category	KPI	Definition	Description	Formula
	Equivalent commission	Product of the number of businesses that are successfully handled and corresponding commissions.	-	Equivalent commission = Number of businesses that are successfully handled x Commissions
	SMS satisfaction	Percentage of customer replies with 3, 4, and 5 to customer replies with 1, 2, 3, 4, and 5.	-	SMS satisfaction = Number of customer replies with 3, 4, and 5/ Number of customer replies with 1, 2, 3, 4, and 5
	Query success rate	Percentage of successful business query requests to total business query requests.	-	Query success rate = Number of successful business query requests/ Number of business query requests
	Business handling success rate	Percentage of businesses that are successfully handled through self-service to businesses that are handled through self-service.	-	Business handling success rate = Number of businesses that are successfully handled through self-service/ Number of businesses that are handled through self-service.

Category	KPI	Definition	Description	Formula
	Total visits that request manual service	Total number of visits that request manual service.	-	-
	Manual-to-IVR calls	Number of calls that are transferred to the IVR after customers request manual service on hearing the menu voice on the first node.	-	-
	Manual-to-IVR rate	Percentage of calls that are transferred to the IVR after customers request manual service on hearing the menu voice on the first node to transferred-to-manual calls.	-	Manual-to-IVR rate = Manual-to-IVR calls/ Number of transferred-to-manual calls
	Average manual service duration	Average duration of manual service for customer visits.	-	-
	IVR-to-manual calls	Number of calls that are transferred to manual service after customers access the IVR.	-	-

Category	KPI	Definition	Description	Formula
	Number of failed manual-to-IVR calls	Number of failed calls that are transferred to the IVR in the subsequent handling process after customers request manual service on hearing the menu voice on the first node.	-	-
	Redirected calls	Number of calls that jump to other nodes.	-	-

Category	KPI	Definition	Description	Formula
Traffic KPIs	Valid IVR Service	An IVR call is valid if one of the following conditions is met: ● The business request is successfully handled or the business query is successful. ● More than half of the business consultation voice is played or the SMS message, MMS message, WAP Push message, or email is successfully triggered. If multiple businesses are handled successfully for a call, only one valid service is counted.	-	-

Category	KPI	Definition	Description	Formula
	Valid inbound call rate	Percentage of IVR inbound calls in which customers reply with keys to total IVR inbound calls.	If an inbound call is directly hung up when the greeting or the menu voice of the first node is played, the call is not considered as a valid inbound call.	Valid inbound call rate = Number of valid inbound calls/Number of inbound calls
	Effective Service Rate	An IVR call is effective if one of the following conditions is met: ● The business request is successfully handled or the business query is successful. ● More than half of the business consultation voice is played or the SMS message, MMS message, WAP Push message, or email is successfully triggered.	Effective Service Rate indicates the percentage of calls with effective services to total IVR inbound calls.	Effective Service Rate = Number of calls with effective services/ Number of IVR inbound calls

Category	KPI	Definition	Description	Formula
	Number of transferred-to-manual calls	Number of inbound calls that request manual service.	If a call requests manual service for multiple times, only one request is counted.	-
	Number of transferred-to-manual calls on the first node	Number of calls in which customers request manul service on the first node.	If a call requests manual service for multiple times on the first node, only one request is counted.	-
	Transferred-to-manual rate on the first node	Percentage of calls transferred to manual service on the first node.	-	Transferred-to-manual rate on the first node = Number of transferred-to-manual calls on the first node/ Number of inbound calls
	Number of non-transferred-to-manual calls on the first node	Number of calls that are transferred to manual service in the subsequent handling process after customers access the IVR on hearing the menu voice on the first node.	-	Number of non-transferred-to-manual calls on the first node = Number of transferred-to-manual calls – Number of transferred-to-manual calls on the first node

Category	KPI	Definition	Description	Formula
	Self-service volume	Number of IVR calls that are not transferred to manual service.	-	Self-service volume = Total number of inbound calls – Number of transferred-to-manual calls
	Proportion of manual traffic	Percentage of inbound calls that request manual service to total IVR inbound calls.	-	Proportion of manual traffic = Number of transferred-to-manual calls/Number of inbound calls
	Pure IVR service rate	Percentage of inbound calls with no manual service to total inbound calls.	-	Pure IVR service rate = Number of inbound calls with no manual service/ Number of inbound calls

Category	KPI	Definition	Description	Formula
	Transferred to Manual Successful	Number of calls that are successfully transferred to agents.	An IVR call is successfully transferred to an agent if the call is successfully transferred to a queue and does not return to the IVR through the timeout flow due to the queuing timeout. **NOTE** • If **agentSuccFlag** is **1**, the call is successfully transferred to an agent. • If **agentSuccFlag** is **0**, the call fails to be transferred to an agent.	-
	Transferred-to-manual success rate	Percentage of calls that are successfully transferred to manual service to total calls that request manual service.	-	Transferred to manual successful rate = Transferred to Manual Successful/ Number of transferred-to-manual calls

Category	KPI	Definition	Description	Formula
	Number of non-direct behaviors	If there are multiple non-direct behaviors in a call, one non-direct behavior is counted.	-	-
	Non-direct behavior rate	Proportion of non-direct behaviors to total inbound calls.	-	Non-direct behavior rate = Number of non-direct behaviors/ Number of inbound calls
	IVR One-time Resolution Rate	If a hotline inbound call with a valid service does not request manual service and the customer does not call the customer service platform again within two hours after the call is hung up, the customer concern is considered to be resolved in one IVR call.	-	IVR One-time Resolution Rate = (Valid IVR service volume – IVR Repeat Calls)/ Valid IVR service volume
	Average call duration	Average duration of customers' interaction with the IVR in all hotline calls that do not request manual service.	-	Average call duration = Total duration of IVR service/ Number of inbound calls

Category	KPI	Definition	Description	Formula
	IVR system error rate	Percentage of IVR inbound calls with flow or voice invocation errors to total IVR inbound calls.	-	IVR system error rate = Number of calls with flow or voice invoking errors/ Number of inbound calls
	Average Path Length	The business path length indicates the number of business nodes, including consultation, query, business handling, and navigation nodes, which calls pass through.	-	Average Path Length = Business path length/ Number of inbound calls
	Repeated Incoming Calls	Number of calls from calling parties who dial the customer service hotline repeatedly within 2 hours.	-	-
	Repeated Call Rate	Percentage of repeated calls to total calls.	-	Repeated Call Rate = Repeated Incoming Calls/Total number of inbound calls

Category	KPI	Definition	Description	Formula
	Number of IVR inbound calls	Number of IVR inbound calls that are connected to the customer business platform and in which IVR voices are successfully played. The value is slightly smaller than the number of IVR inbound calls collected by the platform. If a call is connected to the IVR multiple times, only one call is counted.	-	-
	Total IVR service duration	Total duration of IVR service.	This KPI does not include the waiting time and manual service duration of calls that are transferred to manual service. The unit is second.	-

Category	KPI	Definition	Description	Formula
	Voice playback node path length	Number of times calls pass through voice playback nodes.	If a voice is automatically replayed by the IVR due to the timeout of digit collection, only one voice playback is counted.	-
	IVR Repeat Calls	Number of IVR inbound calls with valid services and no manual service that are connected to the hotline again within two hours after the calls are hung up.	-	-
	Number of function node visits	Number of calls that reach consultation, query, or business handling nodes.	-	-

Category	KPI	Definition	Description	Formula
	Average key pressing times	Number of times customers press keys on hearing menu voices, including invalid key pressing times at the navigation menu and excluding key pressing times for the collection of multi-digit numbers.	-	Average key pressing times = Number of key pressing times/ Number of inbound calls
	Key Error Return	Number of times customers press the asterisk (*) key to return to previous menus after pressing incorrect keys on navigation nodes.	-	-
	Number of hang-up calls due to incorrect key pressing	Number of calls in which customers hang up instead of pressing the asterisk (*) key as prompted to return to previous menus after pressing incorrect keys on navigation nodes.	-	-

Category	KPI	Definition	Description	Formula
	Number of customers	Number of inbound customer numbers after deduplication.	-	-
	Number of local customers	Number of customers in a specific city or region.	-	-
	Active traffic distribution rate	Percentage of calls with key pressing for self-service on the first node to total calls with key pressing for self-service or manual service on the first node.	-	Active traffic distribution rate = Number of calls with key pressing for self-service on the first node/ (Number of calls with key pressing for self-service on the first node + Number of calls with key pressing for manual service on the first node)
	Number of pure IVR customers	Number of customers who are connected to the IVR and are not transferred to manual service in a month after deduplication.	-	-

Category	KPI	Definition	Description	Formula
	Number of loyal customers	Number of customers who call the IVR system every month for three consecutive months and whose calls are not transferred to manual service.	-	-
	Average path length with key pressing	Average path length of inbound calls that enter the main flow.	-	-
	Hang-up calls on the first node	Number of inbound calls in which no keys are pressed.	-	-
	Number of customers who hang up before reaching the first node	Number of customers who do not reply with keys after deduplication.	-	-
	Hang-up rate before calls reach the first node	Percentage of calls that are hung up before reaching the first node to total inbound calls.	-	Hang-up rate before calls reach the first node = Hang-up calls on the first node/ Number of inbound calls
	Average duration of calls with key pressing	Average duration of inbound calls that enter the main flow.	-	-

Category	KPI	Definition	Description	Formula
	Node arrival rate	Percentage of calls that reach function nodes to calls with key pressing on the first node. The keys pressed on the first node do not contain 0.	-	-
	Number of calls with key pressing on the first node	Number of inbound calls with key pressing on the first node.	-	Number of calls with key pressing on the first node = Number of IVR inbound calls – Hang-up calls on the first node
	Number of calls with key pressing for self-service on the first node	Number of calls with keys except 0 pressed on the first node.	-	Number of calls with key pressing for self-service on the first node = Number of calls with key pressing on the first node – Number of calls with key pressing for manual service on the first node

2.7.2 IVR Overview

On the **IVR Overview** page, you can view the overall operations status of a selected chatbot flow from a macro perspective.

Prerequisites

- You have the **IVR Analysis** > **IVR Overview** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.

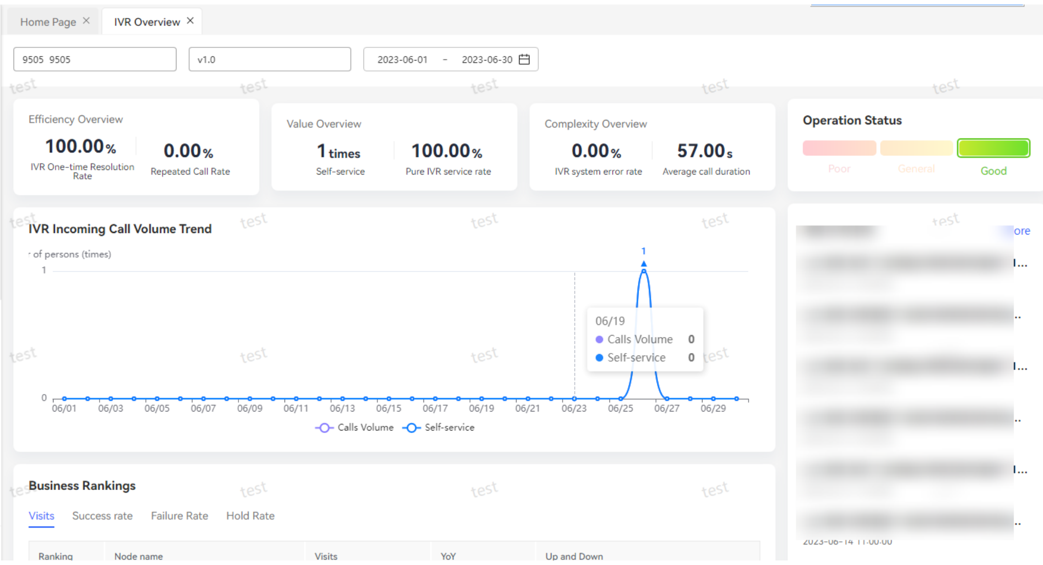
- The chatbot flow to be analyzed has call records in the query time range.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **IVR Overview**.

Step 2 Set the access code, version name, and time range in the filter criteria boxes and press **Enter**. The query result is displayed, as shown in **Figure 2**.

Figure 2-382 IVR Overview



Step 3 In the **Operation Status** area, learn about the overall status of IVR operations.

NOTE

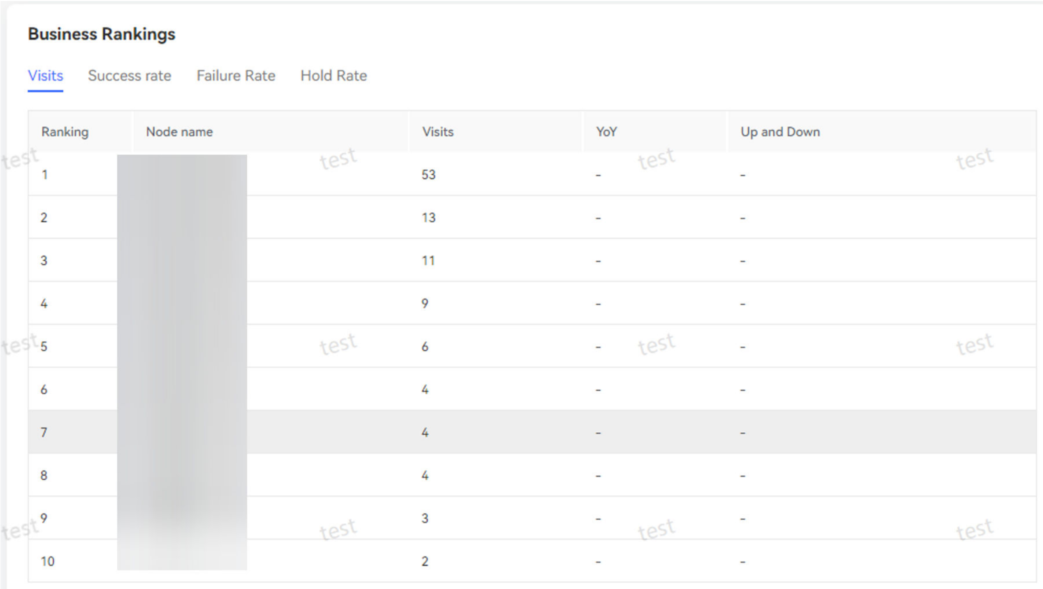
The **Operation Status** area displays the overall IVR operations status based on the month-on-month increase or decrease rate of core KPIs of IVR flows (arithmetic average value of the absolute values of the month-on-month (MoM) rates of all core KPIs).

If the average increase or decrease rate of core KPIs is less than 5%, the operations status is **Good**. If the increase or decrease rate ranges from 5% to 10%, the operations status is **General**. If the increase or decrease rate is greater than 10%, the operations status is **Poor** and the situation needs to be handled in time. If no MoM value is available, the operations status is set to **Good** by default.

Step 4 Click **More** to go to the **Alarm Event** page. For details, see **2.7.7 Alarm Event**.

Step 5 In the **Business Rankings** area, click a node name to go to the **Flow Analysis** page. For details, see **2.7.3 Flow Analysis**.

Figure 2-383 Node name



NOTE

- Success rate = ∑Number of successes (**SuccessCalls**)/∑Number of visits (**journeynum**)
- Failure rate = ∑Number of failures (**FailedCalls**)/∑Number of visits (**journeynum**)
- Hang-up rate = ∑Number of calls that are hung up (**HangupNum**)/∑Number of visits (**journeynum**)

Step 6 (Follow-up procedure) Learn about the descriptions and formulas of KPIs. For details, see **2.7.1 KPI Description**.

----End

2.7.3 Flow Analysis

By analyzing the access paths of IVR flows, you can learn about the common access paths of users and ensure that these access paths remain unchanged when adjusting flows.

You can analyze the traffic of each node to learn about the traffic information of each node or business, find out inefficient menu nodes and business flows, and identify the weaknesses of the IVR design.

You can view the non-direct call information to learn about the operations performed by users on a node and optimize the node accordingly.

You can also learn about the proportion of the traffic of a subnode to the outgoing traffic of its upper-layer node.

Prerequisites

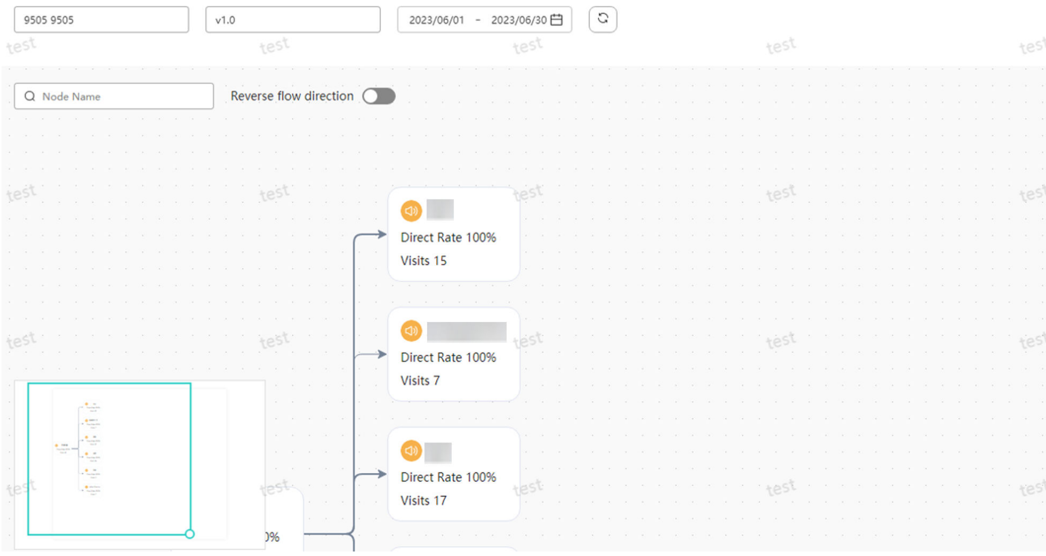
- You have the **IVR Analysis** > **Flow Analysis** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has call records in the query time range.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Flow Analysis**.

Step 2 Set the access code, version name, and time range in the filter criteria boxes and press **Enter**. The query result is displayed, as shown in **Figure 2**.

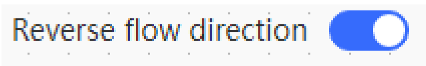
Figure 2-384 Flow Analysis



NOTE

A scheduled task collects statistics on business data of the past three hours every hour.

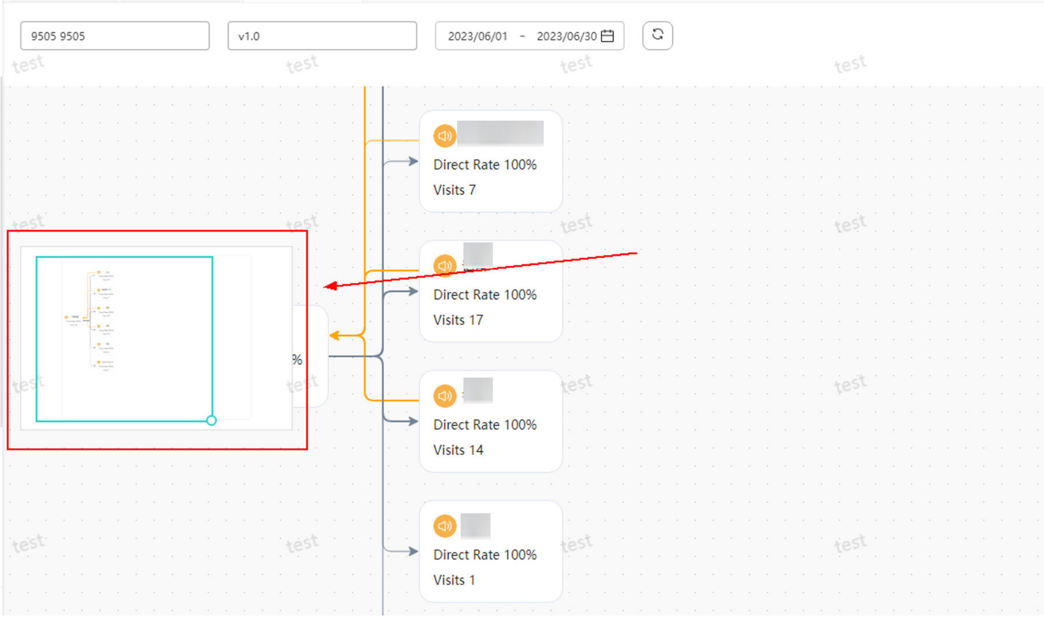
Step 3 Enter a node name in the **Node Name** text box to search for the node. The node is highlighted.

Step 4 Enable  to display the reverse traffic.

Step 5 Double-click a node in the flowchart to go to the corresponding node analysis page.

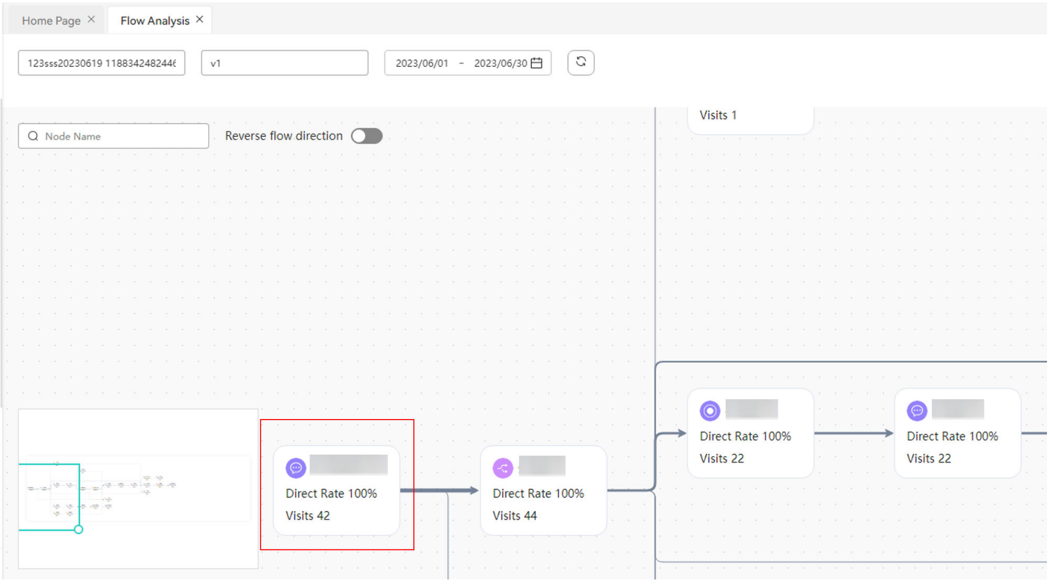
Step 6 Click the aerial view in the lower left corner to quickly locate specific flow information.

Figure 2-385 Aerial view



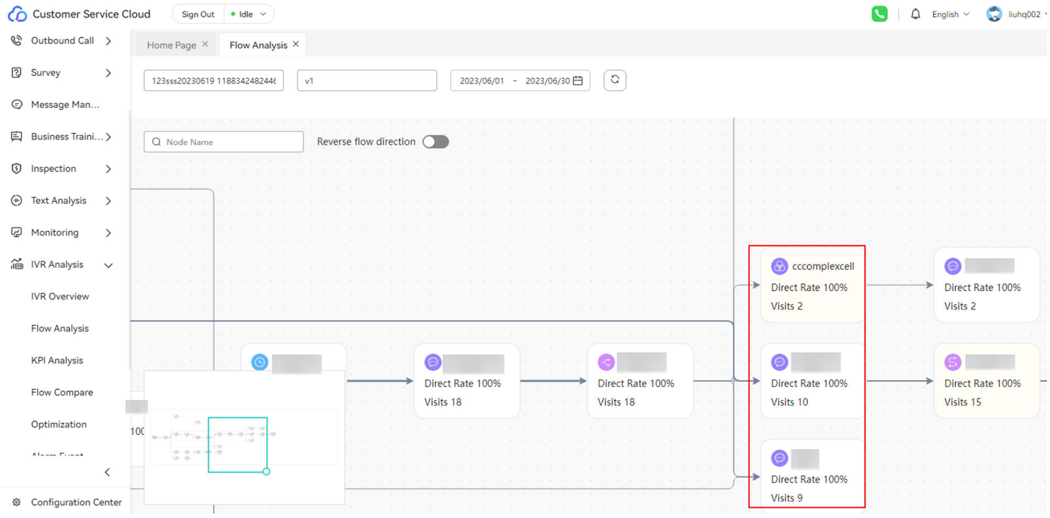
Step 7 Double-click the main flow to access the main flow analysis details page.

Figure 2-386 Analysis of the main flow



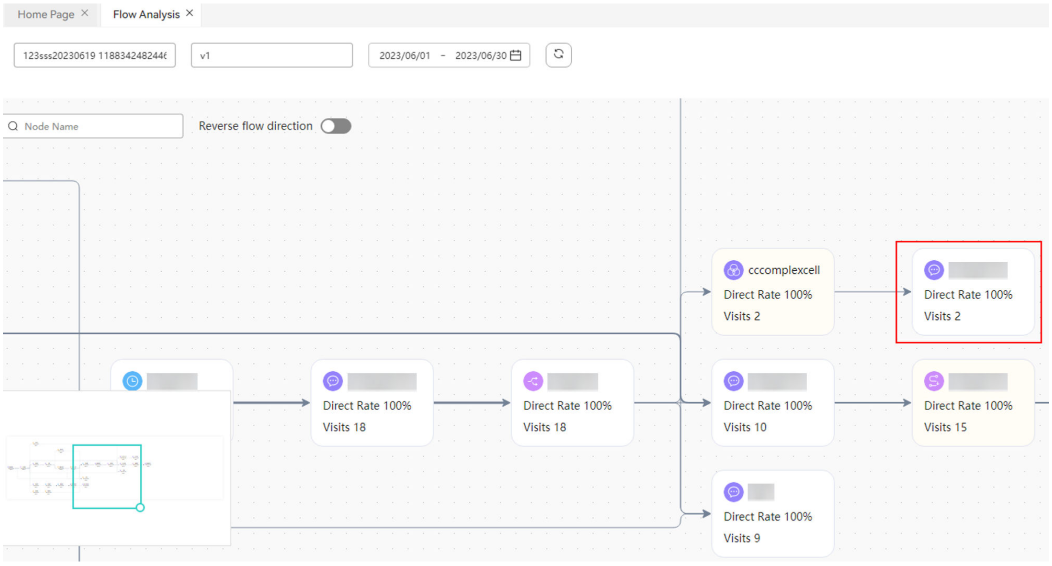
Step 8 Double-click a subflow to access the sub-flow analysis details page.

Figure 2-387 Subflow



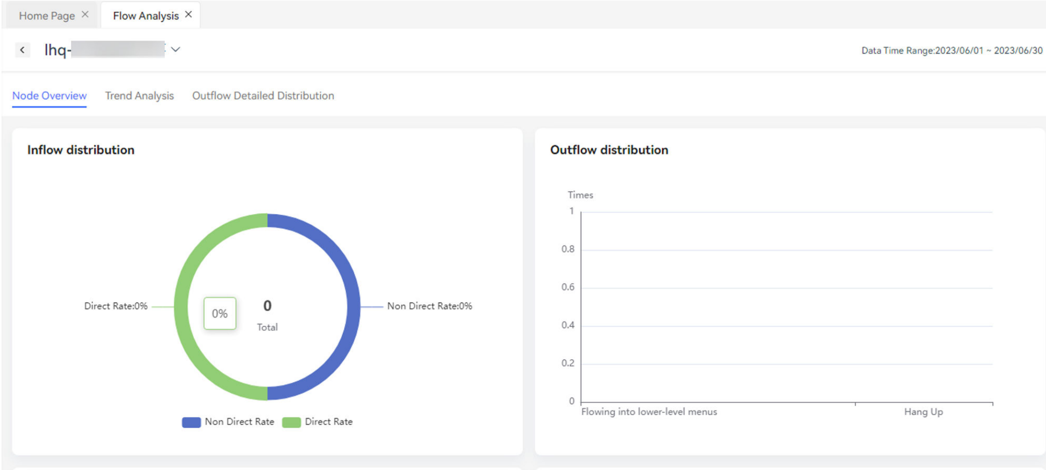
Step 9 Double-click a composite diagram element to access the analysis details page of the composite diagram element.

Figure 2-388 Composite diagram element



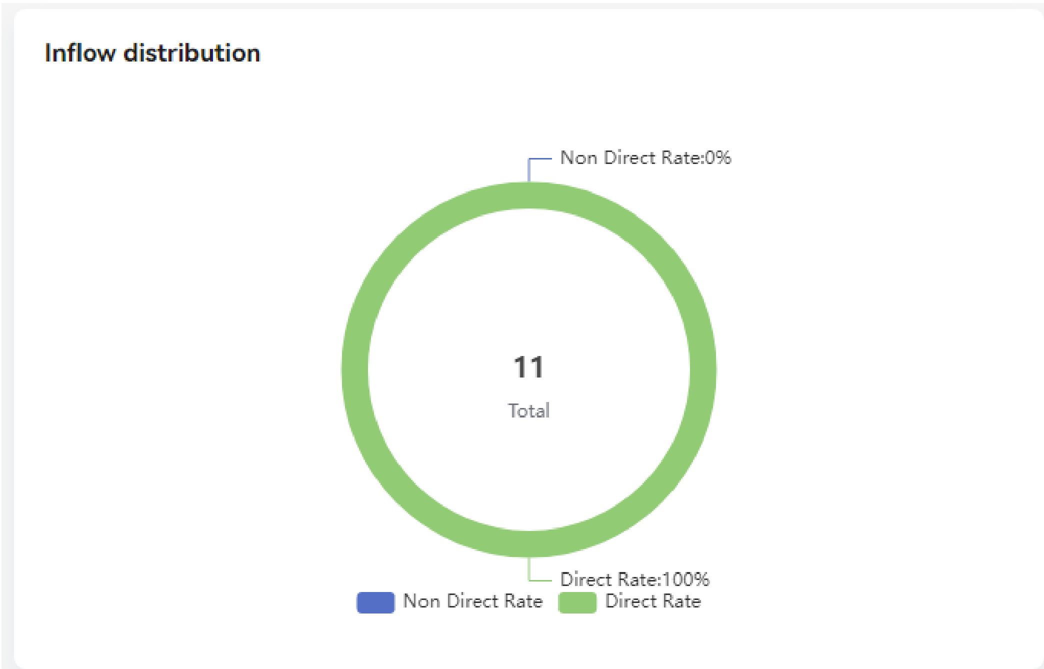
Step 10 (Follow-up procedure) Double-click a node to go to the analysis details page. The details page contains the **Node Overview**, **Trend Analysis**, and **Outflow Detailed Distribution** tab pages.

Figure 2-389 Tab pages



Step 11 Click the **Node Overview** tab to view the **inflow distribution chart**, **outflow distribution chart**, **node traffic chart**, and **KPI statistics**.

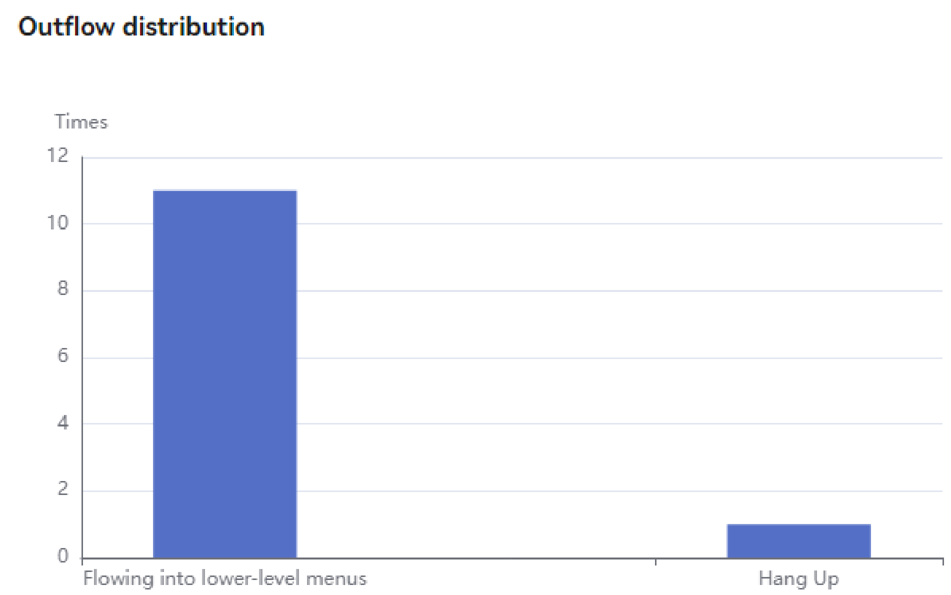
Figure 2-390 Inflow distribution



NOTE

- **Direct Rate**: percentage of direct calls to total visits to the business node
- **Non Direct Rate**: percentage of non-direct calls to total visits to the business node
- For details, see **2.7.1 KPI Description**.

Figure 2-391 Outflow distribution



NOTE

- **Non Direct**: number of IVR calls that pass through other nodes at the same level with the target node or lower-level nodes before reaching the target node
- **Flowing into lower-level menus**: number of calls that go to lower-level nodes after reaching the business node
- **Hang Up**: number of calls that are hung up after they reach the business node
- For details, see **2.7.1 KPI Description**.

Figure 2-392 Node Traffic Chart (Number of Indicators)

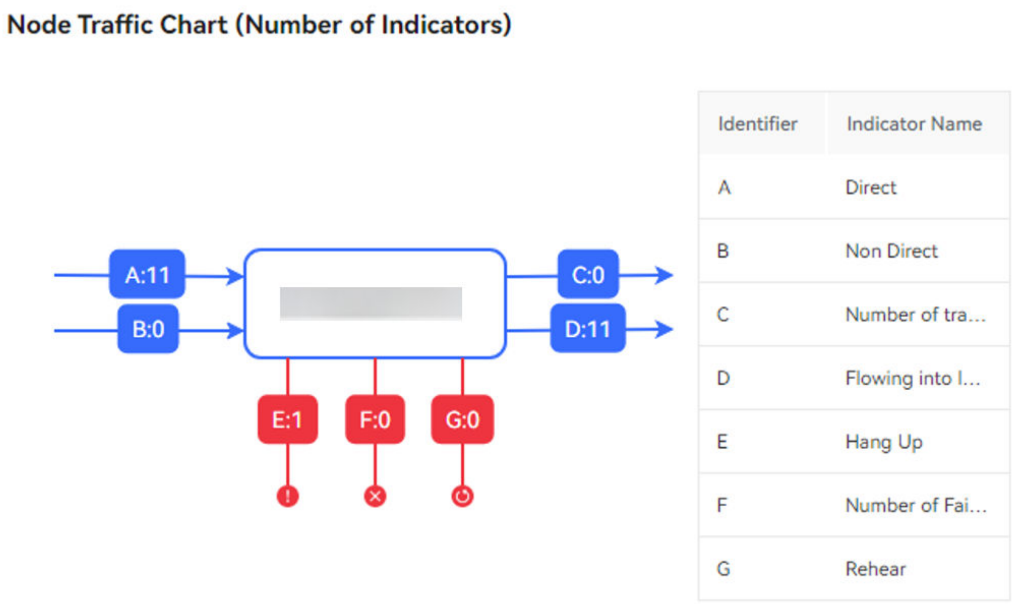


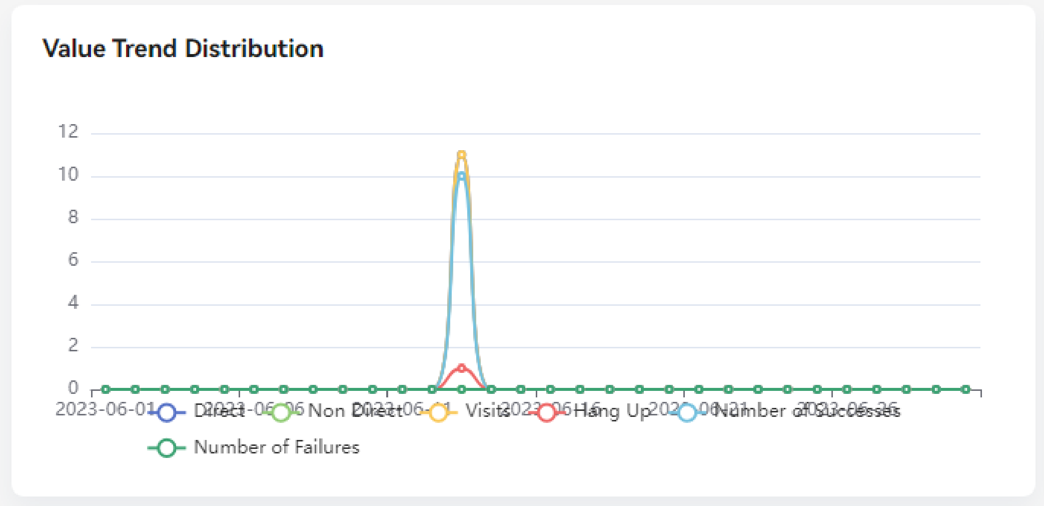
Figure 2-393 Indicator quantity statistics

Indicator quantity statistics

Indicator Name	Current Value	YoY
Direct	11	0
Non Direct	0	0
Number of transferred-to-man...	0	0
Flowing into lower-level menus	11	0
Hang Up	1	0
Number of Failures	0	0
Rehear	0	0

Step 12 (Follow-up procedure) Click the **Trend Analysis** tab to view the **value trend distribution chart**, **efficiency trend distribution chart**, and **complexity trend distribution chart**.

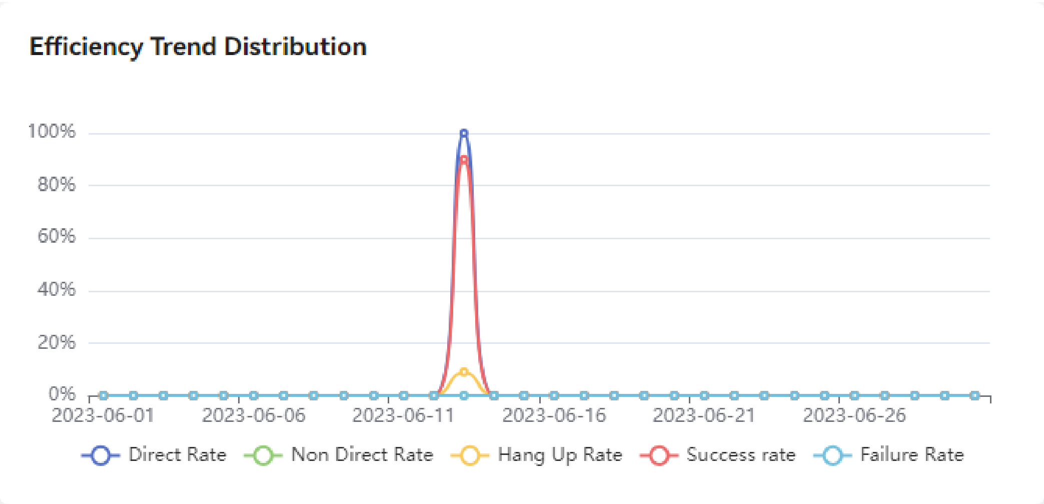
Figure 2-394 Value Trend Distribution



📖 **NOTE**

- **Direct**: number of calls that reach the node through the shortest path
- **Non Direct**: number of IVR calls that pass through other nodes at the same level with the target node or lower-level nodes before reaching the target node
- **Visits**: total number of calls that reach the business node
- **Hang Up**: number of calls that are hung up after they reach the business node
- **Number of Successes**: number of calls with successful business handling, consultation, or query
- **Number of Failures**: number of calls with failed business handling, consultation, or query
- For details, see **2.7.1 KPI Description**.

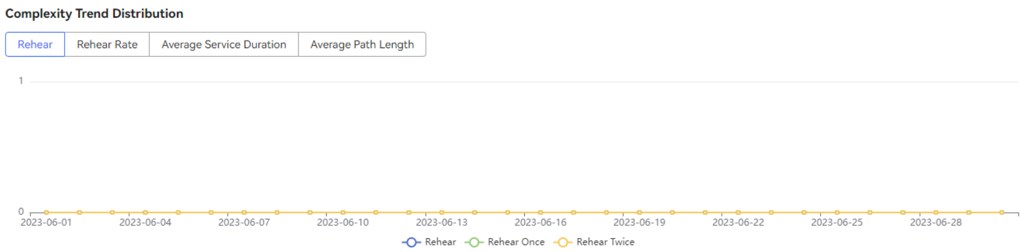
Figure 2-395 Efficiency Trend Distribution



NOTE

- **Direct Rate**: percentage of direct calls to total visits to the business node
- **Non Direct Rate**: percentage of non-direct calls to total visits to the business node
- **Hang Up Rate**: percentage of calls that are hung up to total visits to the business node
- **Success rate**: percentage of calls with successful business handling, consultation, or query to total visits
- **Failure Rate**: percentage of calls with failed business handling, consultation, or query to total visits
- For details, see **2.7.1 KPI Description**.

Figure 2-396 Complexity Trend Distribution



NOTE

- **Rehear**: **Rehear**, **Rehear Once**, and **Rehear Twice**
- **Rehear**: number of nodes on which voices are replayed
- **Rehear Once**: number of nodes on which voices are replayed once
- **Rehear Twice**: number of nodes on which voices are replayed twice
- **Rehear Rate**: percentage of nodes on which voices are replayed to total visits
- **Average Service Duration**: average duration of business handling, query, or consultation on a business node
- **Average Path Length**: Path length refers to the number of business nodes which calls pass through before reaching the target business node. **Average Path Length** indicates the proportion of the total path length to total node visits.
- For details, see **2.7.1 KPI Description**.

Step 13 (Follow-up procedure) Click the **Outflow Detailed Distribution** tab to view the detailed outflow distribution based on an amount chart and a percentage chart.

Figure 2-397 Outflow detailed distribution amount

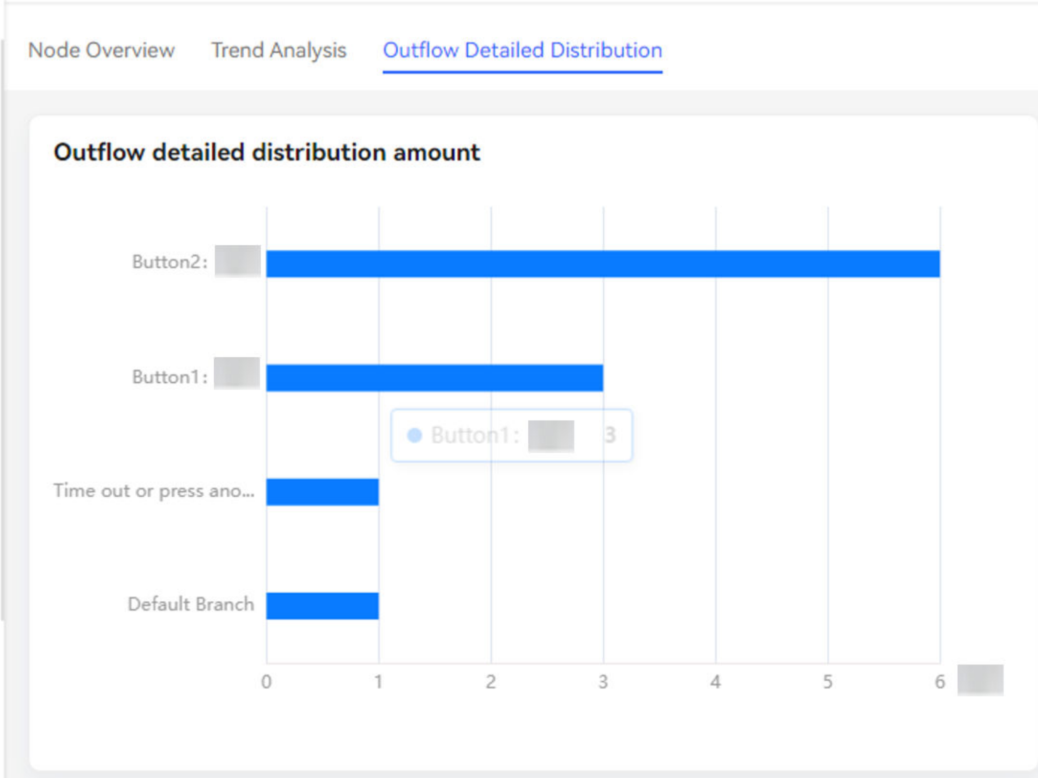
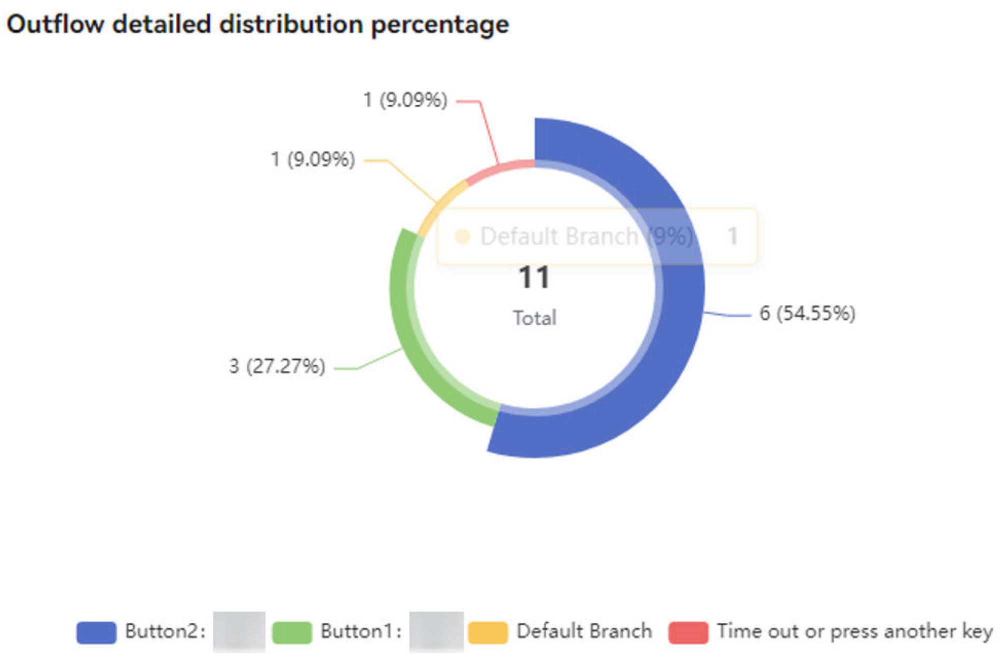


Figure 2-398 Outflow detailed distribution percentage



NOTE

The preceding figures show the outflow distribution of a node, for example, from node A to node B by pressing key 1 or key 2.

----End

2.7.4 KPI Analysis

You can analyze and export information about IVR KPIs including **Calls Volume**, **IVR Repeat Calls**, **IVR One-time Resolution Rate**, and **Effective Service Rate**. You can also view **Node Overview**, **Trend Analysis**, and **Outbound Detailed Distribution** for each KPI through KPI drilling.

Prerequisites

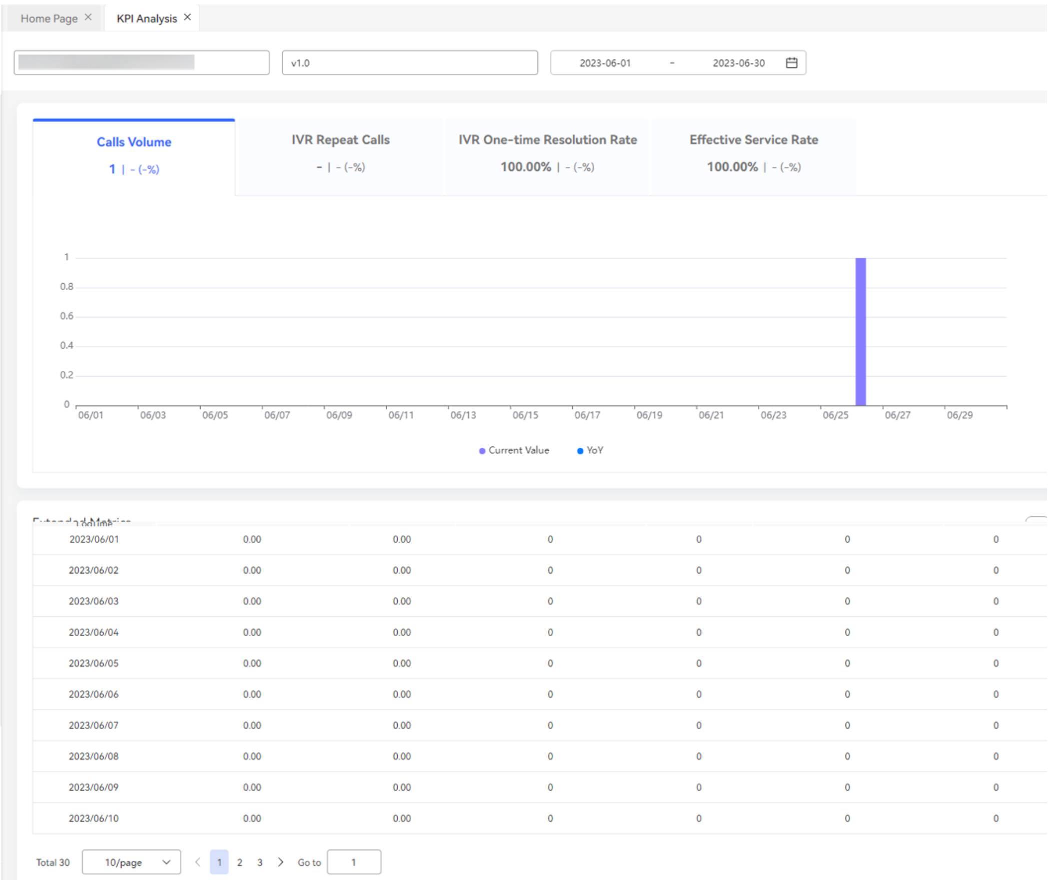
- You have the **IVR Analysis** > **KPI Analysis** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has call records in the query time range.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **KPI Analysis**.

Step 2 Set the access code, version name, and time range and press **Enter**.

Figure 2-399 KPI Analysis

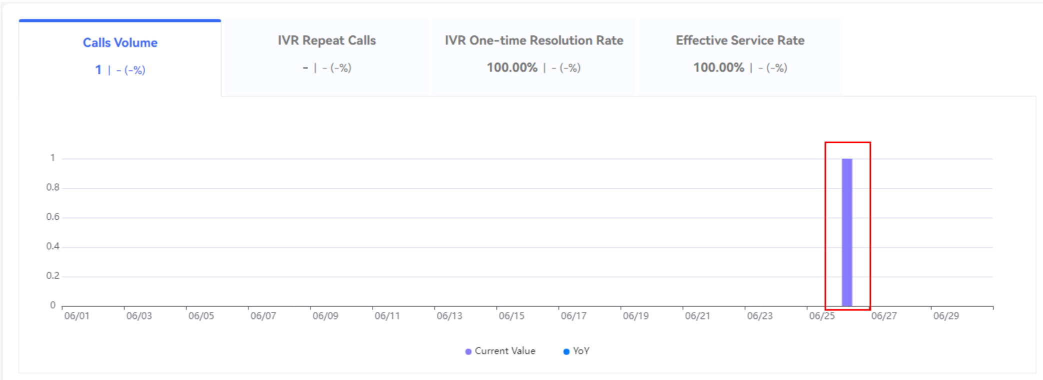


NOTE

MoM indicates the value of the KPI in the previous month. For example, if the current query time range is June 1 to June 5, **MoM** is the value of the KPI of the time range from May 1 to May 5.

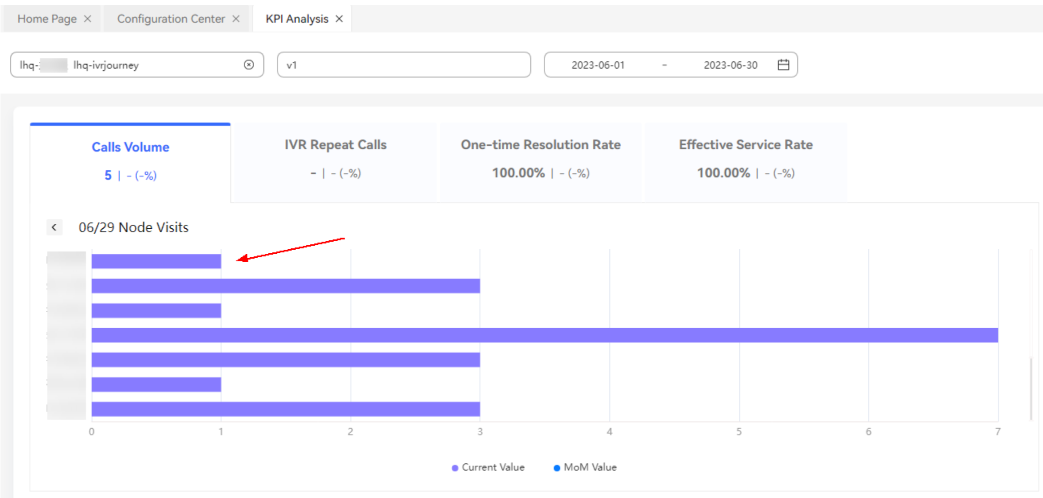
Step 3 Click a bar on the **Calls Volume** tab page to view the number of node visits.

Figure 2-400 Bar chart



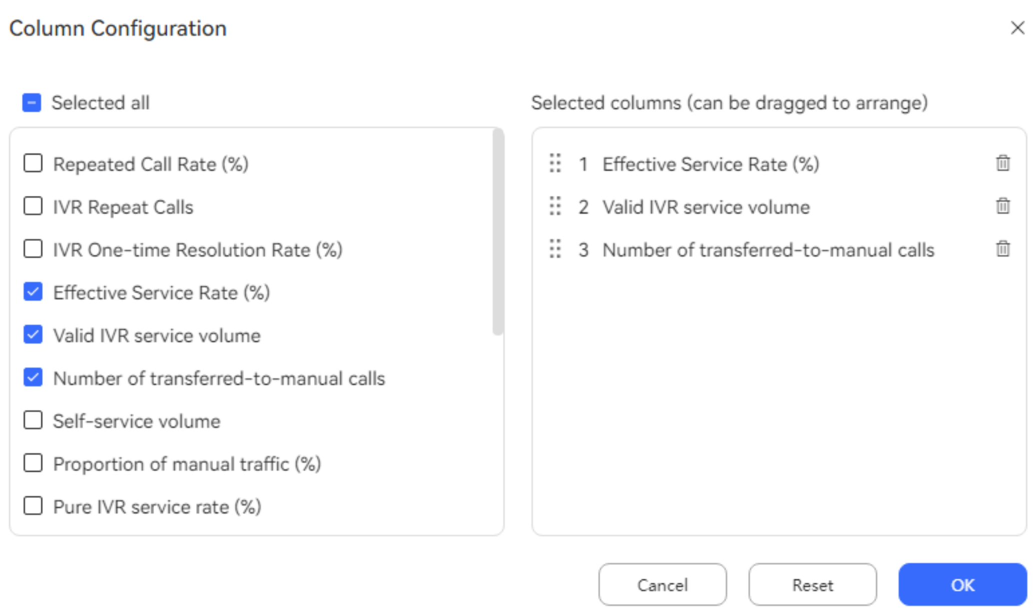
Step 4 Click a bar in the bar chart of node visits to view node details. For details, see **2.7.3 Flow Analysis**.

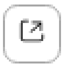
Figure 2-401 Bar chart of node visits



Step 5 In the **Extended Metrics** area, click to select required KPIs.

Figure 2-402 Column Configuration



Step 6 Click  to download information about extended KPIs.

NOTE

For details about the KPIs involved in this section, see **2.7.1 KPI Description**.

----End

2.7.5 Version Comparison

Scenario

A flow has only one release version by default, but can have multiple historical versions. The version comparison function is used to compare the traffic and business KPIs of a version with those of the previous version, analyze the impact of version changes on KPIs, and evaluate the effect of flow adjustment.

Prerequisites

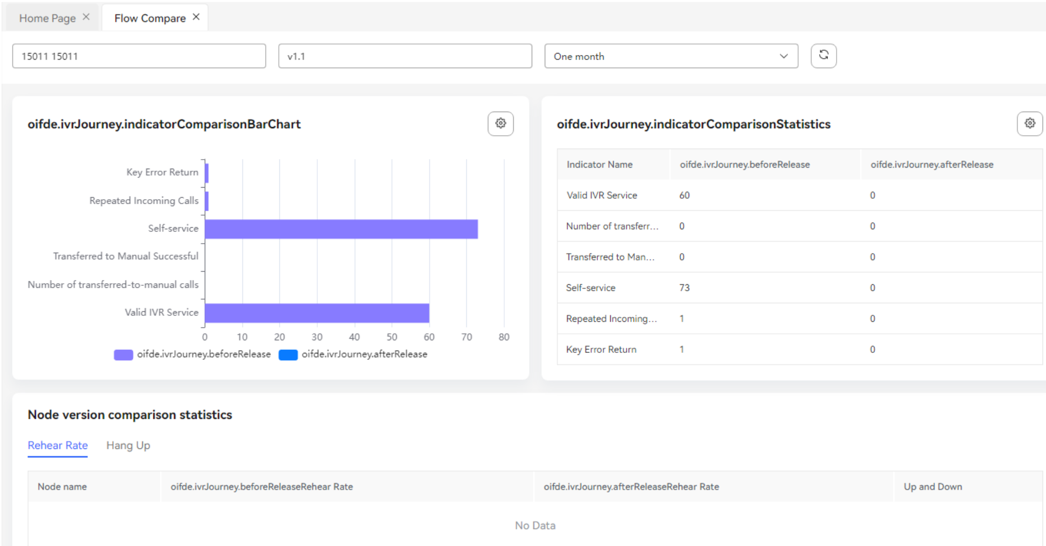
- You have the **IVR Analysis** > **Flow Compare** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has an access code.
- The chatbot flow to be analyzed has call records in the query time range.
- The selected flow version has release time.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Flow Compare**.

Step 2 Set the chatbot, flow version, and query time range and press **Enter** to compare the KPIs before and after the release.

Figure 2-403 Flow Compare



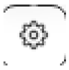
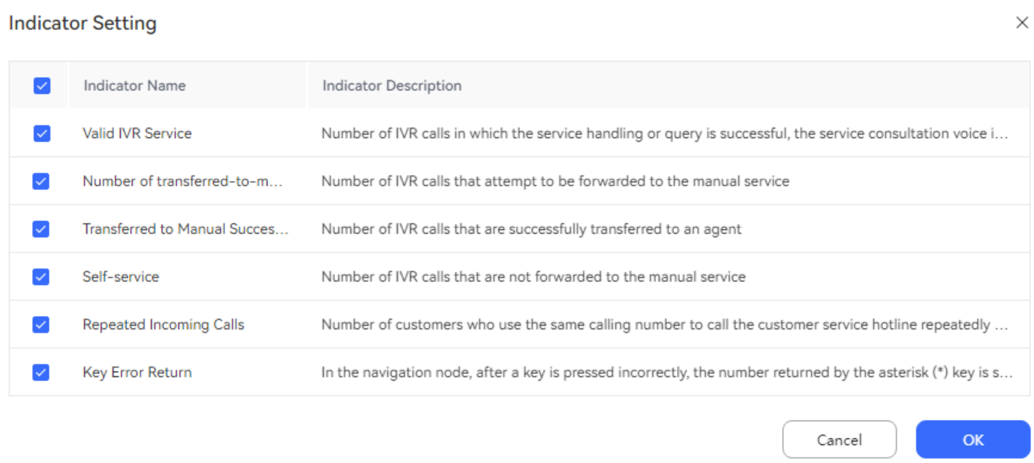
Step 3 Click  in the upper right corner to customize the KPIs to be displayed.

Figure 2-404 Indicator Setting



Step 4 Click a node name link to go to the node overview page. For details, see **2.7.3 Flow Analysis**.

Figure 2-405 Node name

NOTE

For details about the KPIs involved in this section, see **2.7.1 KPI Description**.

----End

2.7.6 Optimization Suggestion

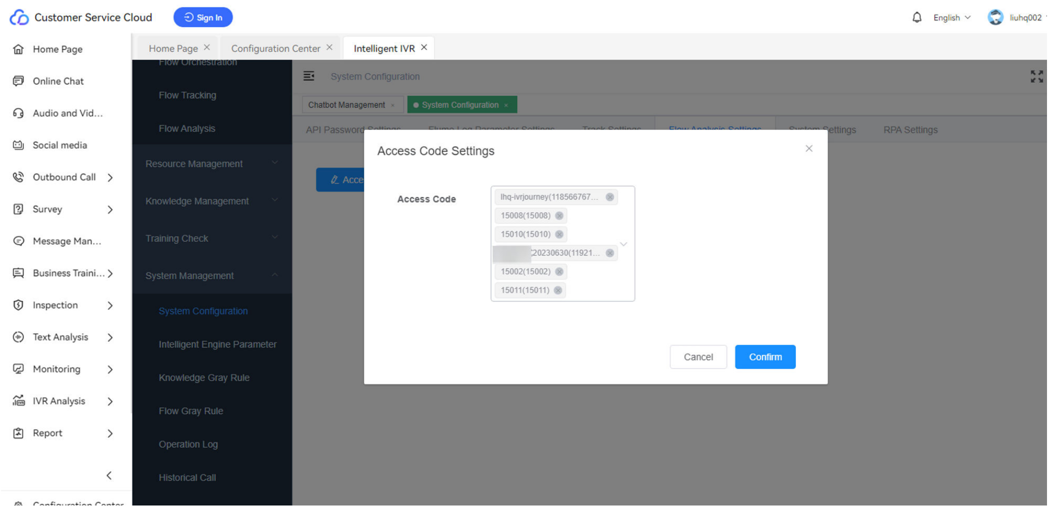
Scenario

Based on the key pressing track and number of key pressing times on the user side, optimization suggestions are provided for the current IVR flow, which can be used as a reference for flow optimization.

Prerequisites

- You have the **IVR Analysis** > **Optimization** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has an access code.
- The chatbot flow to be analyzed has call records in the query time range, and the call records have been collected by a scheduled task. (The scheduled task is executed every hour.)

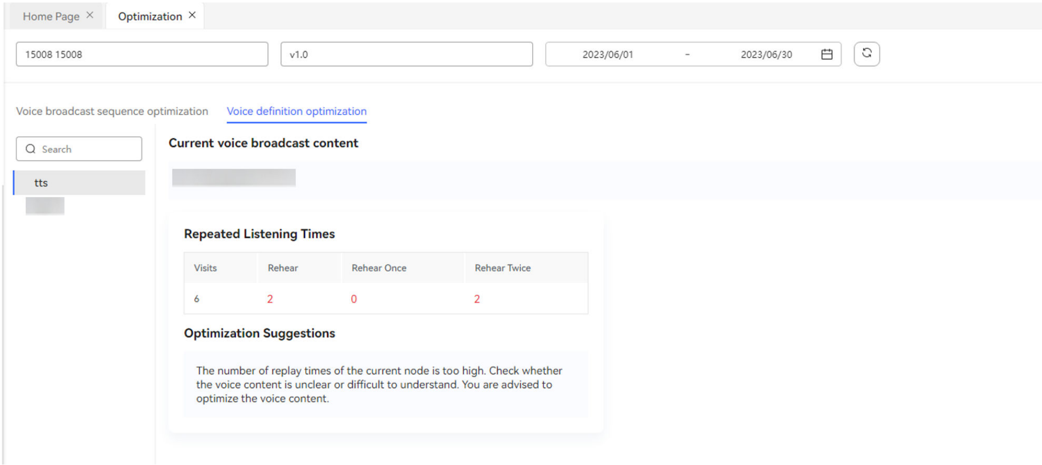
Figure 2-406 Access Code Settings



Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Optimization**.

Figure 2-407 Optimization



Step 2 Set the chatbot, flow version, and query time range and press **Enter**.

Step 3 Enter a node name in the text box on the left to search for the node.

Step 4 Click the **Voice broadcast sequence optimization** tab to view **Current Voice Playback Key Usage Statistics** and **Recommended voice broadcast sequence** on the right.

Step 5 Click the **Voice definition optimization** tab to view **Repeated Listening Times** and **Optimization Suggestions**.

----End

2.7.7 Alarm Event

Scenario

You can use the alarm event function to obtain alarm event logs for quick troubleshooting.

Prerequisites

- You have the **IVR Analysis** > **Alarm Event** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- You have configured a warning condition for your chatbot on the **IVR Analysis** > **Service Pre-warning Configuration** page.
- Your chatbot has warning records that meet the warning condition, and the records have been collected by a scheduled task. (The scheduled task is executed every hour.)

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Alarm Event**.

Step 2 Set the chatbot, flow version, and time range.

Step 3 Press **Enter**.

----End

2.7.8 Warning Condition

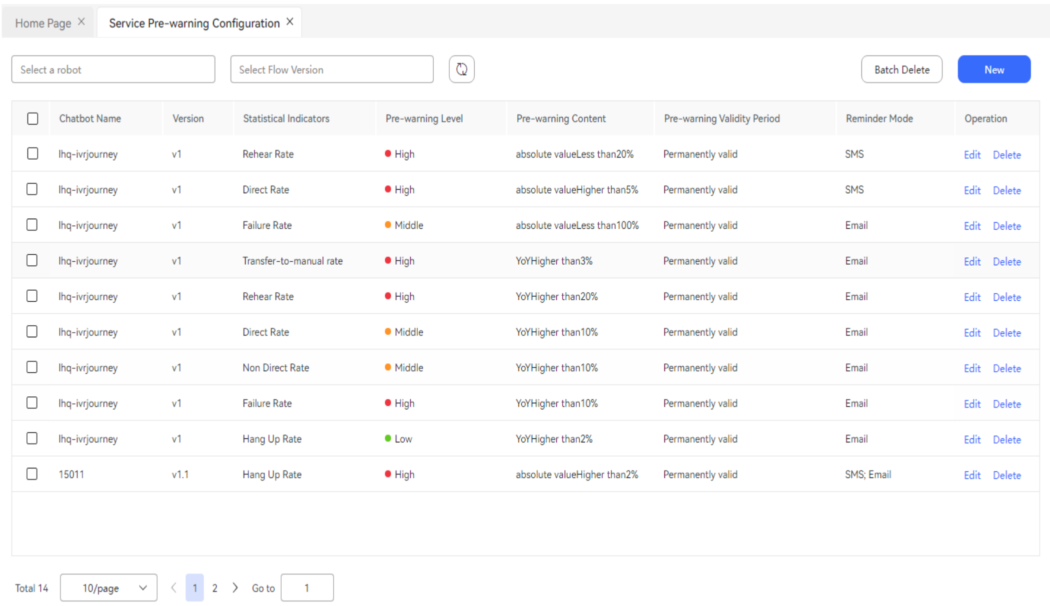
Prerequisites

- You have the **IVR Analysis** > **Service Pre-warning Condition Configuration** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- You have configured an **SMS gateway** or **email gateway**.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Service Pre-warning Condition Configuration**.

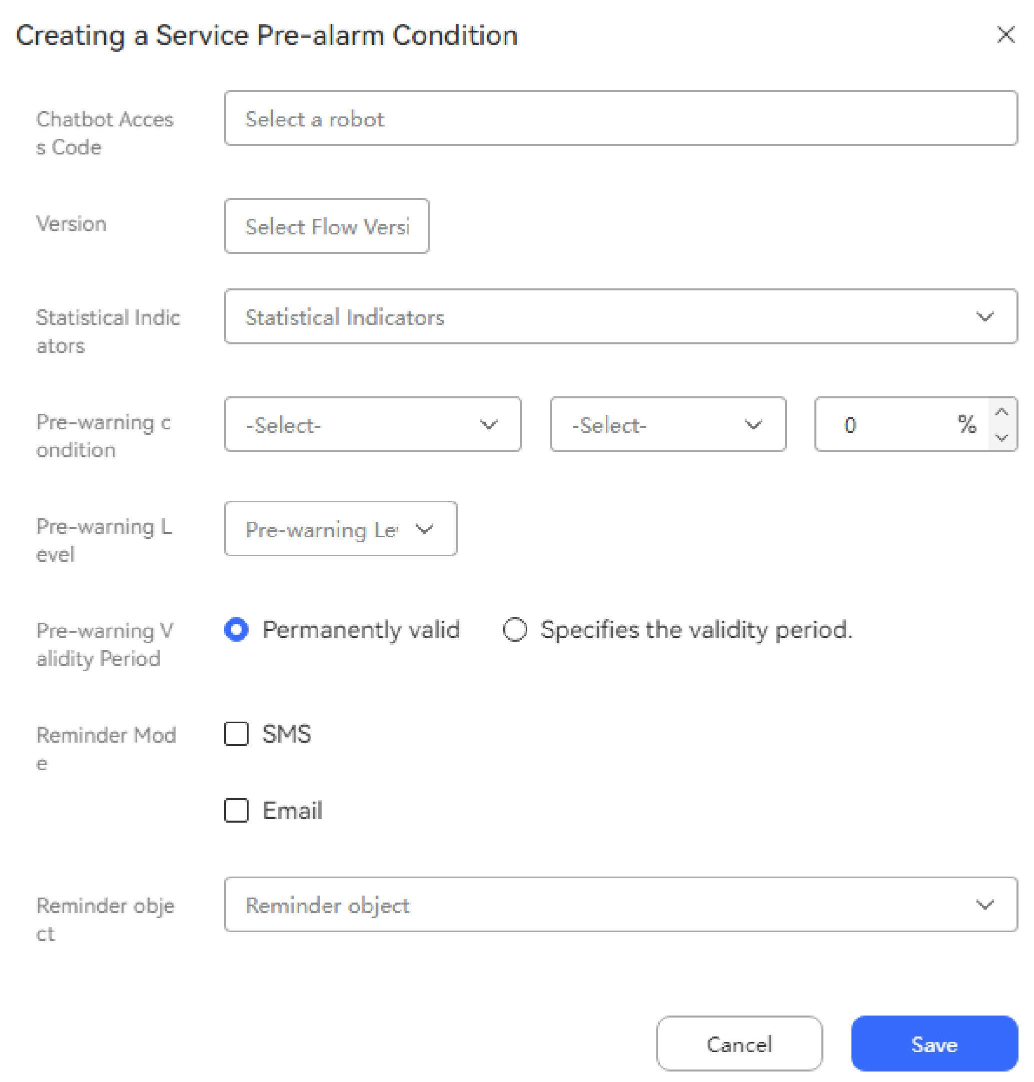
Figure 2-408 Service Pre-warning Configuration



Step 2 Set the chatbot and flow version. The options for the chatbot selection box are IVR flows and intelligent IVR flows. Select a version of the flow corresponding to the selected chatbot.

Step 3 Click **New**. The **Creating a Service Pre-alarm Condition** dialog box is displayed.

Figure 2-409 Creating a Service Pre-alarm Condition



- **Chatbot Access Code**: The options are common IVR flows and intelligent IVR flows in the tenant space.
- **Version**: IVR flow version.
- **Statistical Indicators**: The options are **Direct Rate**, **Non Direct Rate**, **Hang Up Rate**, **Failure Rate**, **Rehear Rate**, and **Transfer-to-manual rate**. For details about the KPIs, see **2.7.1 KPI Description**.
- **Pre-warning condition**: The options are **absolute value** and **MoM Value**. **absolute value** indicates the distance of a value from zero. **MoM Value** indicates the change in the current month's value compared with the value in the previous month.
- **Warning level**: The options are **Low**, **Middle**, and **High**.
- **Pre-warning Validity Period**: The options are **Permanently valid** and **Specifies the validity period.**
- **Reminder Mode**: The options are **SMS** and **Email**.
- **Reminder object**: You can select multiple employees in the tenant space to send notifications.

Step 4 Click **Save** to save the warning condition.

Step 5 If your chatbot has warning records that meet the warning condition, and the records have been collected by a scheduled task, **alarm events** are generated. (The scheduled task is executed every hour.)

Step 6 Click **Edit** to edit the warning condition again.

----End

2.8 Monitoring Outbound Call Risks

When the number of outbound calls of a tenant exceeds the warning threshold in the configured policy, a risk control record is generated. The system administrator notifies the tenant administrator of the risk control record. The tenant administrator can view the execution status of the risk control policy.

NOTE

For details about how to configure the warning threshold in the outbound call risk monitoring policy, see "System Administrator Guide > Outbound Call Risk Monitoring Guide" in *AICC Operation Configuration Guide*.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Operation Risk Control**.

Step 2 Select a risk control record assigned by the system administrator and click **View** to view the details.

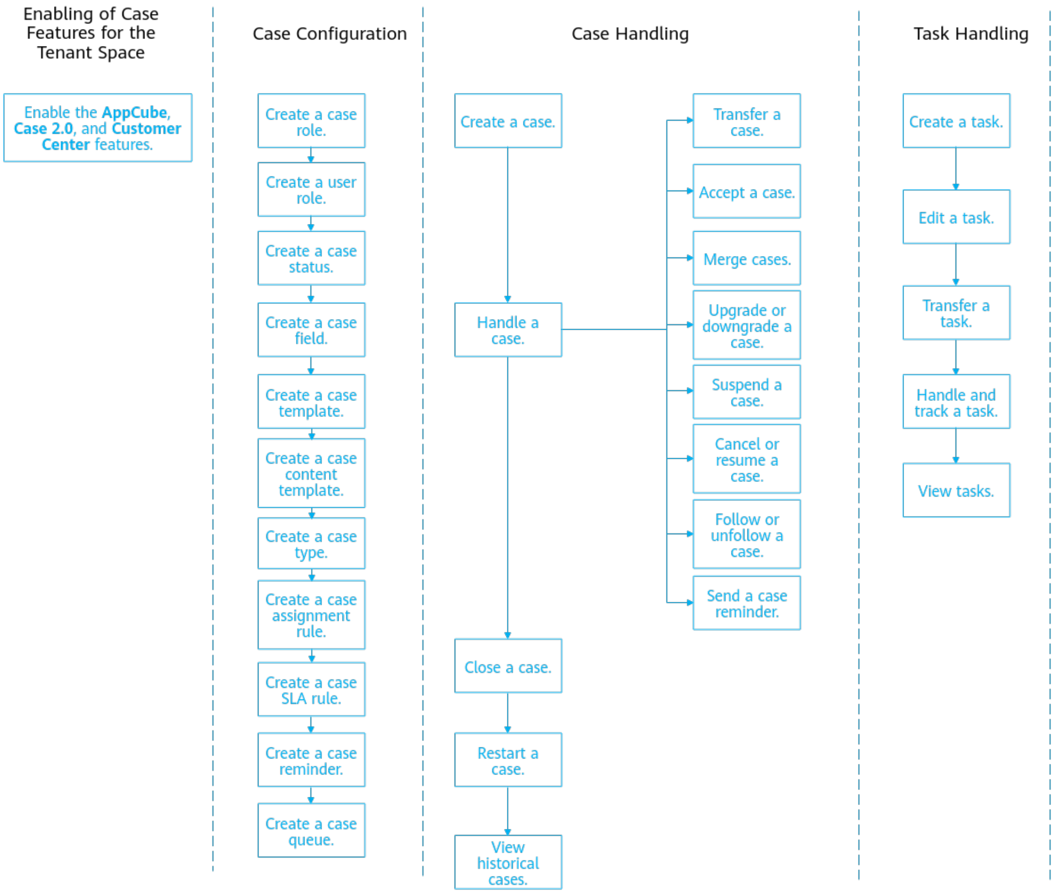
----End

2.9 Managing Cases

2.9.1 About This Document

This document is applicable only to the public cloud environment. Sign in to the AICC to use this document.

Figure 2-410 Case function overview



2.9.2 Getting Started

Cases are an efficient communication and collaboration tool that helps enterprises resolve problems that require cross-department and cross-region collaboration to provide customers with high-quality services.

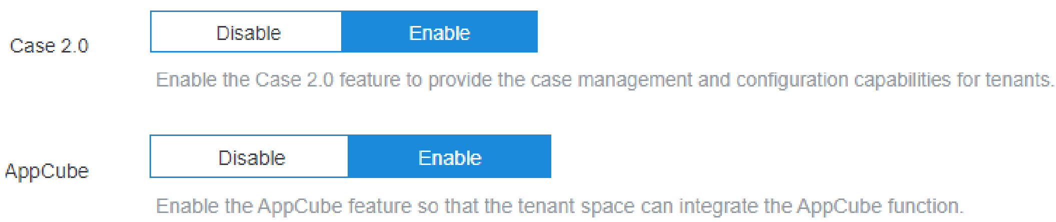
Enterprises can view the real-time case handling status in the case overview.

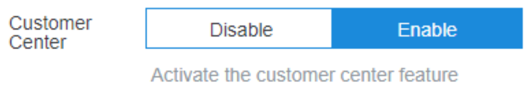
Through case configuration, enterprises can implement case solutions based on business requirements.

2.9.2.1 Adding an Account

Prerequisites

- You have signed in to the AICC as the system administrator, chosen **Call Center Management** > **TenantSpace Management**, and enabled the **Case 2.0**, **AppCube**, and **Customer Center** features.





Procedure

Step 1 Sign in to the AICC as the system administrator.

Your enterprise will obtain an administrator account from Huawei after successfully applying for a tenant in the AICC. Use this account to sign in.

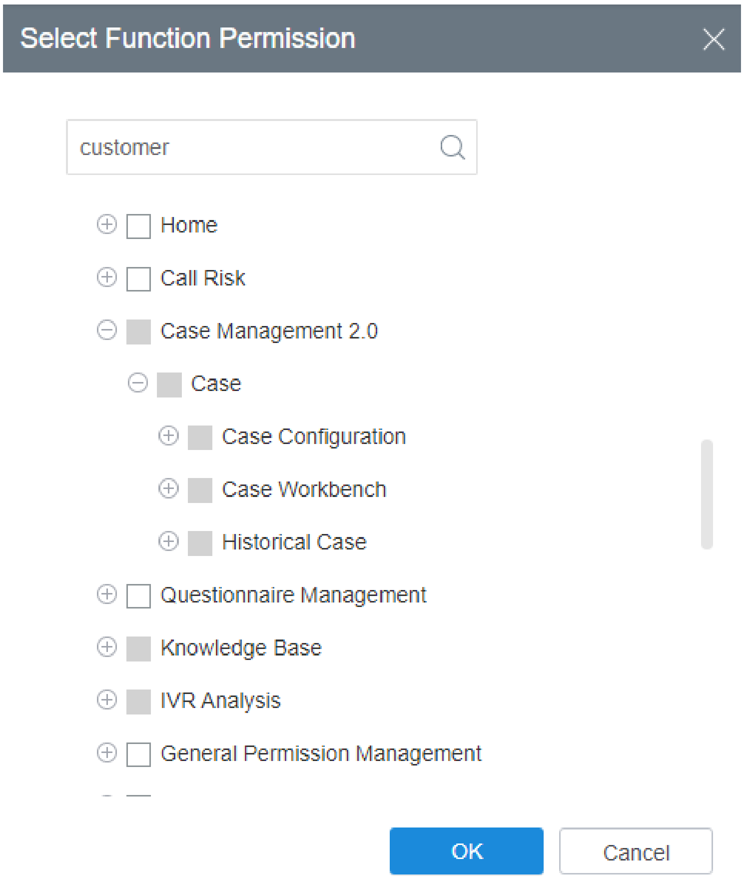
NOTICE

To ensure data security, change the initial password of the account upon the first sign-in.

Step 2 Add a role.

1. Choose **Configuration Center** > **Employee Center** > **Role**.
2. In the navigation pane, select your tenant space and click .
3. Enter a role name and click **Next**.
4. Click **Add** and select related permissions under **Case Management 2.0** and **Customer Center**. You can also add other permissions as required, for example, the **Reset User Password** permission under **User Management**.

Figure 2-411 Adding permissions



5. Click **OK**. In the dialog box that is displayed, click **OK**.
6. Click **NEXT**.
7. Click **Finish**.

Step 3 Add a case handler account.

1. Choose **Configuration Center** > **Employee Center** > **Employee**.
2. In the navigation pane, select the upper-level OU of **Default OU** and click **New**.
3. Set **Account**, **Employee**, **Email**, **Phone Number**, **New password**, **Confirm Password**, and **Organization Unit**.
4. Click **Confirm** to save the new account.

Step 4 Choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **User Role**.

Step 5 Click **Create** on the right, associate the role with the user, and click **Save**.

----End

2.9.2.2 Handling Your First Case

After you quickly complete case configuration and create your first case on the online customer service side, you can handle the case.

Step 1 Sign in to the AICC as a case handler.

You need to change the password upon the first sign-in. Set a new password as prompted and sign in again.

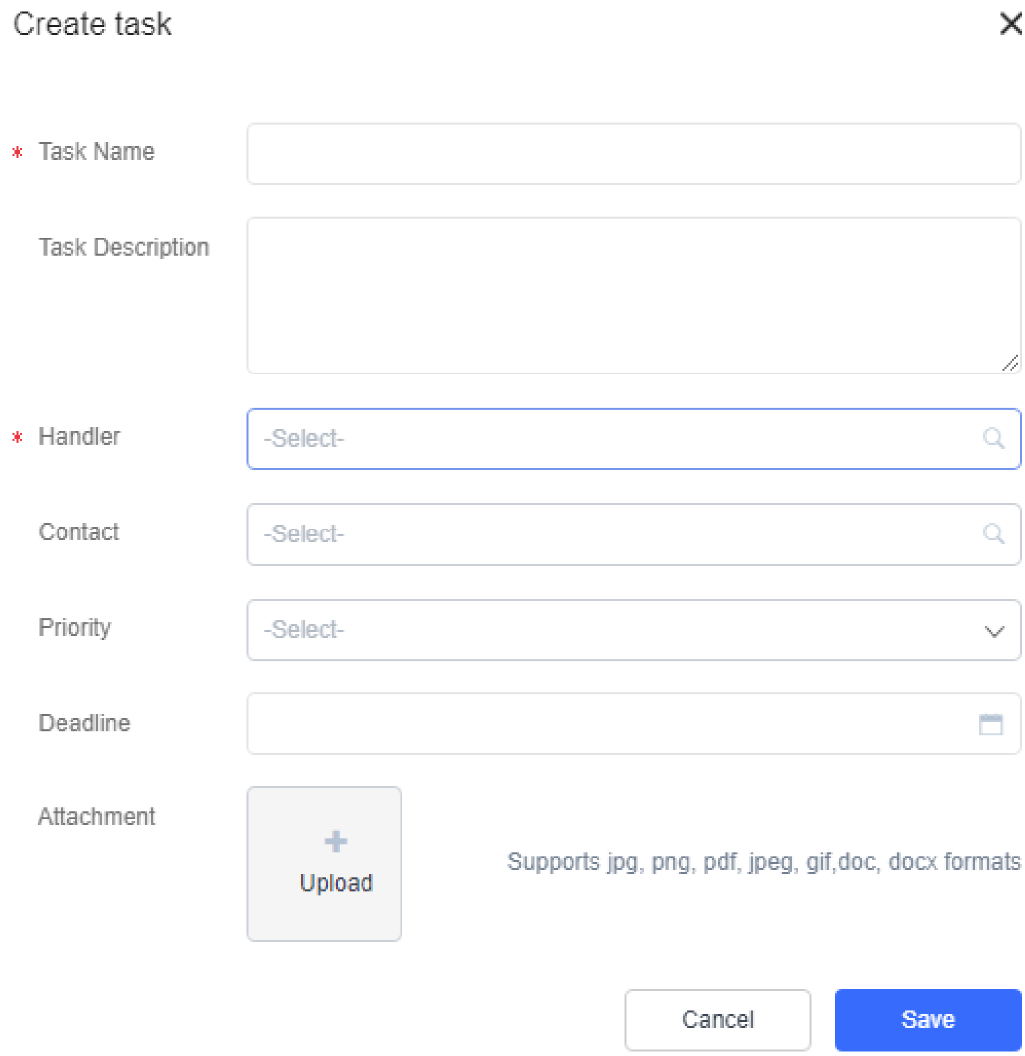
Step 2 Choose **Case 2.0** > **Case Workbench**.

Step 3 Click the **Todo** tab and click a case. The case details page is displayed.

Step 4 You can perform the following operations on a claimed case:

- : Follow an important or urgent case.
- : Send an email or SMS notification to urge the case owner to handle a case that is about to expire. The prerequisite is that case reminder notification has been configured. For details, see **Configuring Case Reminder Notification**.
- : Upgrade the case level. After the upgrade, an upgrade flag is added to the case title.
- : Suspend a case that does not need to be handled temporarily.
- : Transfer the case to change the case owner.
- : Cancel the case.
- : Close the case.
- : Restart the case.
- **Comment**: Add comments when you handle the case.
- **Add Attachment**: Add supplementary information for the case, for example, fault screenshots provided by the customer. The total size of attachments cannot exceed 5 MB, and the number of attachments cannot exceed 5. JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX attachments are supported.
- **Create** on the **Case Task** tab page: Create a task and trace the handling when the case needs to be handled based on department collaboration.

Figure 2-412 Create task page

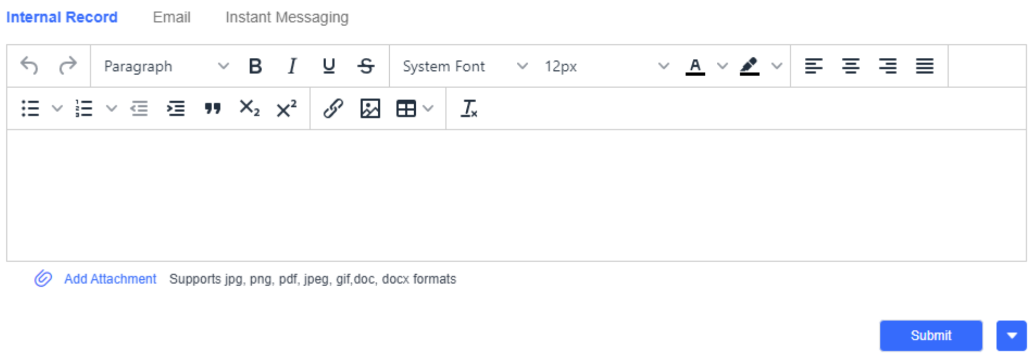


NOTE

Multiple tasks can be created for a case.

- **Associated Case** tab page: View associated cases after merging cases. For details about how to merge cases, see **2.9.4.4 Merging Cases**.
- **Internal Record** tab page: Only the case owner and tenant administrator have the permission to perform operations on this tab page. An internal record can contain a maximum of 20,000 characters. If an image needs to be added, click **Add Attachment** to upload it.

Figure 2-413 Internal Record tab page



----End

2.9.3 Administrator Guide

2.9.3.1 Case Configuration

Prerequisites

- You have the **Case Configuration** permission. For details about how to assign permissions, see **2.9.3.1.9 Case Role** and **2.9.3.1.11 User Role**.
- The case 2.0 feature has been enabled for the tenant space.

2.9.3.1.1 Case Status

You can customize case statuses on the **Case Status** page during case handling.

Prerequisites

- You have the **Case Configuration** permission.
- The case 2.0 feature has been enabled for the tenant space.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Status**.

Step 2 Click **Create** and enter a status name.

Step 3 Click **Confirm**.

Step 4 (Follow-up operation) Choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** and select the created case status for a case type.

----End

2.9.3.1.2 Customized Case Field

An enterprise can flexibly set fields based on the business scenario.

Prerequisites

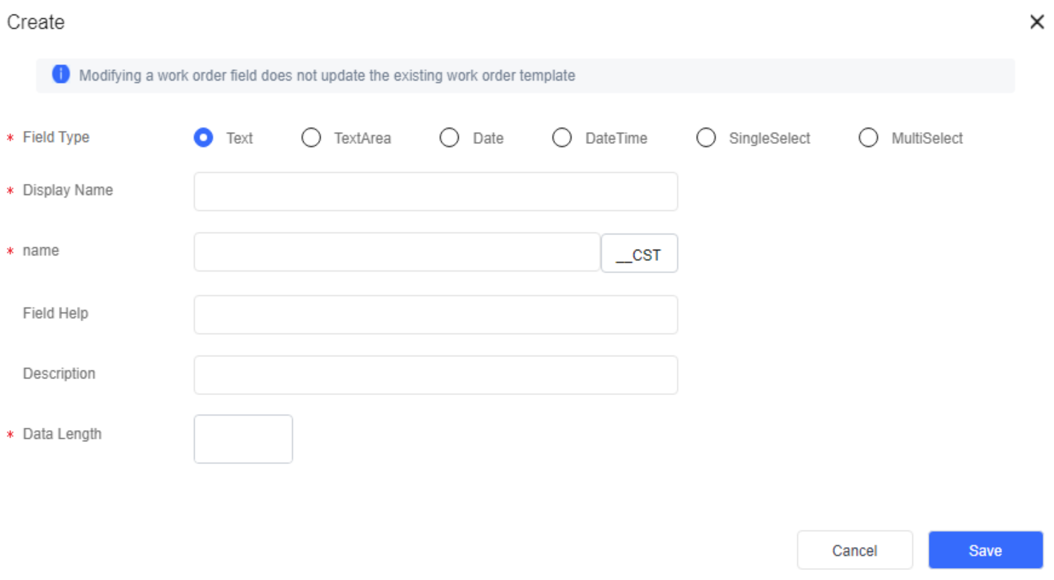
- The Case 2.0 feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Field**.

Step 2 Click **Create**. In the **Create** dialog box, set field parameters as required.

Figure 2-414 Create

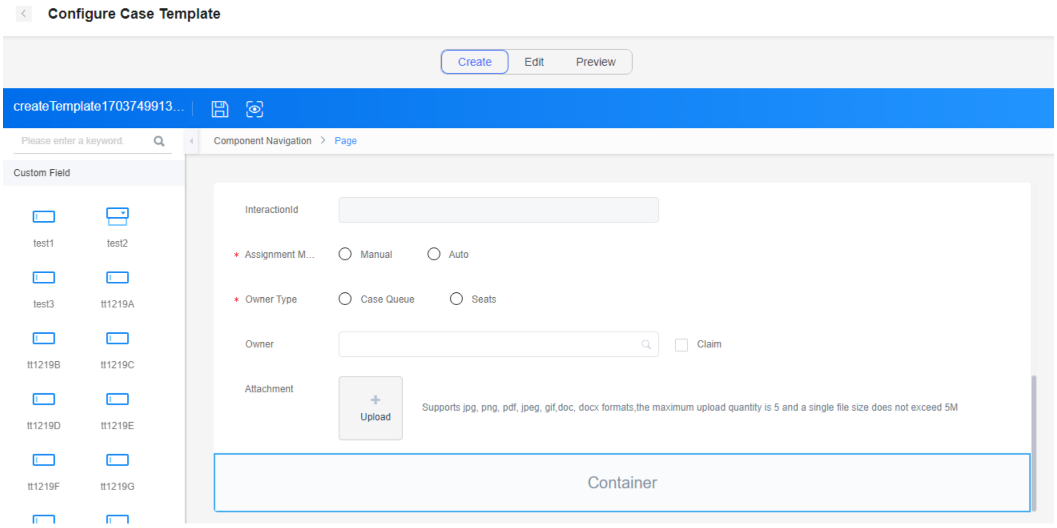


Step 3 Click 

.

Step 4 (Follow-up operation) Choose **Case Configuration** > **Case Template** and click **Config** corresponding to a template. The new field is displayed under **Custom Field**. Drag the field to the **Container** area so that it is referenced by the template.

Figure 2-415 Configure Case Template



----End

2.9.3.1.3 Case Template

A case template contains the information to be collected from cases and the display format of the information, including the format of the page displayed during case creation, modification, or query. You can define the fields to be displayed in the case template and the layout of the fields.

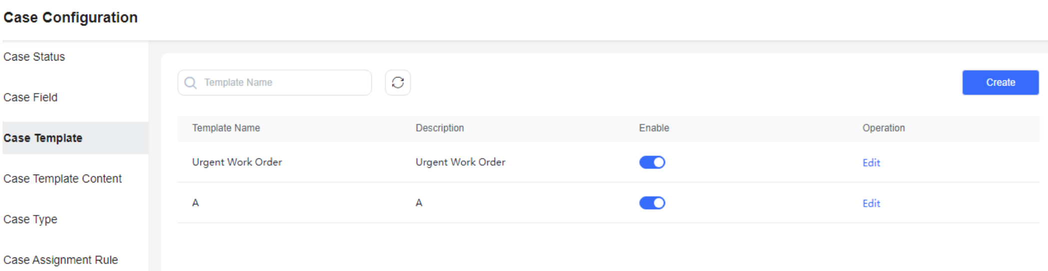
Prerequisites

- The case 2.0 feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.

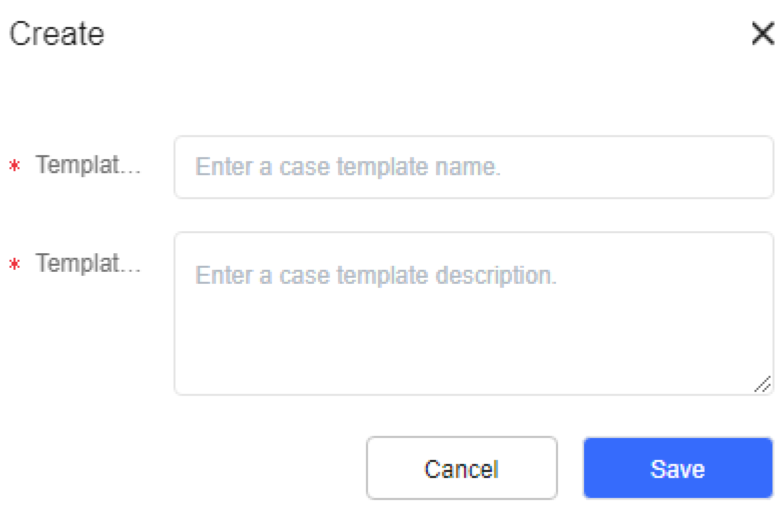
Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Template**.

Figure 2-416 Case Template

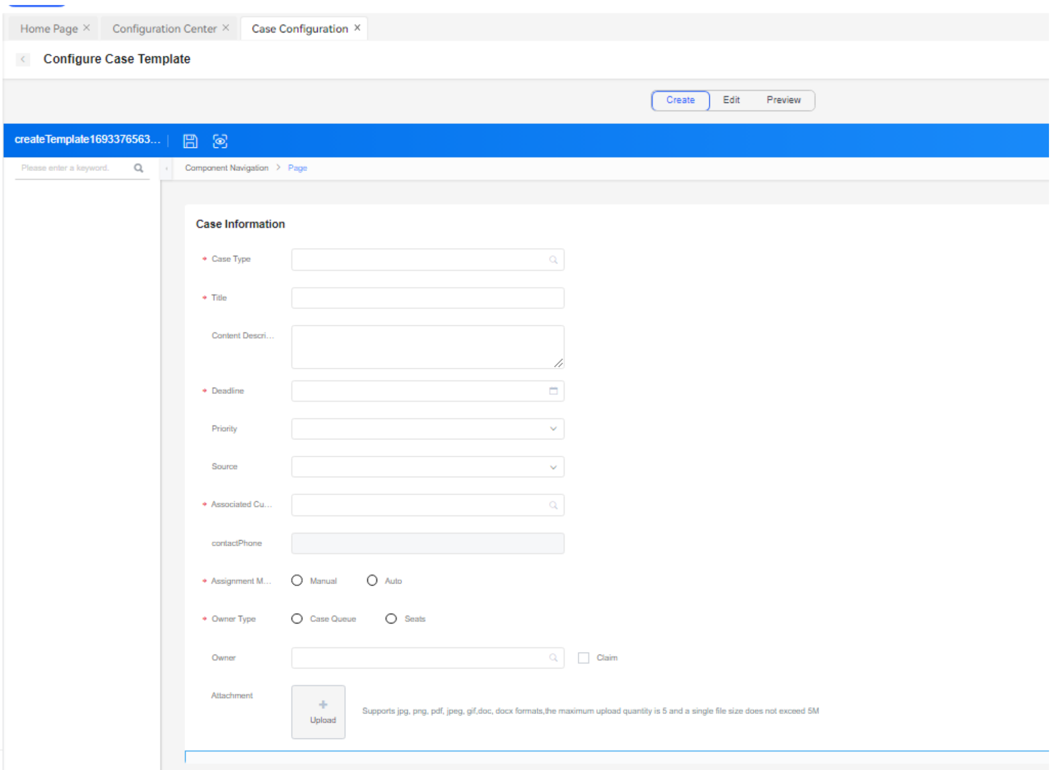


Step 2 Click **Create**. On the **Create** page, enter a template name and template description, and click **Save**.



Step 3 Click **Config** corresponding to the new template to access the view page and add content. If a customized field is set as a mandatory field, you must add the customized field to the create view.

Figure 2-417 View page



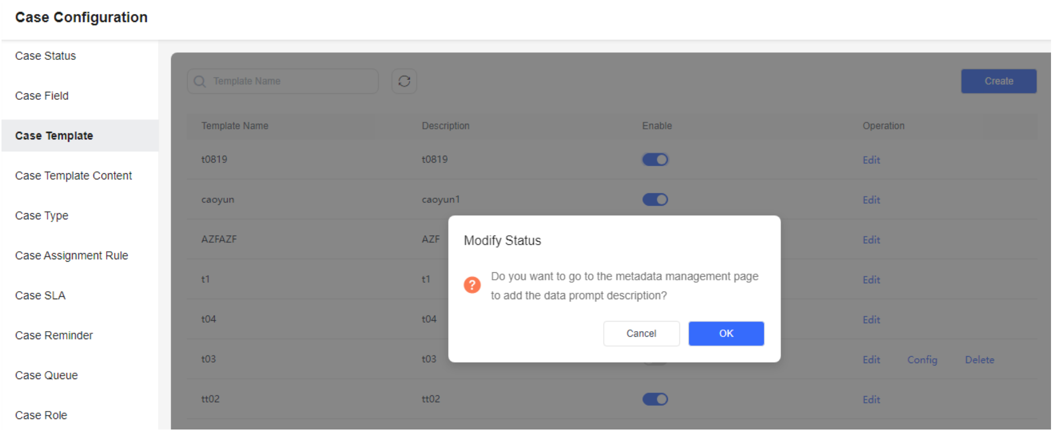
Step 4 Click  to save the content and click  to preview the content.

NOTE

Save the content after adding a field to the create view to prevent the content from being lost. For example, after adding field A to the edit view, if you do not save the content before previewing it, field A will be lost.

Step 5 (Follow-up operation) Enable a case template so that you can reference it when configuring a case content template and synchronize it to the **Metadata Management** page.

Figure 2-418 Synchronizing a case template to the Metadata Management page



----End

2.9.3.1.4 Case Content Template

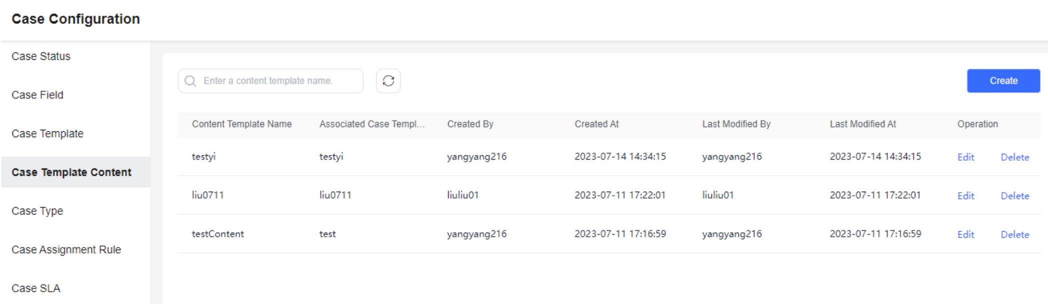
Prerequisites

- The Case 2.0 feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.
- An enabled case template is available.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Template Content**.

Figure 2-419 Case Template Content page



Step 2 Click **Create**. In the **Case Content Template Information** area, set **Content Template Name** and **Associated Case Template**, and click **Save**.

Figure 2-420 Case Content Template Information area

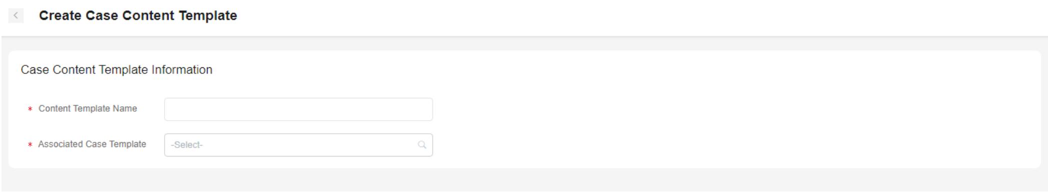


Table 2-144 Parameters in the Case Content Template Information area

Parameter	Description
Content Template Name	Mandatory.
Associated Case Template	Select a value from the drop-down list. The options are case templates on the **Case Configuration** > **Case Template** page. For details about how to create a case template, see **2.9.3.1.3 Case Template**.

Step 3 Click **Edit**. On the editing page, enter case template information.

Figure 2-421 Edit button

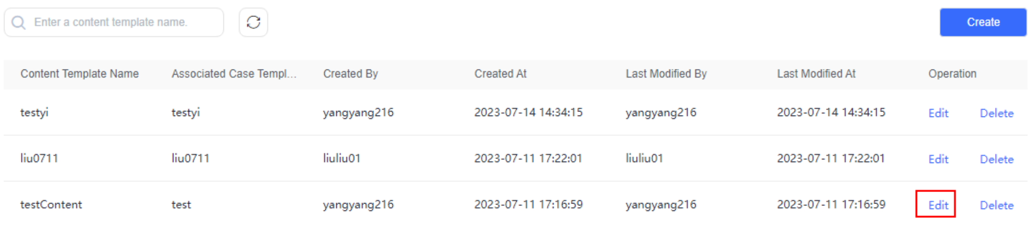


Figure 2-422 Case Template Info area

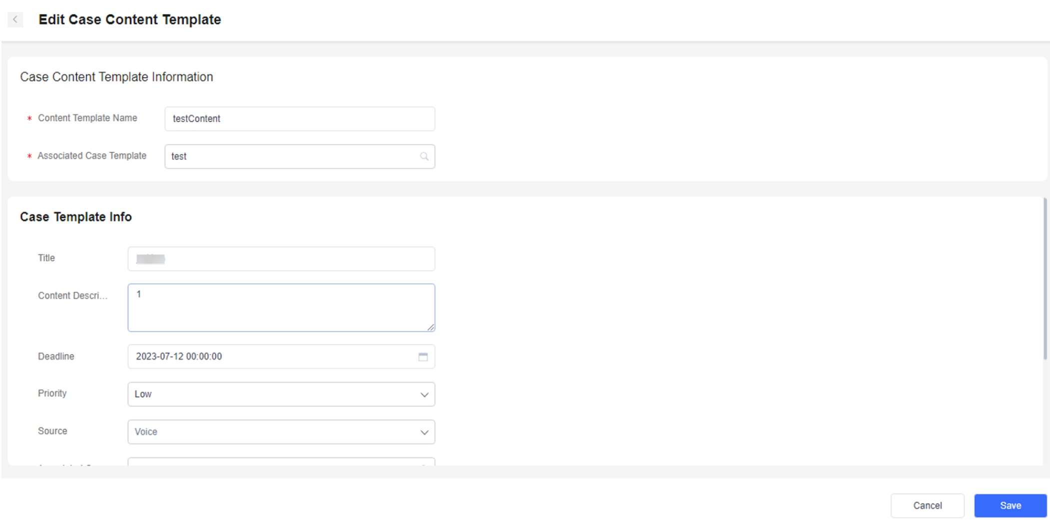


Table 2-145 Parameters in the Case Template Info area

Parameter	Description
Title	Case title. The value can contain a maximum of 128 characters.
Content Description	Case content description.
Priority	• **Low** • **Medium** • **High** • **Critical**
Source	• **Voice** • **Whatsapp** • **webchat** • **Email**
Deadline	Case deadline.
Associated Customer	• The options are customers in the customer center. You can sign in to the AICC as a tenant administrator and choose **Customer Center** > **Customer Center Management** to view customers. For details, see **2.12 Managing the Customer Center**. • You can directly create a customer. For details, see **2.9.4.2 Creating a Customer**.
Assignment Mode	• If this parameter is set to **Manual**, you can assign the case to a skill queue or an agent. • If this parameter is set to **Auto**, the case will be assigned based on the case assignment rule on the **Case Configuration** > **Case Assignment Rule** page. For details, see **2.9.3.1.6 Case Assignment Rule**.
Owner	The options are all employees in the tenant space. If you select **Claim**, the owner is the case creator by default.

----End

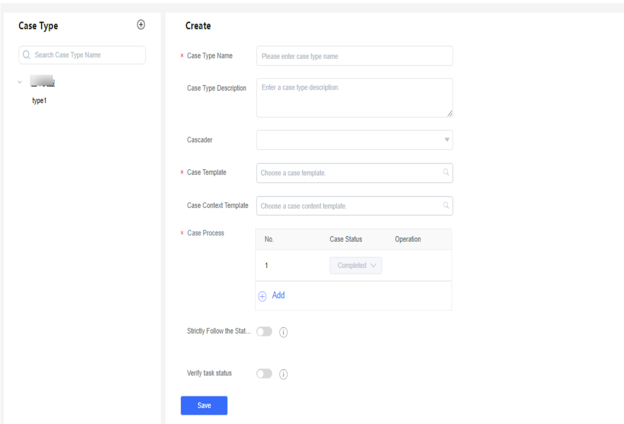
2.9.3.1.5 Case Type

To differentiate businesses, you can classify cases into different types, such as complaint or consultation cases. Different types of cases can be associated with different statuses to meet business requirements.

Procedure

Step 1 Sign in to the AICC, choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type**, and click .

Figure 2-423 Create



Step 2 On the **Create** page, enter case type information and click **Save**.

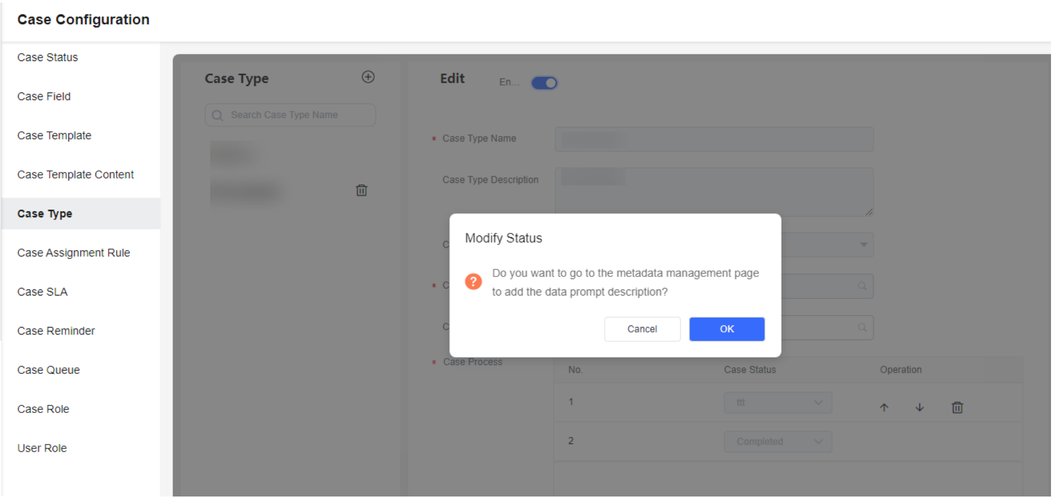
Table 2-146 Case type parameters

Parameter	Description
Case Type Name	Enter a case type name, for example, **Complaint**.
Case Type Description	Enter a case type description, for example, **Complaint content**, **Complaint target**, or **Complaint source**.
Cascader	Select an upper-level case type.
Case Template	Select a value from the drop-down list.
Case Context Template	Associate a case content template.
Case Process	Add case statuses.
Strictly Follow the Status Sequence	Enable or disable this function. If this function is enabled, the case can only be handled step by step. If disabled, the case status can be transitioned to any status as required.

Parameter	Description
Verify task status	Enable or disable this function. If this function is enabled, the status of the associated tasks is verified when the case is closed. If disabled, the status of the associated tasks is not verified.

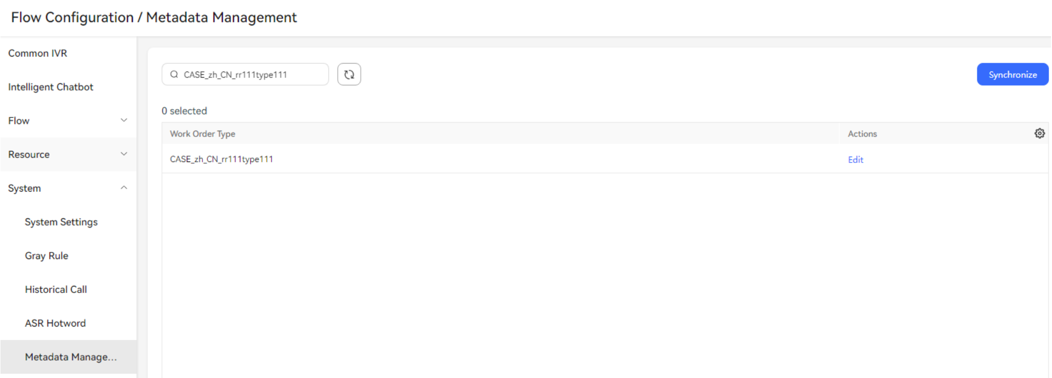
Step 3 After the case type is created, you can switch its status to to enable it. You can select only an enabled case type when creating a case on the **Case 2.0** > **Case Workbench** page.

Figure 2-424 Enabling a case type



Step 4 After a case type is enabled, synchronize it to the **Metadata Management** page.

Figure 2-425 Metadata Management



Step 5 If the case type has not been referenced, you can switch its status to to disable the case type. After the case type is disabled, you can edit or delete the case type.

----End

2.9.3.1.6 Case Assignment Rule

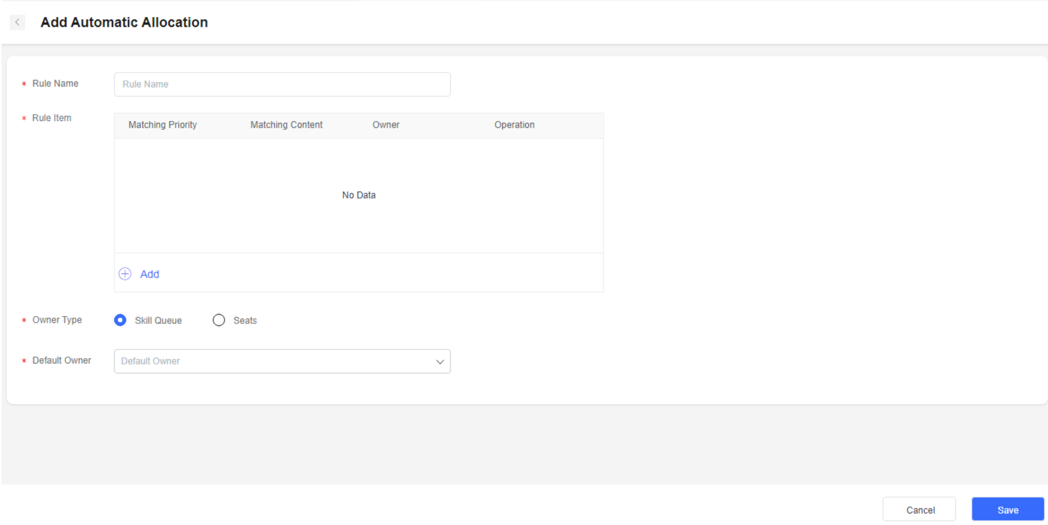
When creating a case, you can choose to automatically assign the case to an owner. The automatic assignment will be performed based on the automatic assignment rule set on the platform. Only one automatic assignment rule can take effect under a tenant.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Assignment Rule**.

Step 2 Click **Create**. The page for creating a case assignment rule is displayed.

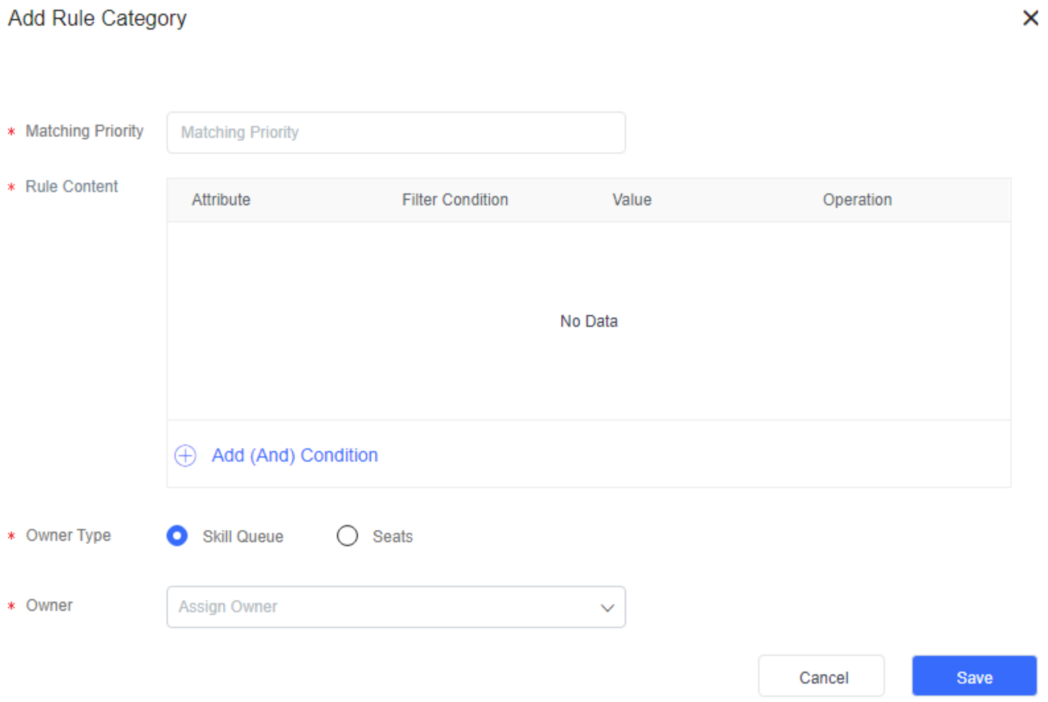
Figure 2-426 Add Automatic Allocation page



Step 3 Enter a rule name.

Step 4 Add rule items. For example, if you want to assign cases whose titles contain **Fault** to a customer service team, you can add a rule item as follows: In the **Rule Content** area, select the **Case title** attribute, set **Filter Condition** to **Include**, and set **Value** to **Fault**. Set **Owner Type** to **Skill Queue**, select the customer service team from the **Owner** drop-down list, and click **Save**.

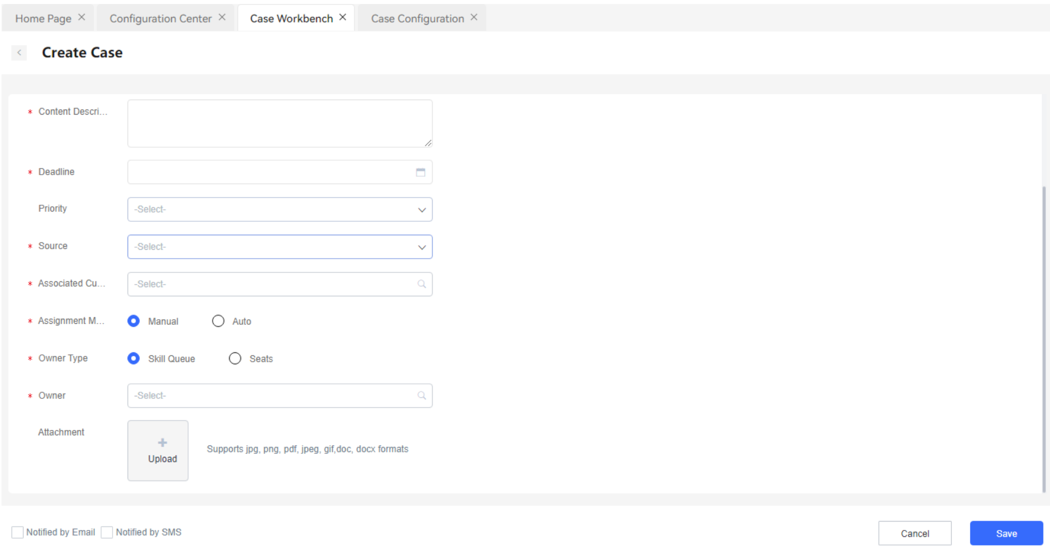
Figure 2-427 Add Rule Category page



Step 5 To assign cases to an agent, set **Owner Type** to **Seats** and select the agent from the **Owner** drop-down list.

Step 6 (Follow-up operation) When creating a case, set **Assignment Mode** to **Auto** to start the case assignment rule.

Figure 2-428 Create Case page



NOTE

- Only one case assignment rule can be activated at the same time.
- A maximum of 10 rule items can be added to a rule.
- The rule items are matched from top to bottom. If a rule item is met, the case is automatically assigned to the owner set in the rule item. If no rule item is met, the case is assigned to the default owner.

----End

2.9.3.1.7 Case SLA Rule

After a case is created, a warning notification and a timeout notification will be sent after the case reaches the corresponding deadlines configured in the case SLA rule.

Prerequisites

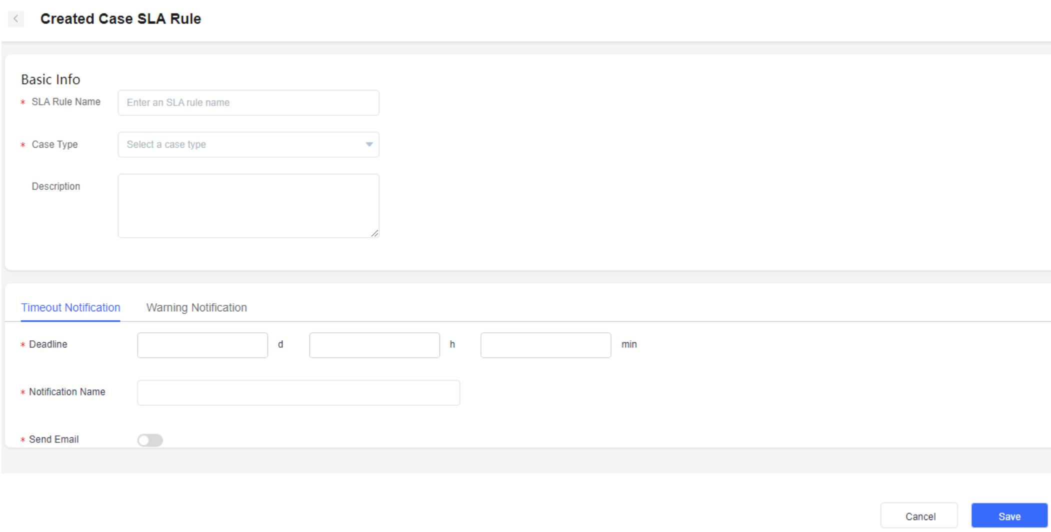
- The Case 2.0 feature has been enabled for the tenant space.
- You have the **Case Management 2.0** > **Case** > **Case Configuration** permission.
- To ensure that SMS messages and emails can be sent, you have configured an SMS gateway and an email gateway in advance. For details, see **Configuring Gateways**.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case SLA**.

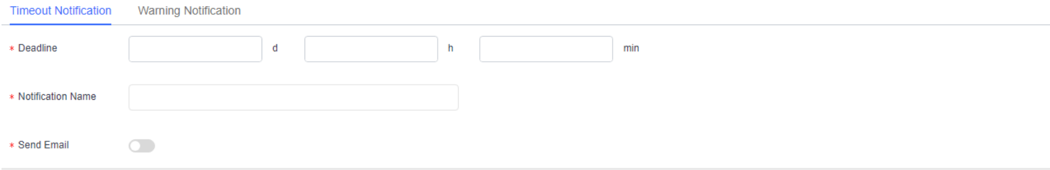
Step 2 Click **Create** on the right and enter rule information in the **Basic Info** area.

Figure 2-429 Created Case SLA Rule



Step 3 Click the **Timeout Notification** tab. You can choose to configure timeout notification or warning notification.

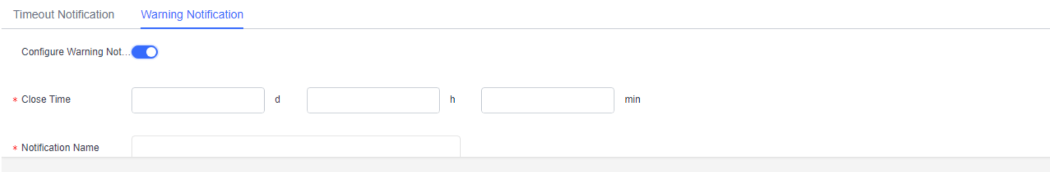
Figure 2-430 Timeout Notification



1. Set the deadline and enter a notification name.
2. Choose to send a timeout notification via email or SMS message.
3. If the case title, deadline, case details link, or other fields do not have fixed values during email filling, insert variables to automatically fill in the email subject and body, reducing the number of case SLA rule setting times. For details about how to create variables, see **2.9.3.1.2 Customized Case Field**.
4. Click **Save**.

Step 4 Click the **Warning Notification** tab.

Figure 2-431 Warning Notification



Step 5 Enable **Configure Warning Notification**.

1. Set the deadline and enter a notification name.
2. Choose to send a warning notification via email or SMS message.
3. If the case title, deadline, or other fields are not the same during case filling, insert variables to automatically fill in the email subject and content, reducing the number of case SLA rule setting times. For details about how to create variables, see **2.9.3.1.2 Customized Case Field**.
4. Click **Save**.

NOTE

- Only one SLA rule can be activated for cases of the same type.
- The warning notification time must be earlier than the timeout notification time.

Step 6 (Follow-up operation) Enable the rule in the case SLA rule list. After a case for which the case type is set to a case type bound with the rule is created, the corresponding SLA instance data is generated in the SLA instance table.

Step 7 (Follow-up operation) A scheduled task reads SLA instance data. If the warning time or timeout time in the instance data is earlier than the current time, the scheduled task obtains the corresponding waring notification content or timeout notification content and notifies the owner via SMS message or email.

----End

2.9.3.1.8 Case Reminder

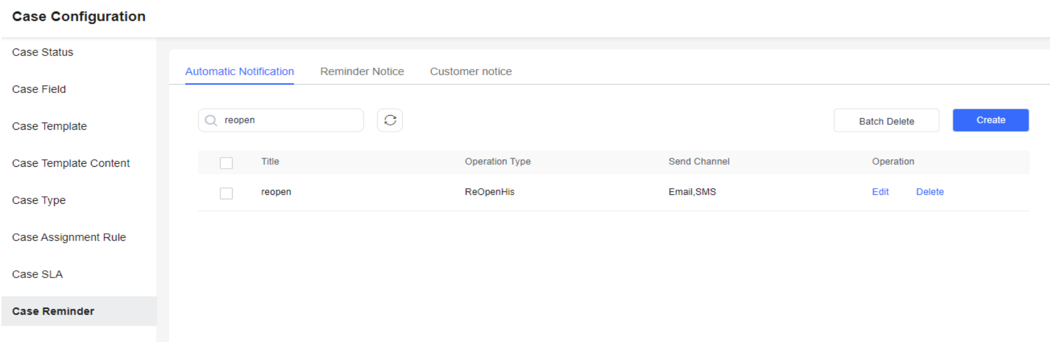
Prerequisites

- The Case 2.0 feature has been enabled for the tenant space.
- You have the **Case Management 2.0** > **Case** > **Case Configuration** permission.
- To ensure that SMS messages and emails can be sent, you have configured an SMS gateway and an email gateway. For details, see **2.11.3.1 Configuring SMS Gateways** and **2.11.3.2 Configuring Email Gateways**.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Reminder**. Currently, automatic notification, case reminder notification, and customer notification are supported.

Figure 2-432 Case Reminder

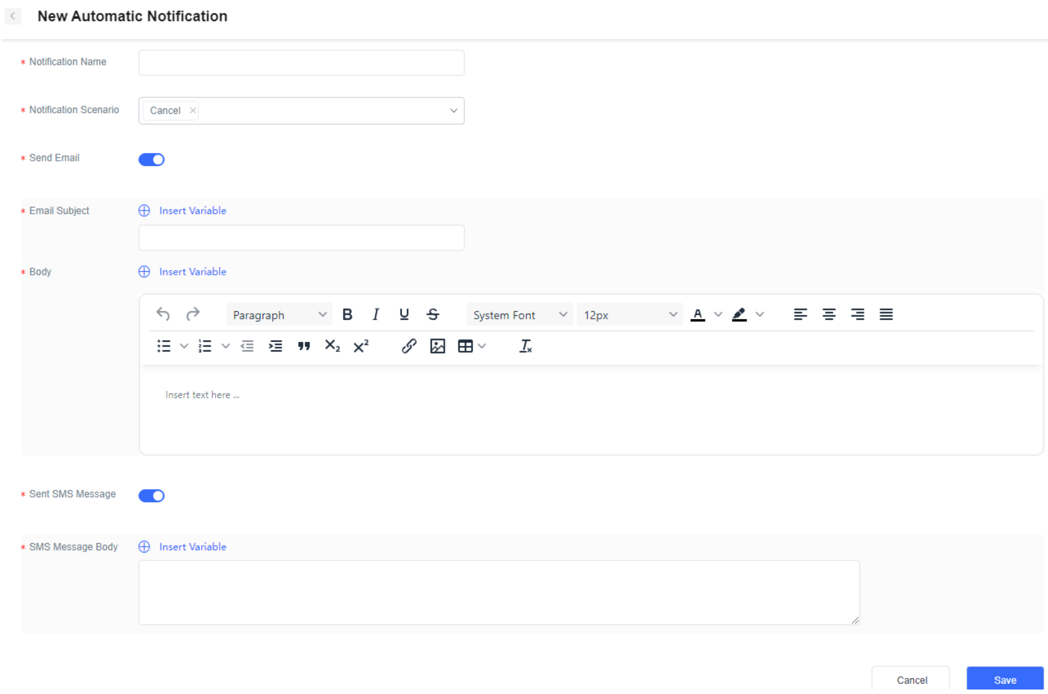


----End

Configuring Automatic Notification

Step 1 Enable **Automatically send notifications**.

Figure 2-433 New Automatic Notification



1. Enter a notification name.
2. Select a notification scenario. Currently, the options are **Create**, **Close**, **Pause**, **Restore**, **Cancel**, **Transfer**, **Merge**, **Reboot**, and **ReOpenHis**.
3. Choose to send a case reminder via email or SMS message.
4. If the case title, case ID, case details link, or other fields do not have fixed values during email filling, insert variables to automatically fill in the email subject and body, reducing the number of case reminder rule setting times. For details about how to create variables, see **2.9.3.1.2 Customized Case Field**.
5. Click **Save**.

Step 2 (Follow-up operations) Access the case details page and change the case owner, for example, transfer a case, restart a historical case, merge cases, restart a case, or create a case. An automatic notification is triggered. You can click to view the email or SMS notification on the **Notification Center** page.

Figure 2-434 Transfer Case

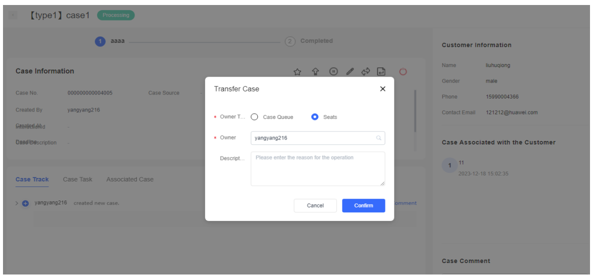
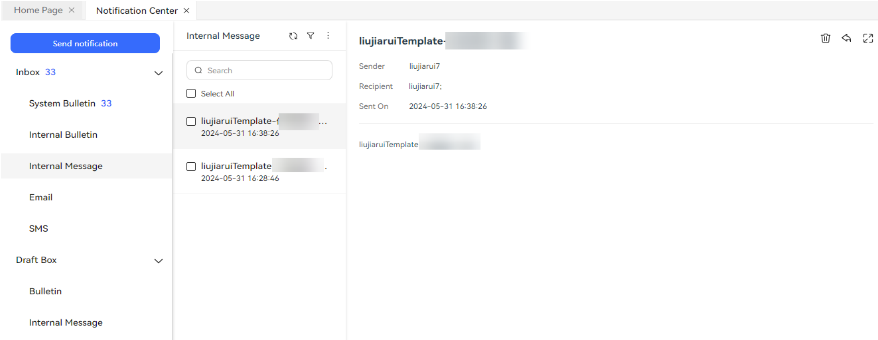


Figure 2-435 Notification Center

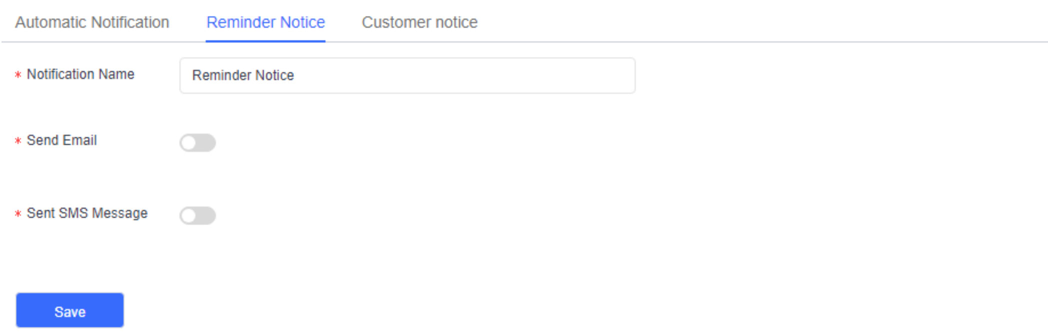


----End

Configuring Case Reminder Notification

Step 1 Click the **Reminder Notice** tab.

Figure 2-436 Reminder Notice



1. Enter a notification name.
2. Choose to send a case reminder via email or SMS message.
3. If the case title, case ID, case details link, or other fields do not have fixed values during email filling, insert variables to automatically fill in the email subject and body, reducing the number of case reminder rule setting times.
4. Click **Save**.

Step 2 (Follow-up operation) On the case details page, click  to manually send a case reminder. Alternatively, on the case workbench, click **reminder** to manually send a case reminder. After a case reminder is sent, the case owner receives the email or SMS notification.

Figure 2-437 Manually sending a case reminder

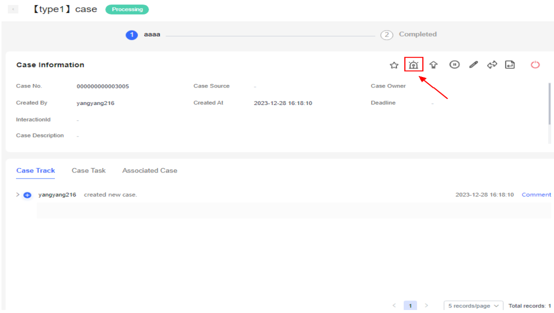
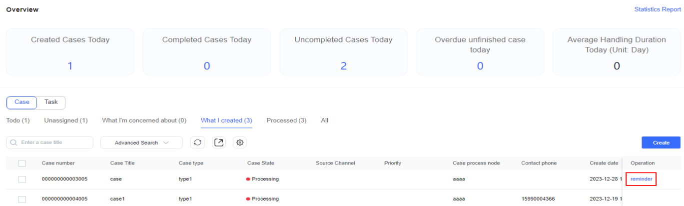
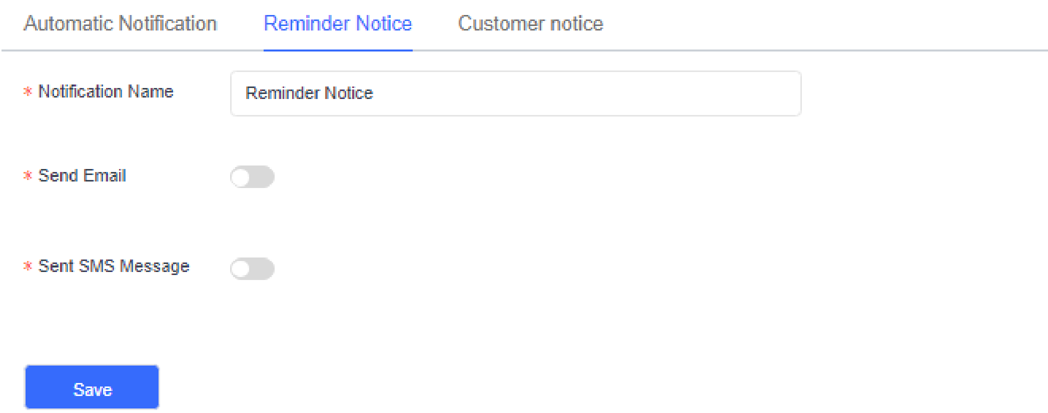


Figure 2-438 reminder button on the case workbench



Step 3 (Optional) If you use the Case for the first time and have not configured case reminder notification, you can go to the case details page and click  to send a case reminder. The system sends an email to the corresponding owner by default.

Figure 2-439 Case reminder notification disabled

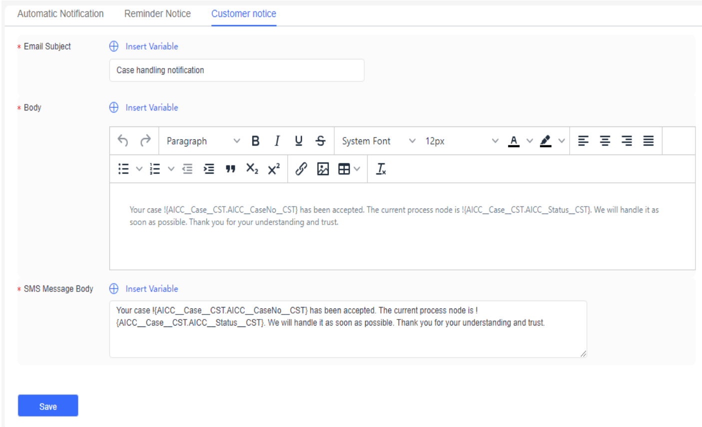


----End

Configuring Customer Notification

Step 1 Click the **Customer notice** tab.

Figure 2-440 Customer notice



1. View the default template provided for customer notification. By default, the information shown in the preceding figure is used in the initial environment.
2. Modify the information as required.
3. Set parameters. All parameters on the **Customer notice** tab page are mandatory.
4. Enter an email subject.
5. If the case title, case ID, case details link, or other fields do not have fixed values during email body filling, insert variables to automatically fill in the body, reducing the number of case reminder rule setting times.
6. Click **Save**.

Step 2 (Follow-up operation) Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and select **Notified by Email** or **Notified by SMS** when creating a case to notify the customer after the case is created. Alternatively, go to the case details page, change the case status, and select **Notified by Email** or **Notified by SMS** to notify the customer of the case status change.

----End

2.9.3.1.9 Case Role

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Role**.

Step 2 Click **Create** on the right, set role information, and click **Save**.

Figure 2-441 Role information

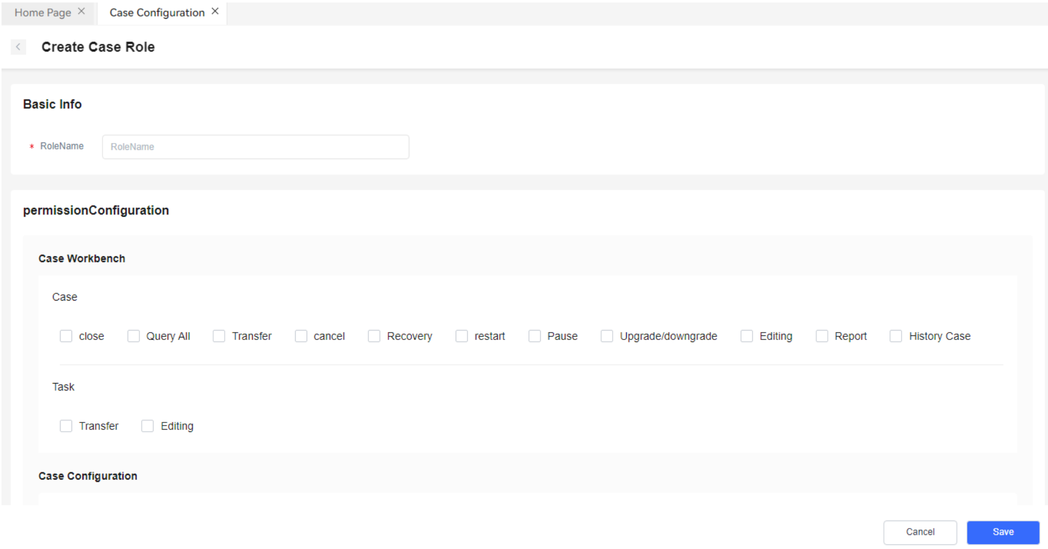


Table 2-147 Permission description

Permission Category	Permission	Description
Case	close	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to close cases of other employees.
	Query All	If this case permission is selected, employees with this role can view cases of all employees in the tenant space.
	Transfer	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to transfer cases of other employees.
	cancel	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to cancel cases of other employees.

Permission Category	Permission	Description
	Recovery	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to resume cases of other employees.
	restart	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to restart cases of other employees.
	Pause	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to suspend cases of other employees.
	Upgrade/downgrade	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to upgrade or downgrade cases of other employees.
	Editing	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to modify case information and status of other employees.
	Report	If this case permission is selected, employees with this role have the permission to view case reports of all employees.

Permission Category	Permission	Description
	History Case	If this case permission is selected, the **Query All** permission will be automatically selected. Employees with this role have the permission to view and restart historical cases.
Task	Transfer	If this task permission is selected, employees with this role have the permission to transfer tasks to other employees.
	Editing	If this task permission is selected, employees with this role can modify tasks of other employees.
Case Configuration	Configuration Management	If this permission is selected, employees with this role have the case configuration permission.

----End

2.9.3.1.10 Case Queue

You can use case queues to create organizations and invite or remove members to implement team management. If you select a queue when creating a case, members in the queue can view the pending case.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Queue**.

Step 2 Click **Create**.

Step 3 Enter basic information, add members, and click **Save**.

----End

2.9.3.1.11 User Role

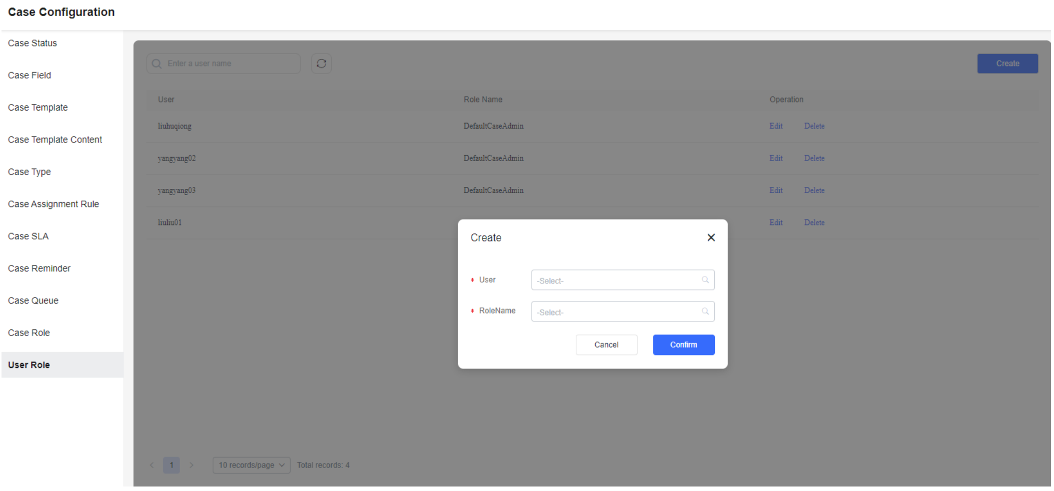
You can add or delete roles to manage the permissions of members.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **User Role**.

Step 2 Click **Create** on the right to associate a role with a user. After you click **Save**, the role is associated with the user.

Figure 2-442 Associating a role with a user



----End

2.9.4 Case Handling

2.9.4.1 Creating a Case

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click **Create**. Alternatively, directly click the quick entry shown in **Figure 2-444** to create a case.

Figure 2-443 Create button

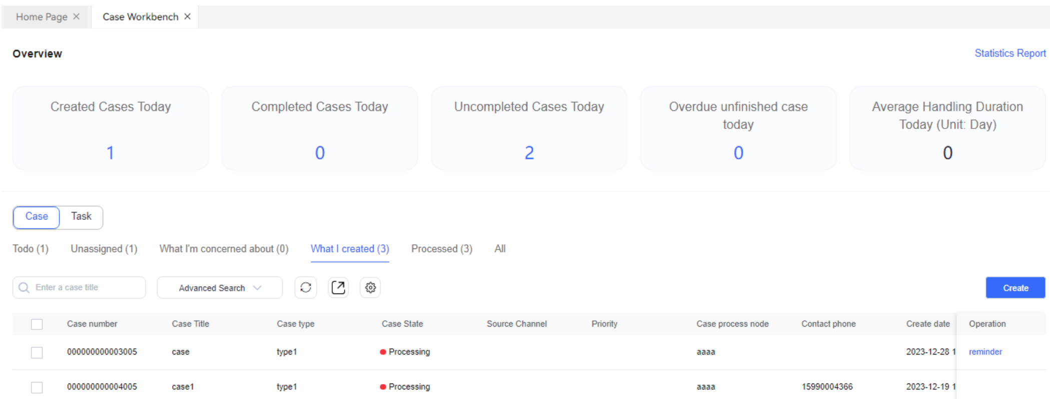
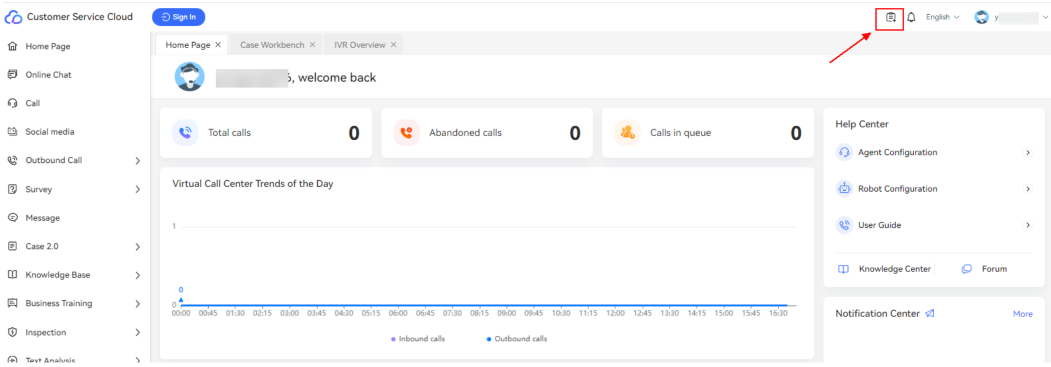


Figure 2-444 Quick entry for creating a case

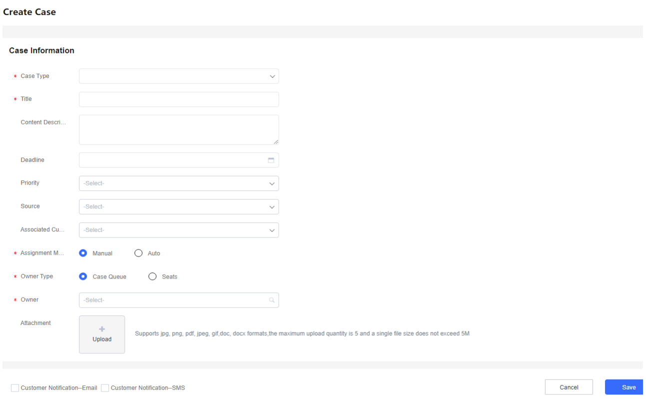


Step 2 On the **Create Case** page, set mandatory parameters and click **Save**.

NOTE

After a case is created, if data on the **Case Workbench** page is not refreshed, manually refresh the page.

Figure 2-445 Create Case



- **Case Type**: The options are the enabled case types on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page.
- **Title**: The value can contain a maximum of 128 characters.
- **Content Description**: The value can contain a maximum of 20,000 characters.
- **Deadline**: The value must be later than or equal to the current time.
- **Priority**: The options are **Low**, **Medium**, **High**, and **Critical**. **Critical** indicates the highest priority.
- **Source**: Source channel of a case. The options are **Voice**, **Whatsapp**, **webchat**, and **Email**.
- **Associated Customer**

  1. The options are customers in the customer center. You can sign in to the AICC as a tenant administrator and choose **Customer Center** > **Customer Center Management** to view customers.

  For details, see 2.12 Managing the Customer Center.

  2. You can directly create a customer. For details, see 2.9.4.2 Creating a Customer.

NOTE

You can access the customer center only when the customer center feature is enabled for the tenant space.

- **Assignment Mode**: The options are **Manual** and **Auto**. If this parameter is set to **Auto**, the case will be assigned based on the case assignment rule on the **Case Configuration** > **Case Assignment Rule** page. If this parameter is set to **Manual**, you can assign the case to a skill queue or an agent.
- **Attachment**: The total size of attachments cannot exceed 5 MB, and the number of attachments cannot exceed 5. JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX attachments are supported.
- **Customer Notification--Email** or **Customer Notification--SMS**: Whether to send an email or SMS notification to the customer when the case status changes. To use the notification function, you need to configure a customer notification template in advance. For details, see **2.9.3.1.8 Case Reminder**.

----End

2.9.4.2 Creating a Customer

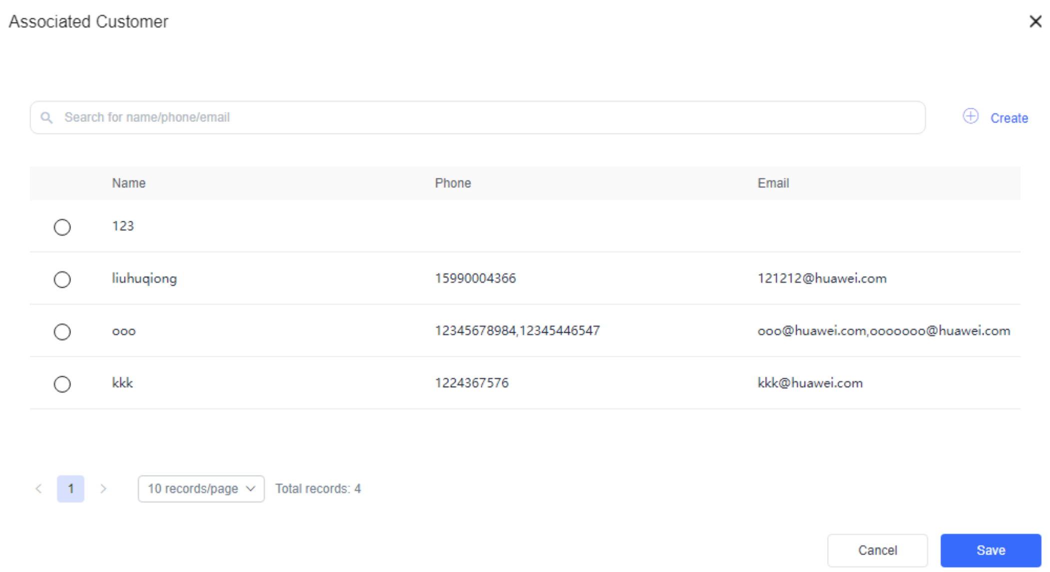
When creating a case, if the customer to be associated is not maintained in the system, you can directly create the customer and associate it with the case to improve work efficiency. This helps you track the case progress and provide better customer service when communicating with customers.

Procedure

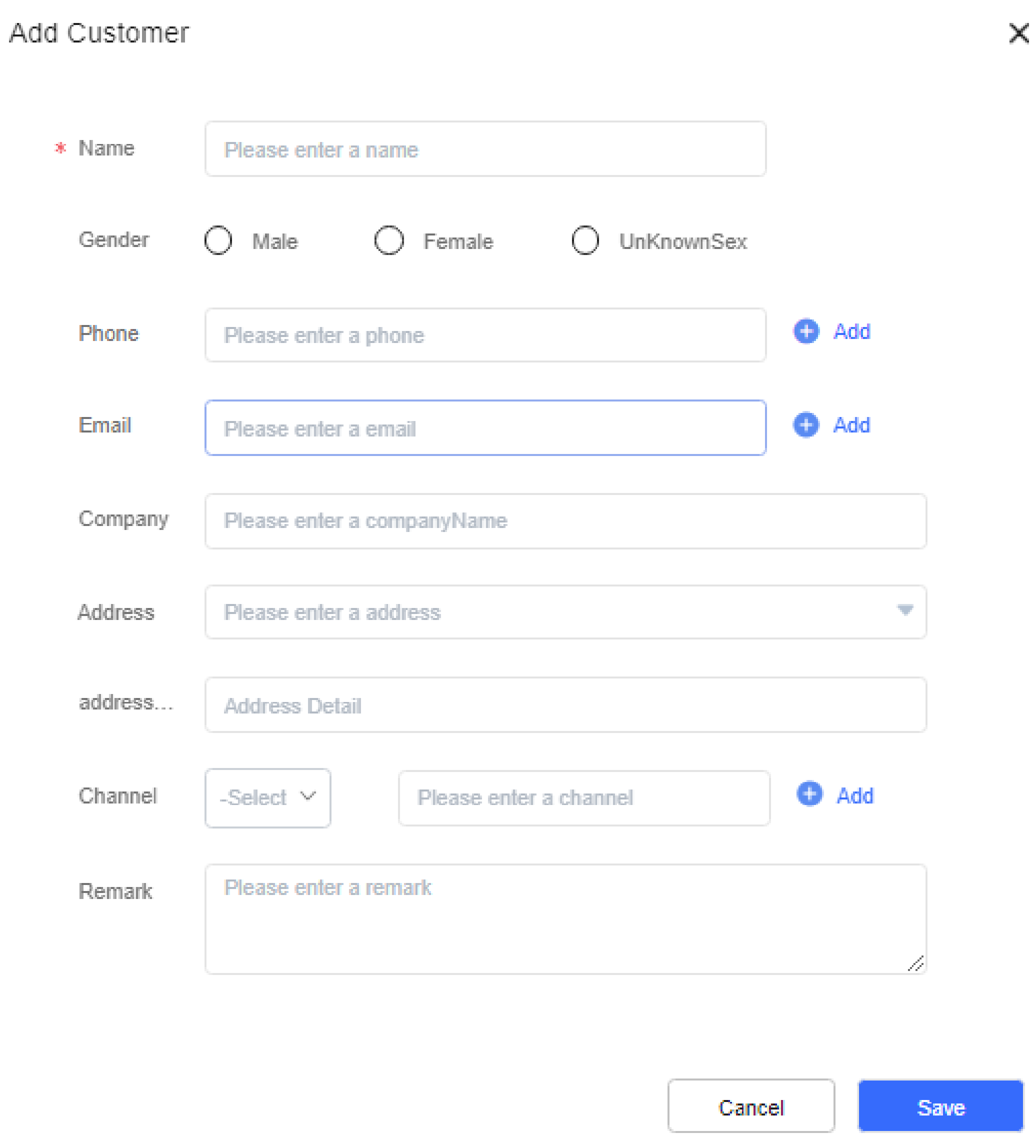
Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click **Create**.

Step 2 Click the **Associated Customer** selection box. The **Associated Customer** dialog box is displayed.

Figure 2-446 Associated Customer



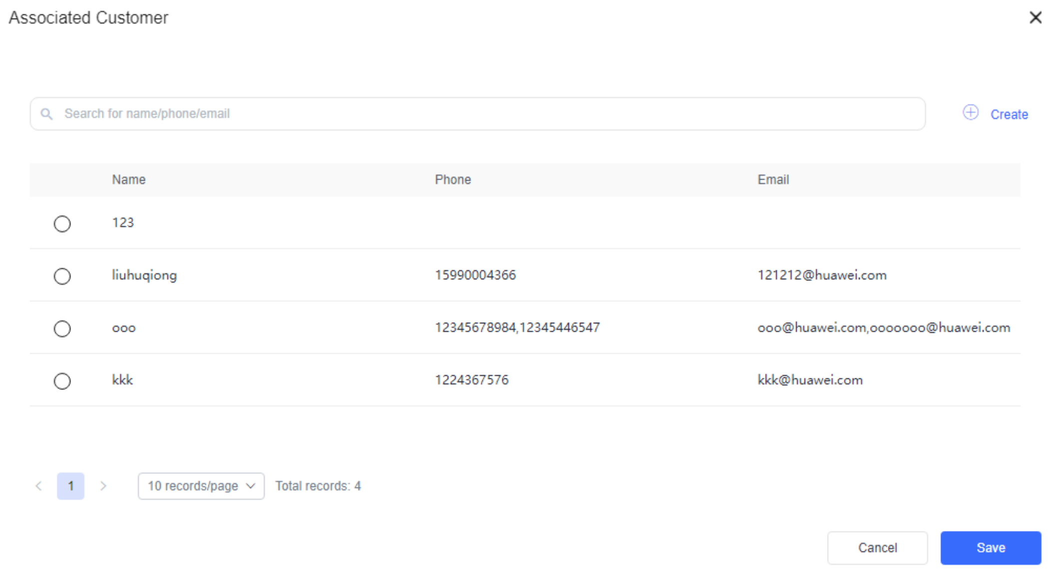
Step 3 Click Create and enter customer information. In the case of duplicate customer names, enter correct phone numbers and email addresses to distinguish the customers.



Step 4 Click Save.

Step 5 Search for and select the customer created in 3 based on the customer's name or phone number.

Figure 2-447 Associated Customer



Step 6 Click 

. The customer is associated with the case successfully.

----End

2.9.4.3 Viewing Cases Associated with a Customer

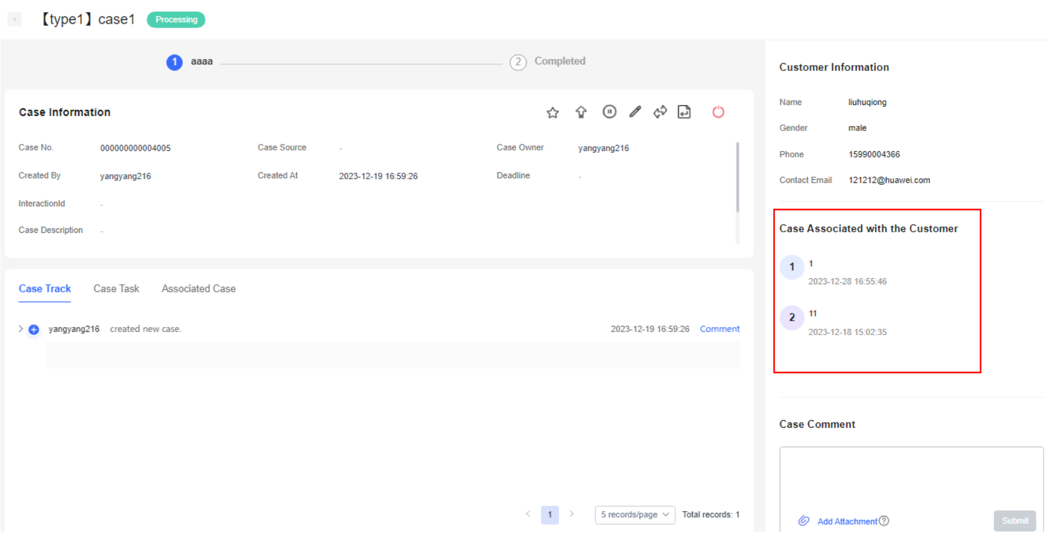
You can view historical cases associated with a customer and analyze the handling processes and results of the cases to understand the customer's requirements and promptly resolve the customer's problems. This helps you improve customer satisfaction and loyalty.

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click a case. The case details page is displayed.

Step 2 In the **Case Associated with the Customer** area on the right, click a case to view details about the historical case associated with the customer.

Figure 2-448 Case Associated with the Customer



----End

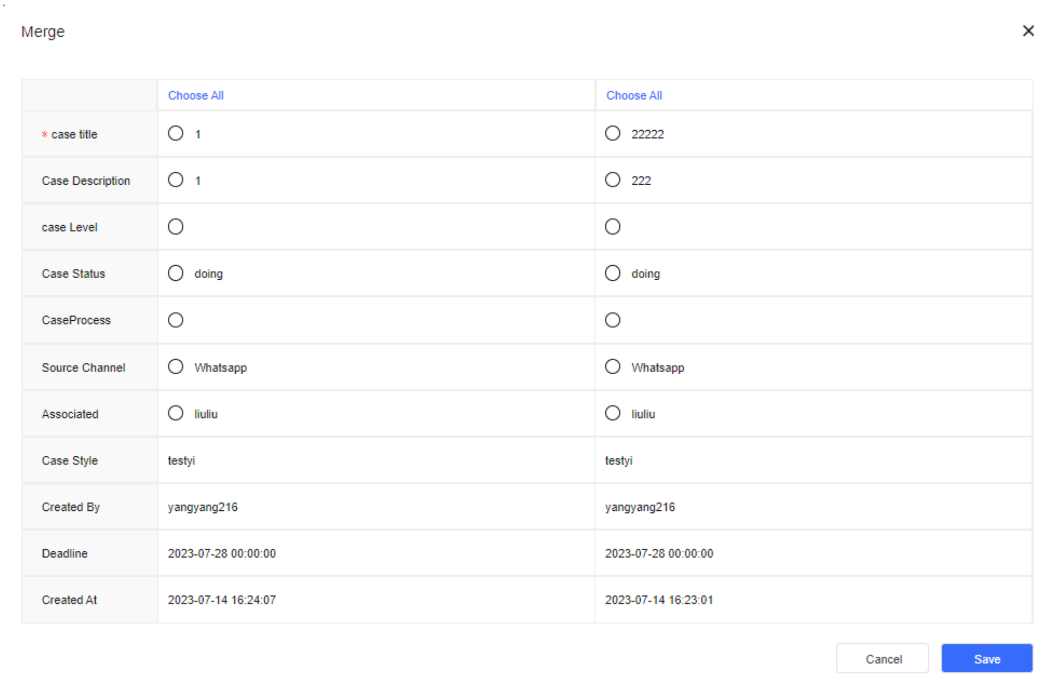
2.9.4.4 Merging Cases

An agent can merge multiple cases of the same type to improve the work efficiency.

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, select cases of the same type from the **Todo** list, and click **Merge**.

Figure 2-449 Merge



Step 2 After the merging is successful, a case is retained and a case track is generated.

NOTE

A maximum of five cases can be merged at a time.

----End

2.9.4.5 Transferring a Case

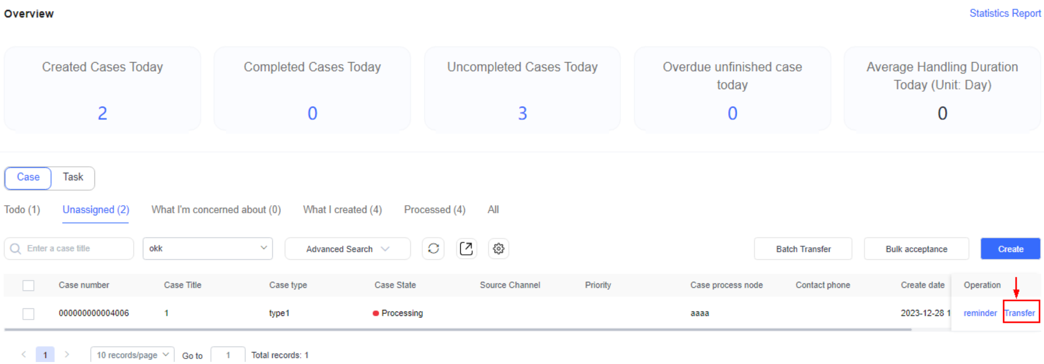
If you are no longer the owner of a case, you can transfer the case to a new owner.

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click the **Todo** or **Unassigned** tab.

Step 2 Transfer cases one by one or in batches. After a case is transferred to a specified owner, the owner has the permission to handle the case.

Figure 2-450 Transferring cases in batches



Step 3 Alternatively, click  on the details page of a case to transfer the case.

----End

2.9.4.6 Accepting a Case

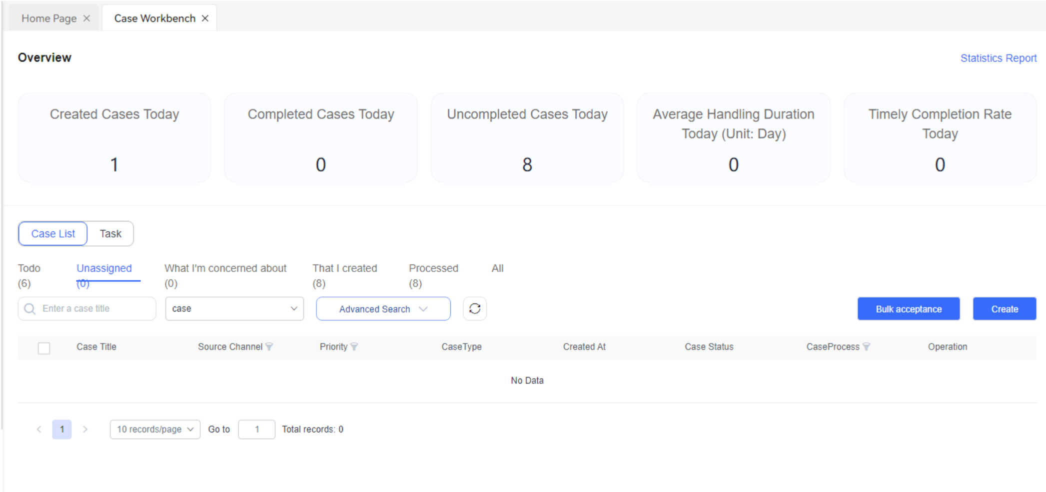
You can handle a case in a queue only after accepting the case.

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click the **Unassigned** tab.

Step 2 Accept cases one by one or in batches. After accepting a case, you have the permission to handle the case, and the case is added to the **Todo** list.

Figure 2-451 Accepting cases



NOTE

A maximum of 100 cases can be accepted at a time.

----End

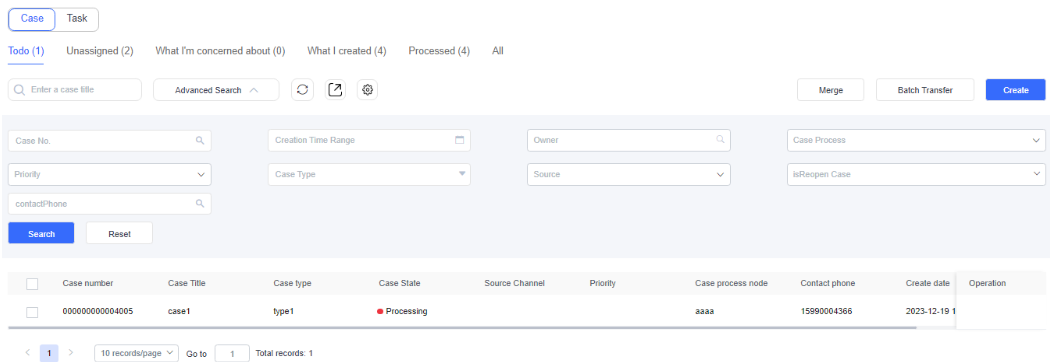
2.9.4.7 Searching for Cases

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, enter a case title, and press **Enter** to search for the case.

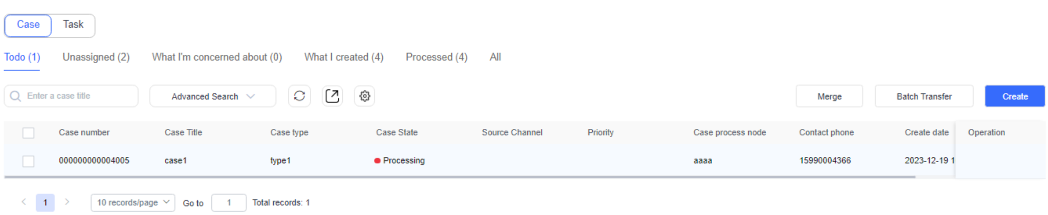
Step 2 Click **Advanced Search** and set advanced search criteria to search for cases.

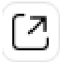
Figure 2-452 Advanced Search



Step 3 Filter cases by tab page. You can view cases on the **Todo**, **Unassigned**, **What I'm concerned about**, **What I created**, **Processed**, or **All** tab page.

Figure 2-453 Tab page



Step 4 Click  to export cases based on filter criteria.

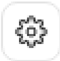
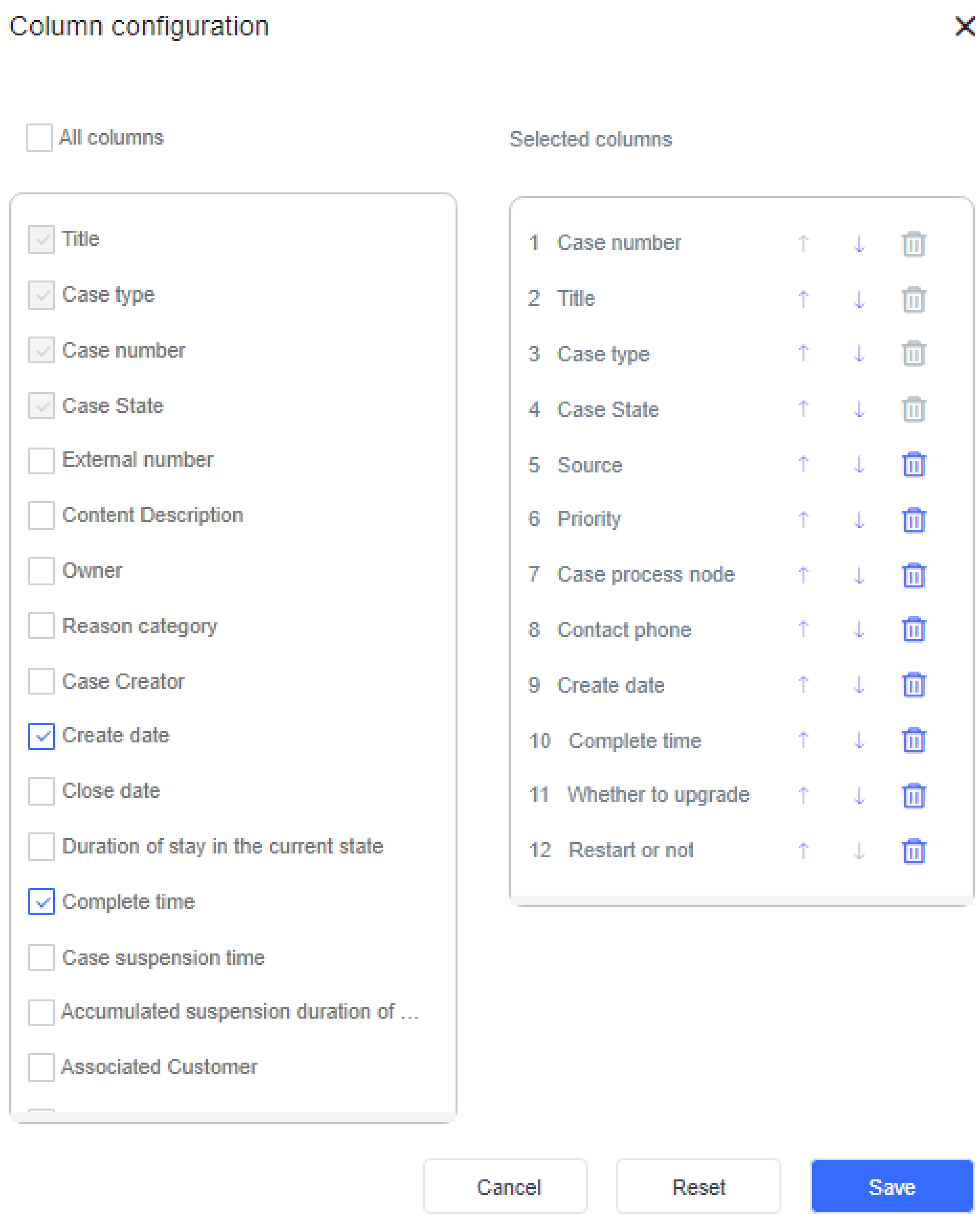
Step 5 Click  to customize the view. Select the columns to be displayed in the list. To restore the default configuration, click **Reset**.

Figure 2-454 Column configuration



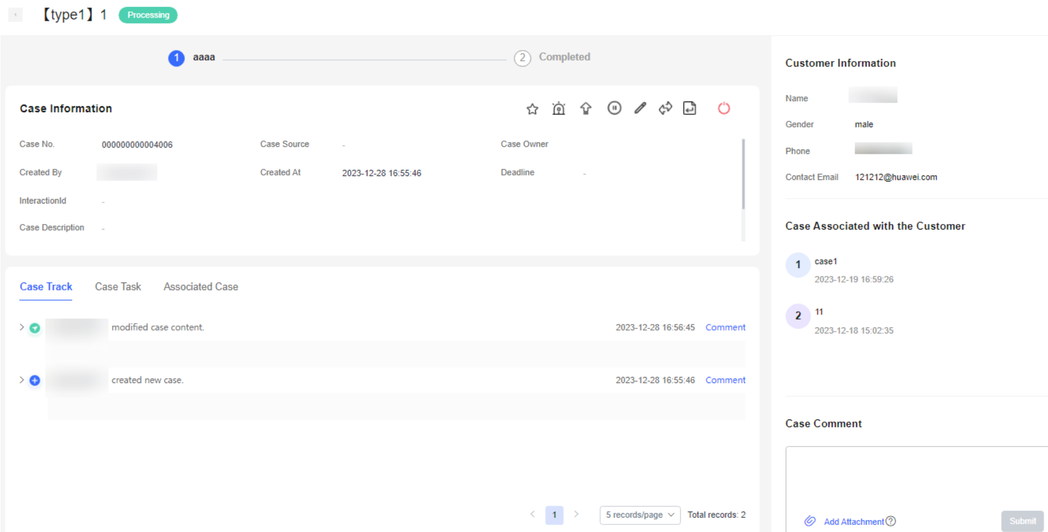
----End

2.9.4.8 Case Details

Procedure

Step 1 On the **Case Workbench** page, click a case. The case details page is displayed.

Figure 2-455 Case details page

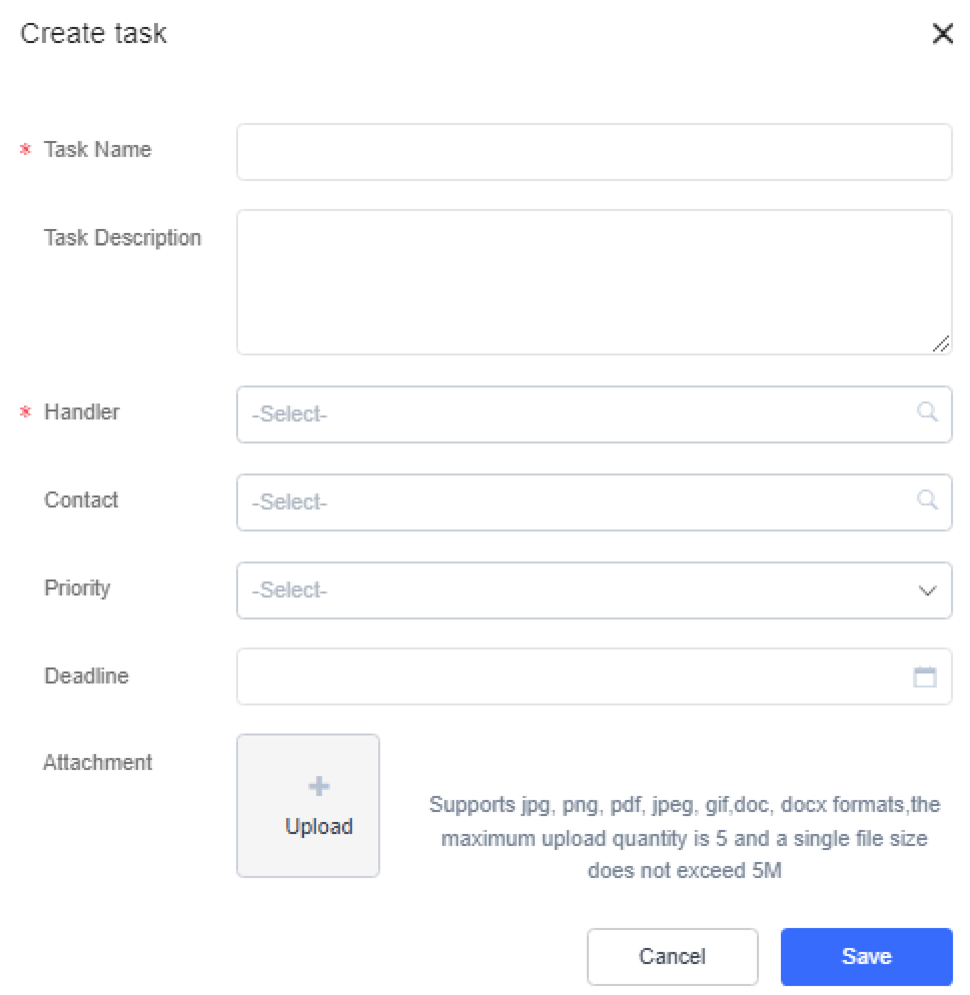


Step 2 (Optional) On the right of the case details page, view customer information and historical cases associated with the customer, or evaluate the case.

Step 3 You can perform the following operations on the case:

- : Follow an important or urgent case.
- : Send an email or SMS notification to urge the case owner to handle a case that is about to expire. The prerequisite is that case reminder notification has been configured. For details, see **Configuring Case Reminder Notification**.
- : Upgrade the case level. After the upgrade, an upgrade flag is added to the case title.
- : Suspend a case that does not need to be handled temporarily.
- : Transfer the case to change the case owner.
- : Cancel the case.
- : Close the case.
- : Restart the case.
- **Comment** on the **Case Track** tab page: Add comments when you handle the case.
- **Add Attachment**: Add supplementary information for the case, for example, fault screenshots provided by the customer. The total size of attachments cannot exceed 5 MB, and the number of attachments cannot exceed 5. JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX attachments are supported.
- **Create** on the **Case Task** tab page: Create a task and trace the handling when the case needs to be handled based on department collaboration.

Figure 2-456 Create task

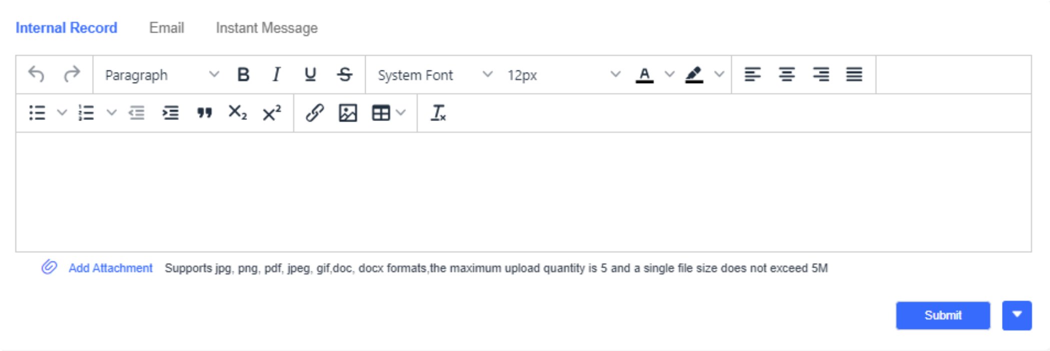


NOTE

Multiple tasks can be created for a case.

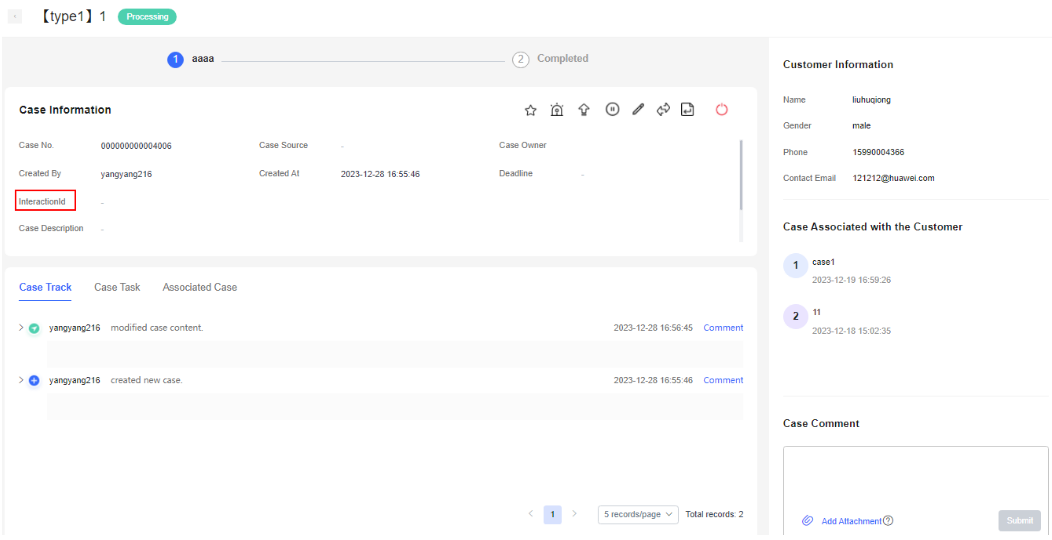
- **Associated Case** tab page: View associated cases after merging cases. For details about how to merge cases, see **2.9.4.4 Merging Cases**.
- **Internal Record** tab page: Only the case owner and tenant administrator have the permission to perform operations on this tab page. An internal record can contain a maximum of 20,000 characters. If an image needs to be added, click **Add Attachment** to upload it.

Figure 2-457 Internal Record



- **InteractionId** field: View contact records. Only contact records generated in the last seven days can be viewed. If the case is created on the voice and video workbench, a contact record ID is generated and displayed in the **Case Information** area. Click an ID in blue to go to the contact record details page.

Figure 2-458 InteractionId



----End

2.9.4.9 Case Report

Prerequisites

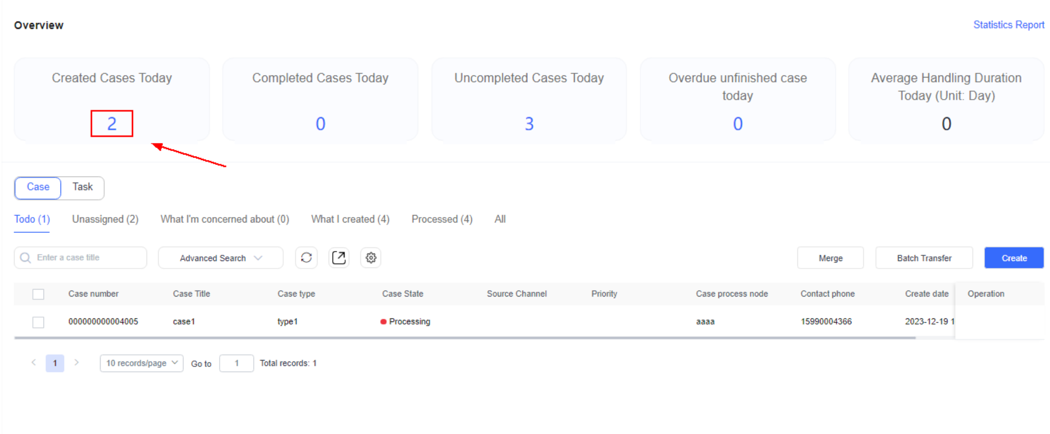
- You have the **Case Workbench** permission.
- The Case 2.0 feature has been enabled for the tenant space.

Procedure

Step 1 Sign in to the AICC and choose **Case 2.0** > **Case Workbench**.

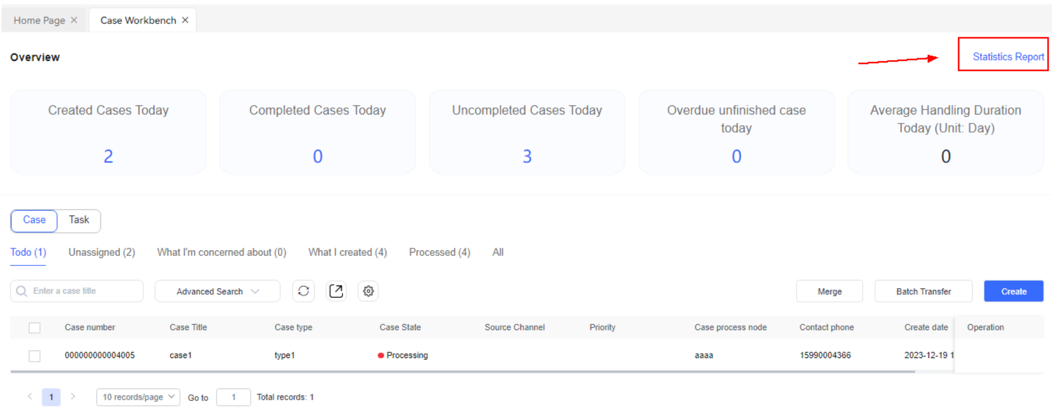
Step 2 In the **Overview** area, view statistics on the **Created Cases Today**, **Completed Cases Today**, **Uncompleted Cases Today**, **Overdue unfinished case today**, and **Average Handling Duration Today** cards. Click a number in blue to view the corresponding statistics in the case list.

Figure 2-459 Number in blue



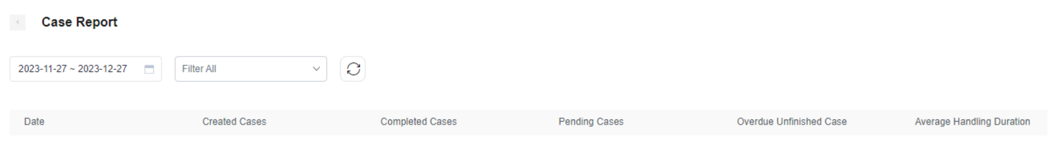
Step 3 Click **Statistics Report**. The **Case Report** page is displayed.

Figure 2-460 Statistics Report



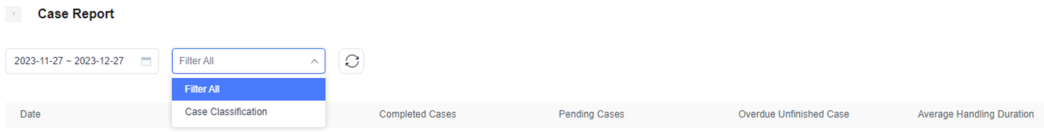
Step 4 On the **Case Report** page, click the calendar control to set the date range for querying the number of cases on each date. Data of the last 31 days (excluding the current day) can be queried.

Figure 2-461 Case Report



Step 5 Select **Case Classification** from the drop-down list and select a case type to filter cases by case type.

Figure 2-462 Filtering cases by case type



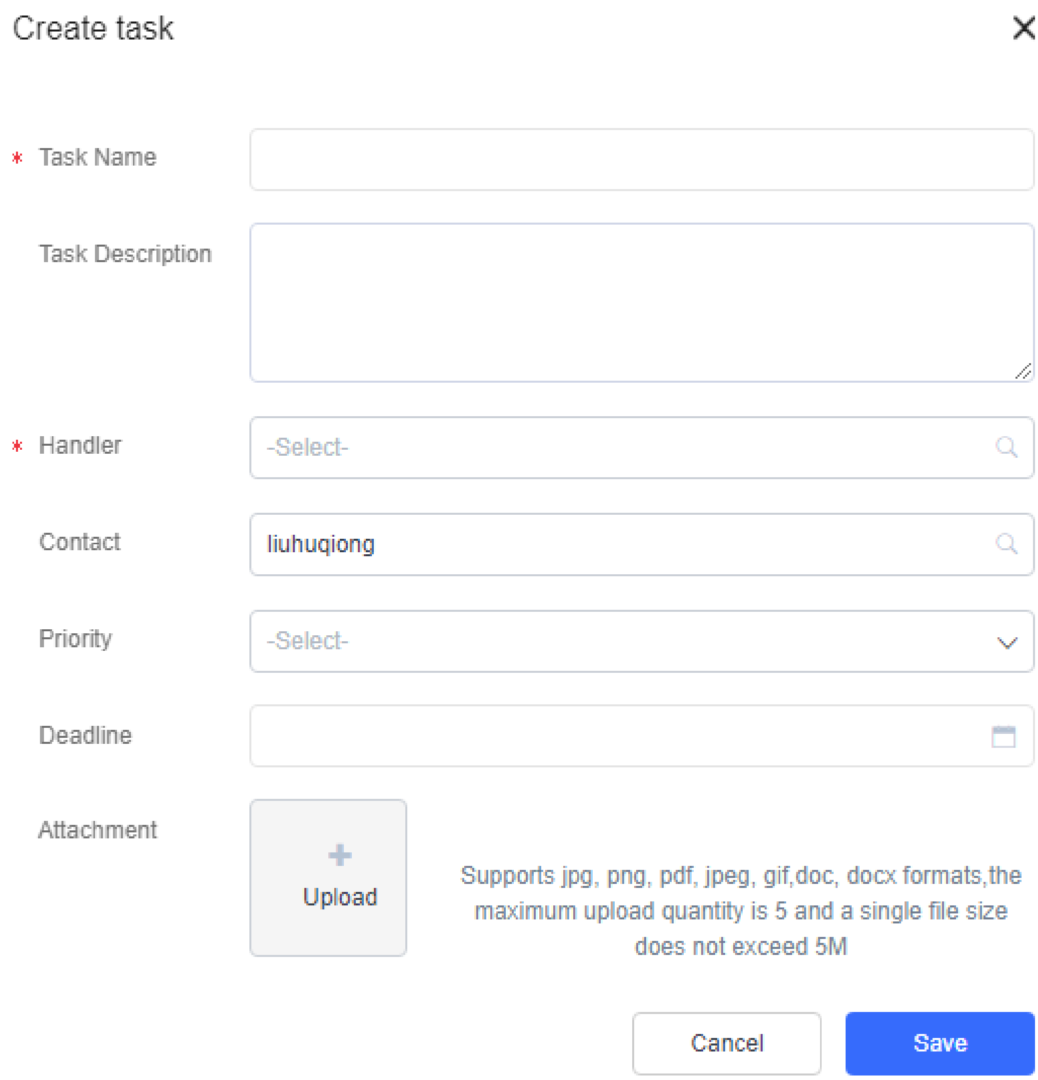
----End

2.9.4.10 Handling a Task

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click a case. On the case details page, click the **Task** tab and click Create to create a task.

Figure 2-463 Create task

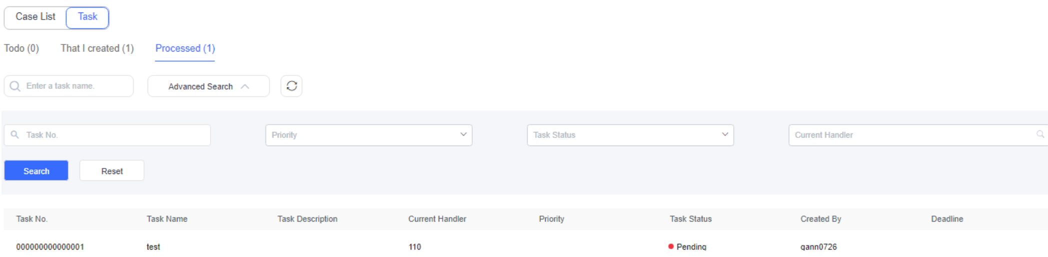


Step 2 Click Save. The task is created successfully.

Step 3 Click the **Task** tab, enter a task name, and press **Enter** to search for the task.

Step 4 Click **Advanced Search** and set advanced search criteria to search for tasks.

Figure 2-464 Advanced Search



Step 5 Click a task. The task details page is displayed.

Step 6 On the task details page, click to transfer the task or click to edit the task.

Step 7 Click Submit to change the task status based on the current task handling status.

----End

2.9.5 Historical Case

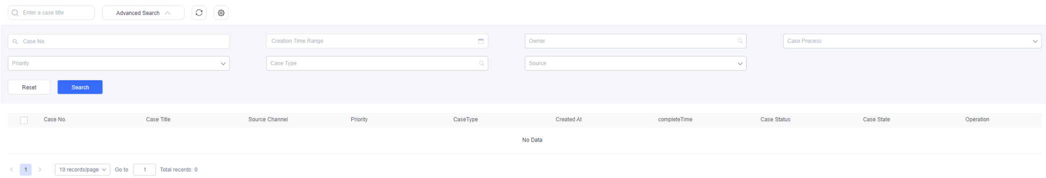
Prerequisites

- You have the **Case Management 2.0** > **Case** > **Historical Case** permission.
- The case 2.0 feature has been enabled for the tenant space.

Procedure

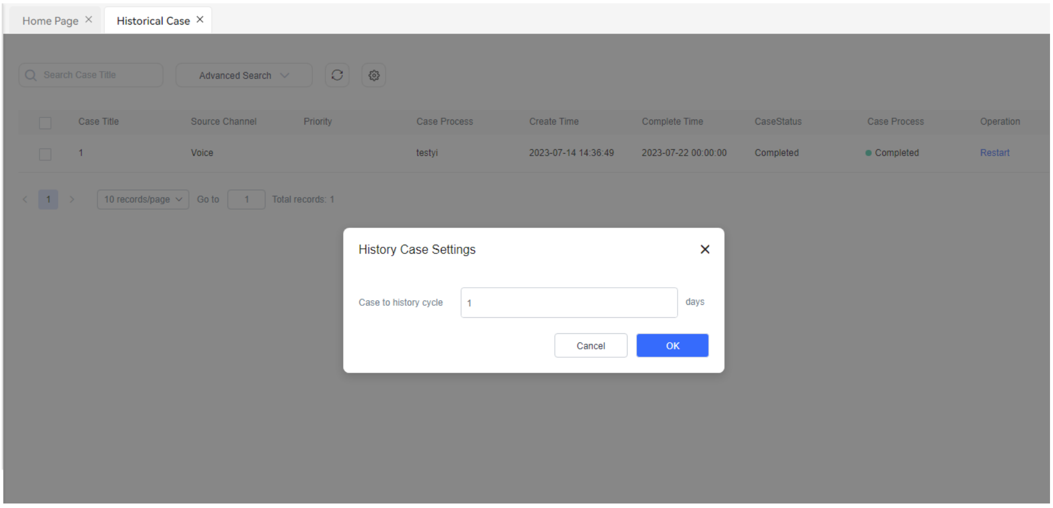
Step 1 Sign in to the AICC and choose **Case 2.0** > **Historical Case**. On the page that is displayed, enter a case title to search for the case or set advanced search criteria to search for cases.

Figure 2-465 Historical Case page



Step 2 Click  to set the period for moving cases to the historical case list. The default period is 90 days.

Figure 2-466 Setting Case to history cycle



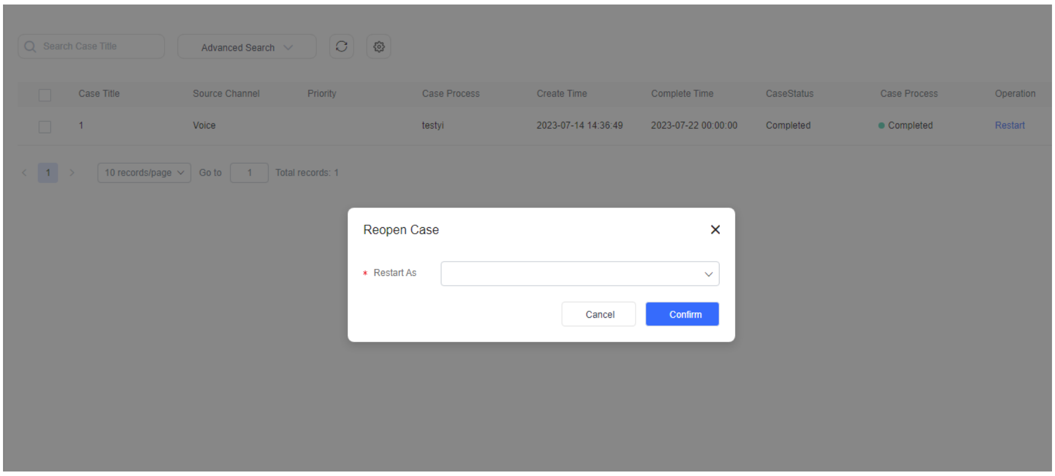
NOTE

When a completed or canceled case in the tenant space reaches the configured period, the case is moved to the historical case list.

Step 3 Click a case title to view the case details and task details.

Step 4 Click **Restart** to restart a historical case as a pending or completed case.

Figure 2-467 Restarting a case



NOTE

You do not need to specify an owner when restarting a historical case as a completed case.

----End

2.9.6 FAQs

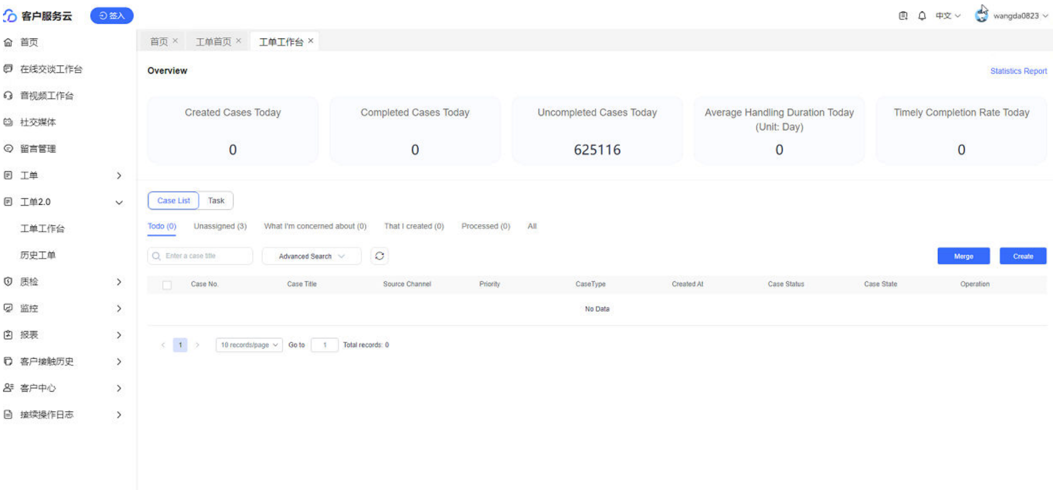
This section provides solutions to case operation questions to help you better use case functions.

2.9.6.1 What Do I Do If Two Languages Are Displayed on the Case Page After Language Switching

Symptom

After you switch the language, the language of some GUI elements is switched successfully, but the language of some GUI elements remains unchanged, as shown in **1**.

Figure 2-468 Case workbench



Analysis

The Case 2.0 is developed based on AppCube. If the language environment of the Case 2.0 is different from that of AppCube, this problem occurs.

Solution

Switch the AICC language to another language and then switch it back. In this way, the language environment of the Case 2.0 becomes consistent with that of AppCube.

2.10 Managing Inspections

The AICC provides the manual and AI post-event inspection functions. This section describes how to configure rating rules for inspectors to perform corresponding inspections.

2.10.1 Overview on Inspection Management

Inspection management refers to post-event inspection managed to restrict and rate agent statements and behavior during the service process, and evaluate their service quality.

Currently, the system supports the following inspection modes:

- Manual inspection: The system allocates call records to an inspector based on rules, and the inspector evaluates the recordings and manually rates them based on the configured rating template.
- AI inspection: Specified rules are preset in the system, for example, the points deducted when a sensitive word is found, or when the agent is silent for a specified period or interrupts a customer. The system automatically identifies all call records and allocates a proportion of the rated records to an inspector based on manual review rules, and the inspector then rechecks the call records.

The roles involved in an inspection are as follows:

- AI trainer: sorts out and configures the violation or compliance rules for an AI inspection, for example, forbidden words and speaking speed limit. For accuracy and fairness purposes, AI trainers check call recordings for multiple times to adjust the rules.
- Inspection supervisor: reviews a result appeal submitted by an agent and assigns the appeal to an inspector for reevaluation.
- Inspector: listens to call recordings and evaluates the service process manually.
- Agent supervisor: reviews an appeal submitted by an agent.
- Agent: generates call records and recordings for an inspector or the system to evaluate services. If an agent does not agree on an AI inspection result, the agent can submit an appeal.

Currently, roles such as AI trainer, inspection supervisor, and agent supervisor are not preset in the AICC. If you want to manage the tenant administrator and the preceding roles separately, you can choose **Configuration Center** > **Employee Center** > **Role** to create a role and add required menu permissions, or add required menu permissions to an existing role. In general, employees with the required menu permissions can perform the corresponding manual inspection operations.

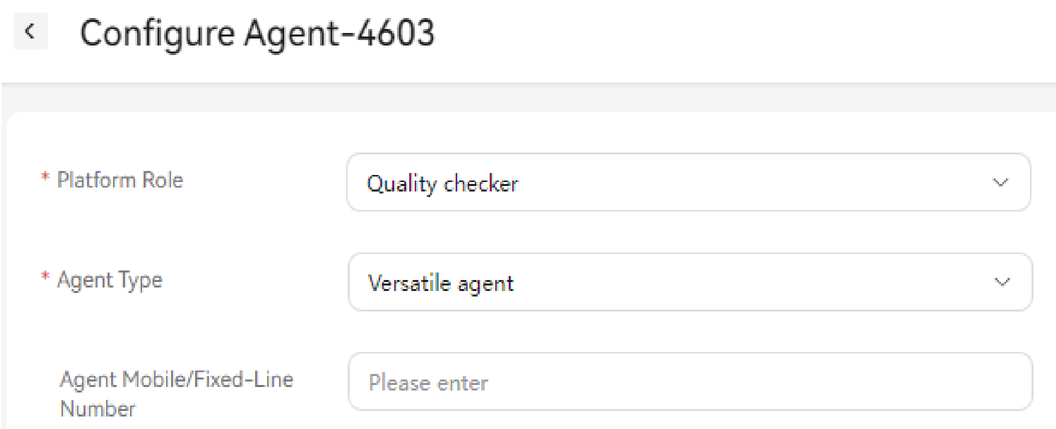
2.10.2 Typical Scenario: Configuring Manual Inspection Tasks

Manual inspection refers to the process in which an inspector extracts details from call records based on specified inspection rules, plays back the records, and evaluates agent services based on the rating criteria.

To enable the inspection, create rating items and templates, maintain inspection relationships, and configure the policy for extracting call details in advance.

Prerequisites

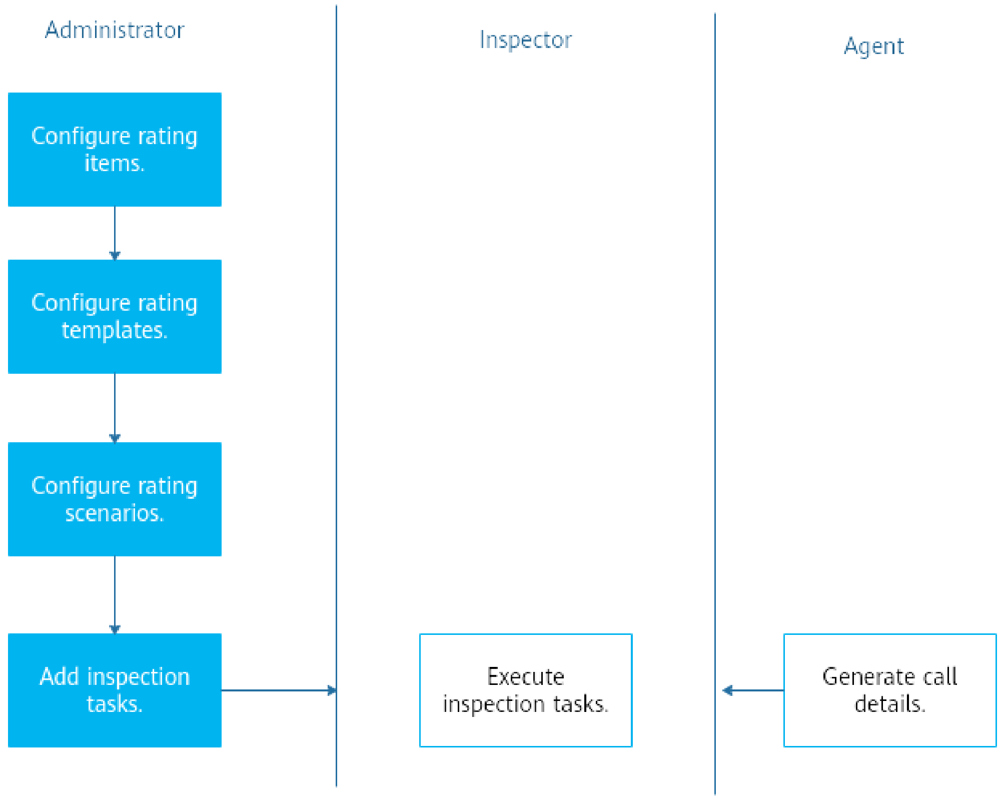
You have configured **Platform Role** for the involved inspectors and agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.



Context

After the tenant space is enabled, the administrator needs to configure the following items for inspectors in the tenant space to execute inspection tasks.

Figure 2-469 Configuration flow



Scenario Description

The following rating rules are specified in a call center to evaluate the agent standardized service, attitude, and skills during calls:

- **Service Awareness**
  - Whether an agent answers questions effectively.
  - Whether an agent confirms with a customer about other questions before the service ends.
- **Process Specifications**
  - Whether an agent begins with greetings and a self-introduction.
  - Whether an agent ends a call with a statement similar to the following: "Thanks for calling. If you have any additional questions, please call us."
- **Service Attitude**
  - Whether an agent argues with a customer.

The current inspection task lasts one week.

Procedure

Step 1 Configure rating items.

1. Choose **Configuration Center** > **Quality Management** > **Rating Item**.

2. Select the rating categories on the left in sequence and click **Add** on the right to add the rating items in **Context** by referring to **2.10.3.1 Configuring Rating Items**.

   Service Awareness, **Process Specifications**, and **Service Attitude** are preset. If these categories are unavailable, they may be deleted by other operators. Click  to add the categories.

Step 2 Configure a rating item template.

1. Choose **Configuration Center** > **Quality Management** > **Rating Template**.
2. Click **Add** on the right to add **Agent inspection rating template** by referring to **2.10.3.2 Configuring Rating Templates**.
3. Save the settings and click **Release**.

Step 3 Configure an inspection task.

1. Choose **Quality Inspection** > **Inspection Task Management**.
2. Click **Add** on the right to add **Agent inspection task of September** by referring to **2.10.3.6 Configuring Inspection Tasks**.

   Set **Task Type** and **Channel** to **Manual post-event inspection** and **Audio**, respectively.

   NOTICE

   Currently, the AICC supports manual post-event inspection only for voice and multimedia channels. The features corresponding to other options will be implemented in later versions.

   If no inspector is available, check whether you have configured the **Quality checker** role in **Prerequisites**.
3. Click **Release**.

----End

Follow-up Procedure

After an inspection task is added, the specified inspector can perform the following operations within the task validity period:

1. Choose **Quality Inspection** > **Inspection Task Management** to view the inspection task.
2. Click **Task**. On the page that is displayed, click **Obtain To-Be-Inspected Record** to view the call records that can be inspected.

   If no record is available, the inspector added to the inspection task has not completed a call and generated a call record.
3. Click **Start Inspection**. On the **Manual Inspection** page, rate the desired record based on the rating items and click **Submit**.

2.10.3 Managing Manual Inspections

This section describes how to configure the manual inspection management, including the inspection score, inspection relationship, and inspection object.

2.10.3.1 Configuring Rating Items

This section describes how to configure the rating items for the inspections on agents.

Context

After the tenant space is enabled, the AICC provides the following rating categories by default. You can add or modify the rating categories as required.

- **Service Awareness**
- **Process Specifications**
- **Service Attitude**

A maximum of five category levels are supported. Rating items can be added only to the rating category of a leaf node. No rating category can be added to a rating category that contains rating items.

The rating category name must be unique under the current tenant. The rating item name must be unique under the current tenant.

A maximum of five levels can be created for a rating category tree.

Rating categories that contains rating items cannot be deleted. At least one rating category must exist.

Business Scenario

An administrator adds the rating category **Professional Skill** and adds the rating item **Answering Proficiency** to the category to specify the proficiency in answering customer questions. The score ranges from 1 to 10.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Rating Item**.

Step 2 Click on the left to add the rating category **Professional Skill** under a root category.

To add a category under a non-root node, click and ensure that no rating item exists under the selected parent category.

Step 3 Select the new category **Professional Skill** and click **Add**. The **Add Rating Item** dialog box is displayed.

Step 4 Configure a rating item.

Figure 2-470 Basic information in the Add Rating Item dialog box

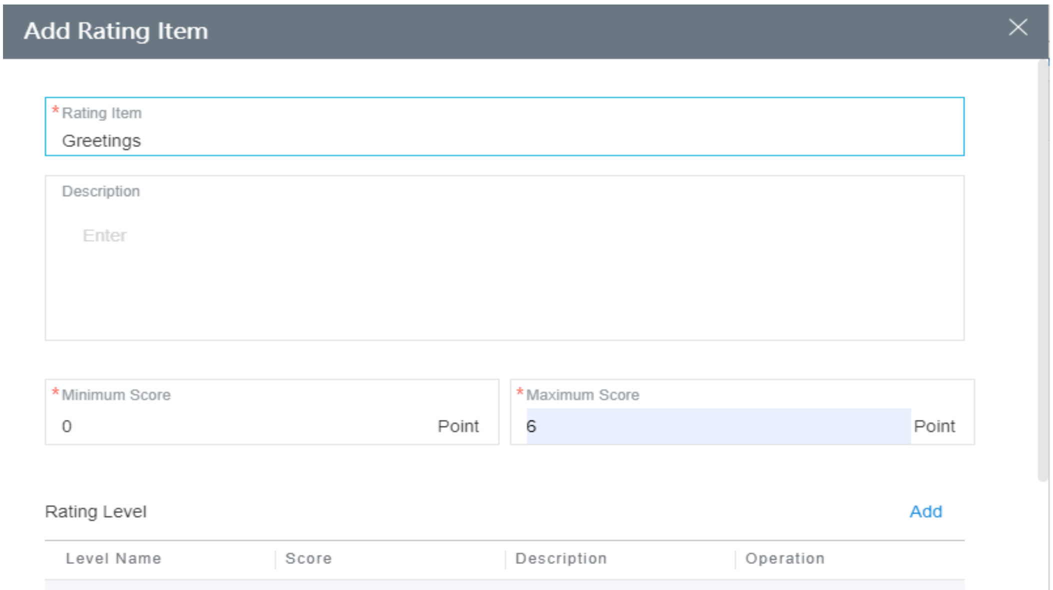
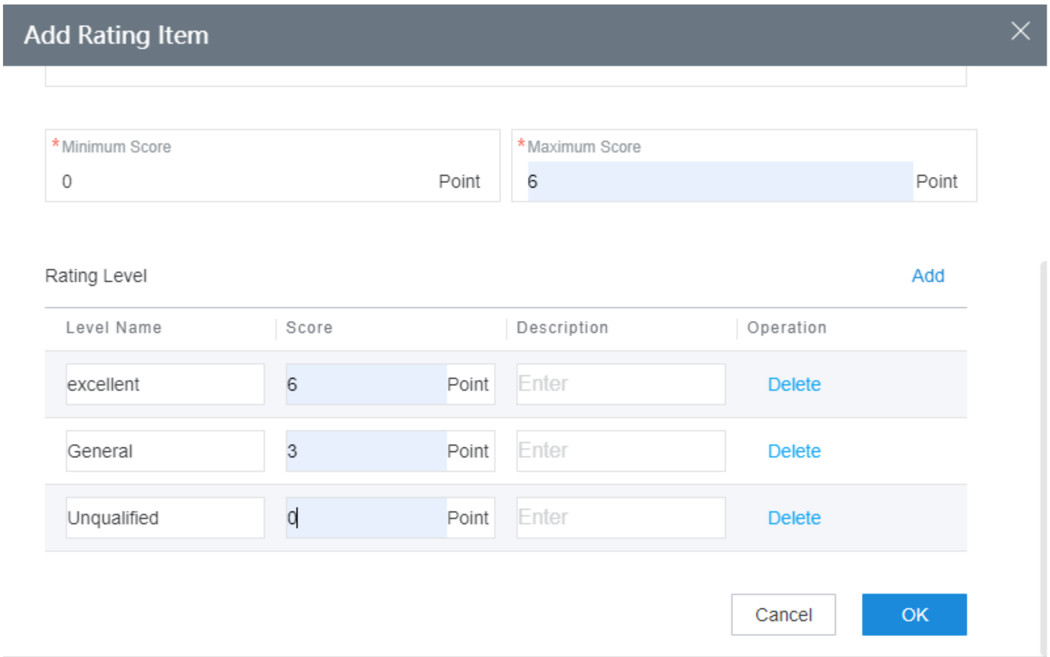


Figure 2-471 Rating Level area in the Add Rating Item dialog box



Set the following parameters:

- **Rating Item**: Name of a rating item, for example, **Answering Proficiency**.
- **Minimum Score**: Lowest score for rating, for example, **1**.
- **Maximum Score**: Highest score for rating, for example, **10**.
- **Rating Level**: Click **Add** to add a rating level.
  - **Level Name**: Name of the level to which a score belongs, for example, **Excellent**.
  - **Score**: Score corresponding to a rating level, for example, **10**.

– **Description**: Description of a rating level.
– **Operation**: Click **Delete** to delete a rating level.

Step 5 Click **OK**. The rating item configuration is saved.

----End

2.10.3.2 Configuring Rating Templates

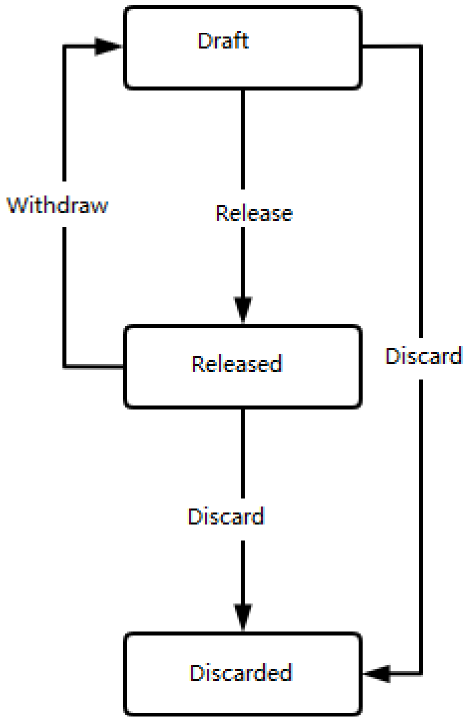
A rating template contains rating items and their display sequence. When creating an inspection task, you need to associate it with a rating template.

Context

You can configure different rating templates for inspection tasks in different scenarios. For example, to evaluate the agent service quality during an inspection, including the service attitude, clearness, instruction effectiveness, you can create a template and add the preceding rating items to the template.

A rating template can be in **Draft**, **Released**, or **Discarded** state. The following figure shows the relationships between the three states.

Figure 2-472 Life cycle of a rating template



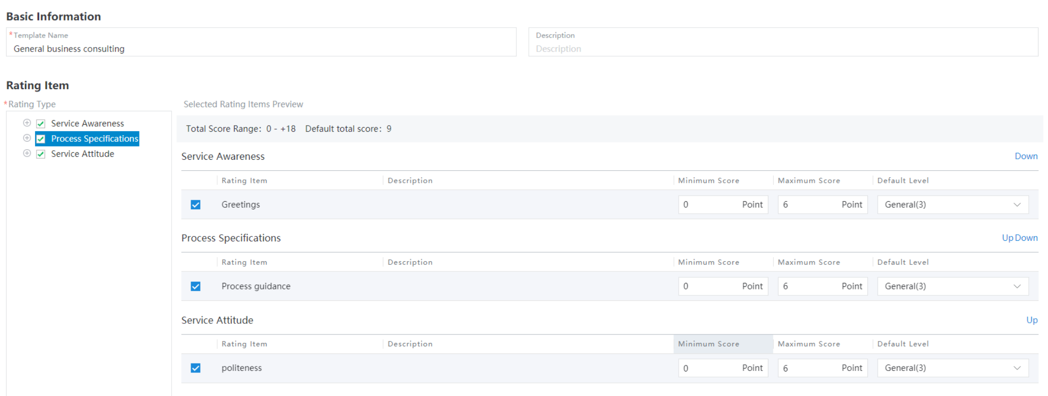
Only a template in **Released** state can be associated with an inspection task. After a task in **Released** or **Draft** state is deleted, the template enters the **Discarded** state.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Rating Template**.

Step 2 Click **Add**. On the **Create Rating Template** page, set template parameters.

Figure 2-473 Create Rating Template page



Set the following parameters:

- **Template Name**: Customized name, which is mandatory.
- **Description**: Template description, which is optional.
- **Rating Item**: Rating item. If multiple rating items are selected, their display sequence can be adjusted.

Step 3 Click **Save**. The rating template configuration is complete, and the rating template list page is displayed.

Step 4 Select the new template and click **Release**. In the dialog box that is displayed, click **YES** to release the template.

Step 5 The message "The template is released successfully." is displayed, and the template can be used.

----End

Follow-up Procedure

You can perform the following operations on a rating template in **Draft** state:

- Click **Details** to view the template content.
- Click **Modify** to modify the template.
- Click **Discard** to change the template status to **Discarded**. Discarded templates cannot be modified, released, or used.

You can perform the following operations on a rating template in **Released** state:

- Click **Details** to view the template content.
- Click **Discard** to change the template status to **Discarded**. Discarded templates cannot be modified, released, or used.

- Click **Withdraw** to change the template status to **Draft**. Draft templates cannot be used for rating.

You can perform the following operations on a rating template in **Discarded** state:

- Click **Details** to view the template content.

2.10.3.3 Managing Inspection Categories

Inspection category management includes the management of inspection categories and inspection category items under the categories. After creating an inspection category, you can add inspection category items for the category. You can select multiple inspection categories when managing inspection object types.

Context

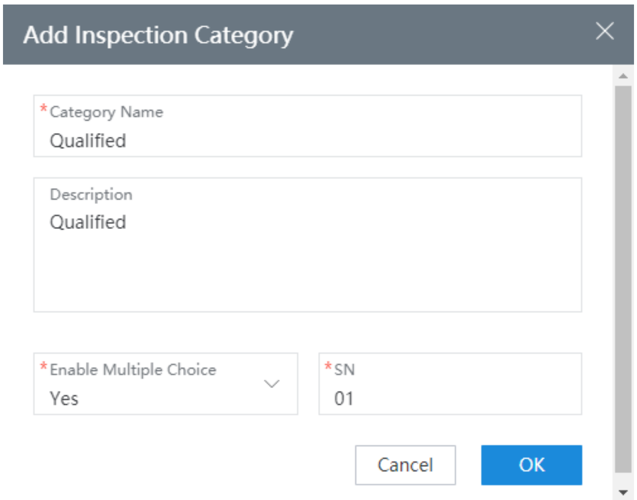
You can define inspection category items from different dimensions to categorize inspection results. For example, you can define inspection category items from the rating level and business type dimensions. If you associate the defined inspection category with the inspection object type and inspection task, you can select the rating level and business type when rating the records related to an inspection task.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Inspection Category**.

Step 2 Choose **Add**. In the **Add Inspection Category** dialog box, set category parameters.

Figure 2-474 Add Inspection Category dialog box



Set the following parameters:

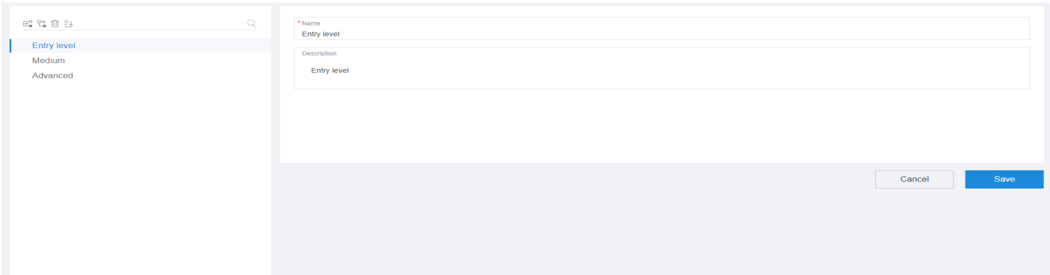
- **Category Name**: Customized name, which is mandatory. The value can contain a maximum of 1024 characters.
- **Description**: Category description, which is optional.

- **Enable Multiple Choice**: Whether a category supports selection of multiple category items. The options are **Yes** and **No**.
- **SN**: Display sequence of a category on the manual inspection page.

Step 3 Click **OK**. The category configuration is saved, and the inspection category list page is displayed.

Step 4 Select the new inspection category and click **Set Category Item**. The **Modify Inspection Category Item** page is displayed.

Figure 2-475 Modify Inspection Category Item page



Step 5 Click  to add a category item and set category item parameters.

- **Name**: Name of a category item.
- **Description**: Description of a category item.

Step 6 Click **Save**. The category item configuration is complete.

----End

Follow-up Procedure

Click **Modify** to modify an inspection category.

Click **Delete** to delete an inspection category that is no longer used.

2.10.3.4 Managing Inspection Object Types

Inspection category management includes the definition of inspection levels and inspection category items for different object types. When creating an inspection task, you need to select an inspection object type.

Context

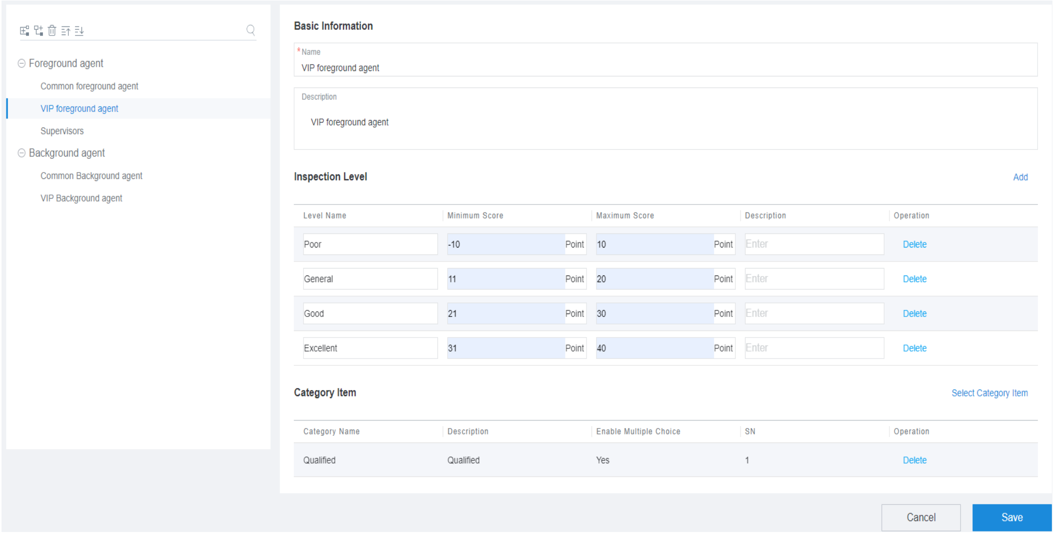
You can define different object types based on agent capabilities or businesses. For example, you can define common and VIP frontend and backend agents, and define different inspection levels and categories for different object types.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Inspection Object Type**.

Step 2 Click  to add an inspection object. Set basic information, inspection levels, and category items as prompted, and click **Save**.

Figure 2-476 Page for creating an inspection object type



Step 3 Set inspection object parameters.

1. Set **Name** and **Description**.
2. Click **Add** and set the parameters in the **Inspection Level** area.
3. Click **Select Category Item** and select category items.

Step 4 Click **Save**. The inspection object configuration is complete, and a saving success message is displayed.

----End

2.10.3.5 Managing Inspection Relationships

A tenant space administrator manages the organizations to which inspectors belong and allocates inspected tasks in a unified manner.

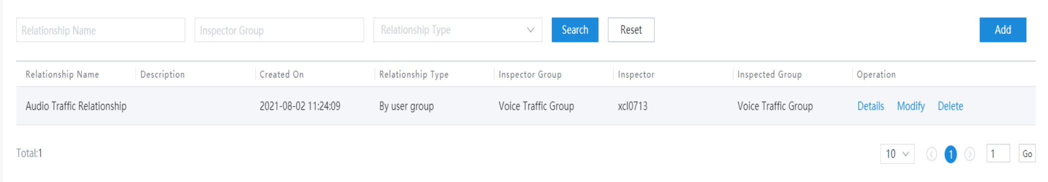
Context

You can define inspection relationships based on organizations and user groups. For example, if you want to classify user organizations by province or city, you can define inspection relationships to maintain the inspection relationships between different organizations. For a single organization, you can define whether the inspection relationship is applicable to all the members or lower-level organizations of the organization. Similarly, this also applies to the user group. You can select the relationship type when creating an inspection relationship. However, only one inspection relationship can be used.

Procedure

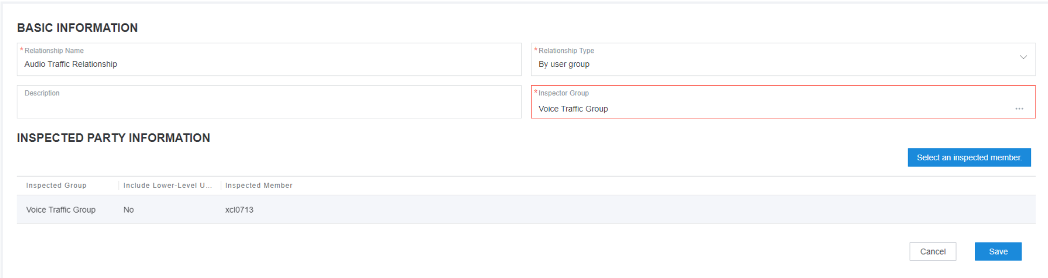
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Inspection Relationship**.

Figure 2-477 Page for managing inspection relationships



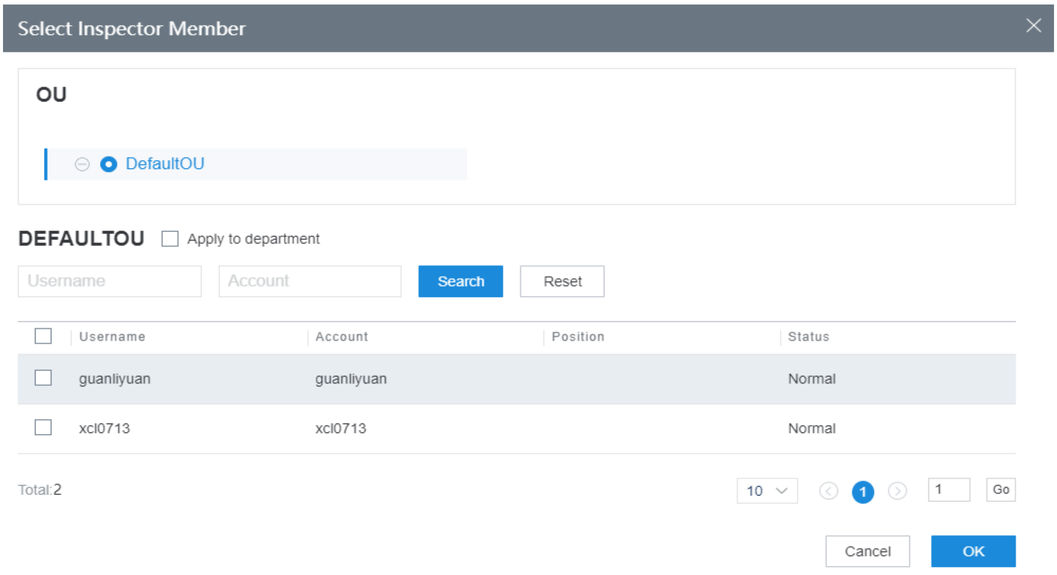
Step 2 Click **Add** and set the name, description, and relationship type as prompted.

Figure 2-478 Page for creating an inspection relationship



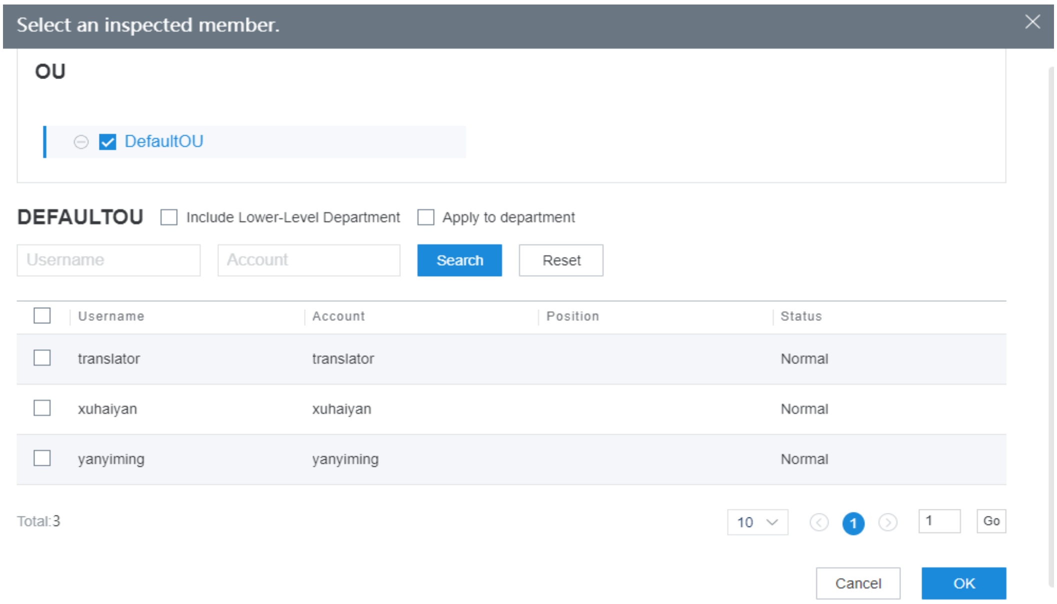
Step 3 Click *** on the right of the **Inspector Group** text box to select an inspector group and inspectors.

Figure 2-479 Dialog box for selecting inspector members



Step 4 Click **Select an inspected member.** and select an inspected member.

Figure 2-480 Dialog box for selecting an inspected member



Step 5 Click **Save**.

Step 6 Check that a message is displayed, indicating that the settings have been saved successfully.

----End

Follow-up Procedure

Click **Modify** to modify an inspection relationship.

Click **Delete** to delete an inspection relationship that is no longer used.

2.10.3.6 Configuring Inspection Tasks

A tenant administrator can create, query, modify, release, or delete inspection tasks, and configure inspection rules for inspectors.

Context

An inspection task can be in the **Draft** or **Released** state. In the **Draft** state, the inspection task can be modified, deleted, or released. In the **Released** state, the inspection task cannot be modified or deleted.

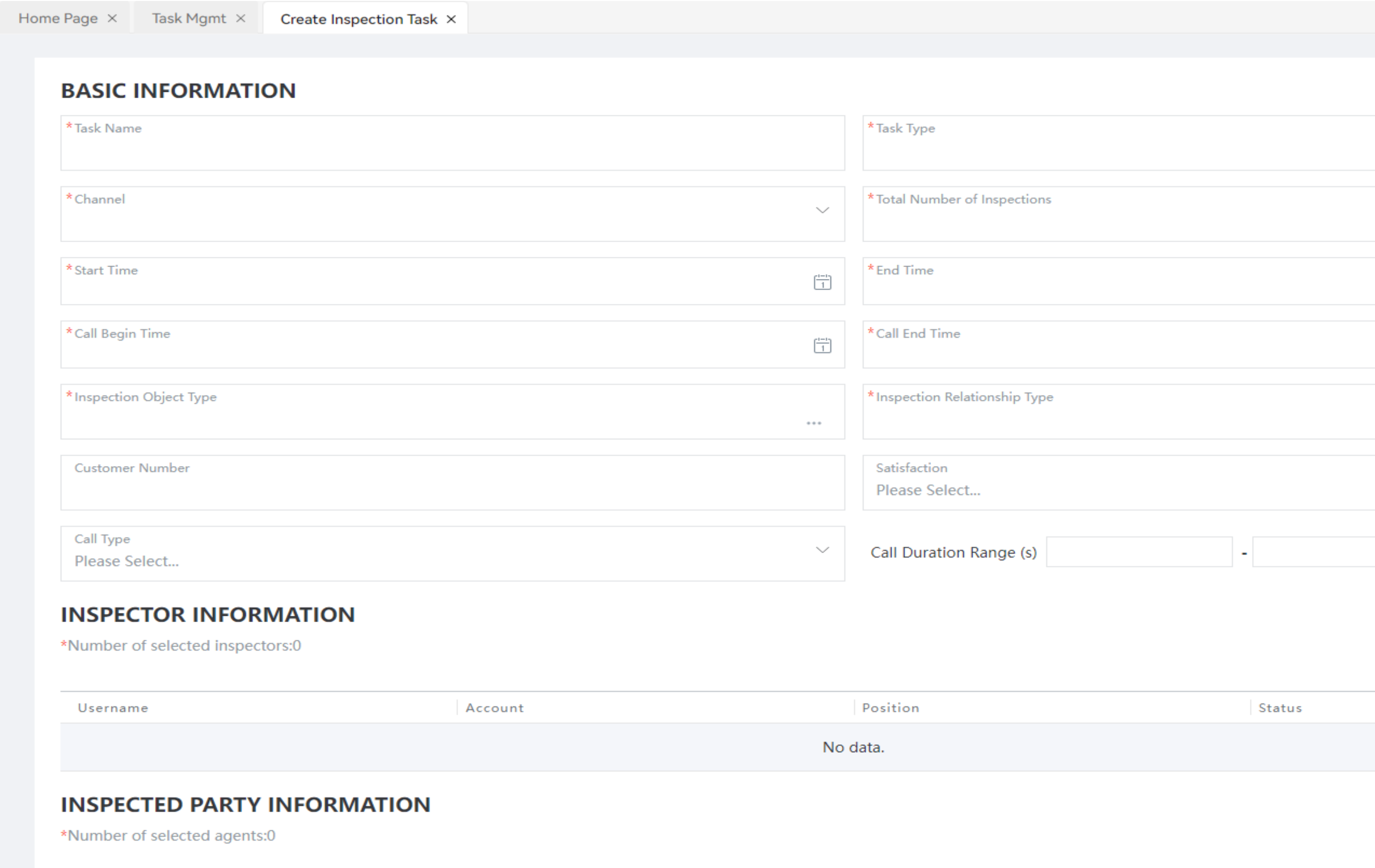
You can view the task details and results of released manual inspection tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Inspection** > **Task Mgmt**.

Step 2 Click **Add**. The **Create Inspection Task** page is displayed.

Figure 2-481 Create Inspection Task page



Step 3 Configure basic inspection task information.

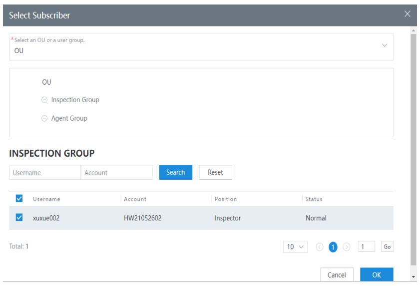
- **Task Name**: Task name, which is customized. The value can contain a maximum of 1024 characters.
- **Task Type**: The options are **Manual post-event inspection** and **Automatic post-event inspection**.
- **Channel**: Call channel. The options are **Audio**, **Video**, and **Multimedia**.
- **Total Number of Inspections**: Number of inspections to be performed. The value is an integer ranging from 0 to 99999.
- **Start Time**: Start time of an inspection task.
- **End Time**: End time of an inspection task.
- **Call Begin Time**: Start time of the communication in an inspection task.
- **Call End Time**: End time of the communication in an inspection task.
- **Inspection Object Type**: Inspection object type. For details about how to configure inspection object types, see **2.10.3.4 Managing Inspection Object Types**.
- **Inspection Relationship Type**: Inspection relationship type. The options are **Custom**, **By organization**, and **By user group**.
- **Customer Number**: Customer number. The value can contain a maximum of 50 characters.
- **Satisfaction**: Satisfaction. The default options are **Very dissatisfied**, **Dissatisfied**, **General**, **Satisfied**, and **Very satisfied**.

- **Call Type**: Call type. The options are **Outgoing Call**, **Incoming Call**, **Predicted outbound call**, **Preview outgoing call**, **Collaborative call**, and **Click-to-dial**.
- **Call Duration Range (s)**: Call duration range. The value is an integer ranging from 0 to 9999.

Step 4 If **Inspection Relationship Type** in the **BASIC INFORMATION** area is set to **Custom**, configure **INSPECTOR INFORMATION** and **INSPECTED PARTY INFORMATION**.

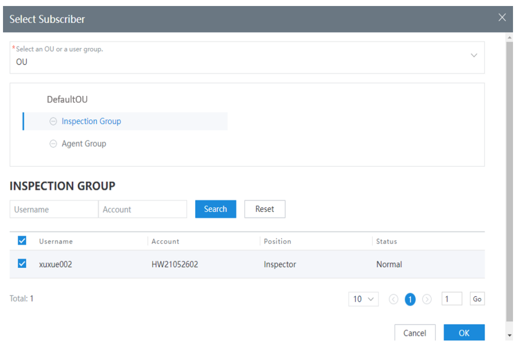
- **INSPECTOR INFORMATION**
  a. Click **Select Inspector Member**. The inspector information configuration page is displayed.

  Figure 2-482 Page for selecting users

  b. Set **Select an OU or a user group.** and select a specific group or OU.
  c. Select inspector accounts and click **OK** to save the inspector information.
- **INSPECTED PARTY INFORMATION**
  a. Click **Select an inspected member.** to access the information configuration page.

  Figure 2-483 Page for selecting users

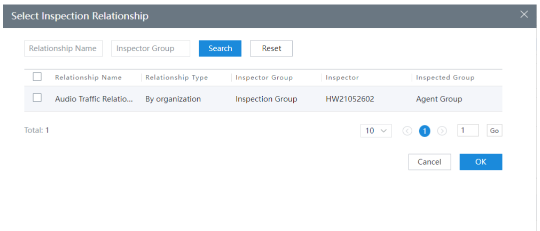
  

  b. Set **Select an OU or a user group.** and select a specific group or OU.
  c. Select inspected member accounts and click **OK** to save the inspected member information.

Step 5 If **Inspection Relationship Type** in the **BASIC INFORMATION** area is set to **By organization** or **By user group**, configure **INSPECTION RELATIONSHIP**.

1. Click **Select Inspection Relationship**. The relationship list page is displayed.

Figure 2-484 Page for selecting inspection relationships

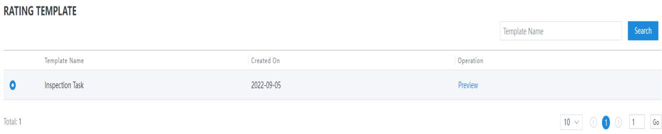


2. Select inspection relationships. For details about how to configure inspection relationships, see **2.10.3.5 Managing Inspection Relationships**.
3. Click **OK** to save the selected inspected relationships.

Step 6 Configure a rating template.

In the **RATING TEMPLATE** area, select a template and click **Save** to generate an inspection task. Manual inspection rating templates in **Released** state are displayed in the area. You can click **Preview** in the **Operation** column to preview a template.

Figure 2-485 Area for selecting a rating template



Step 7 (Optional) Choose **Inspection** > **Task Mgmt**, query inspection tasks, and click **Download The Inspection Result** to export the Task Result of the inspection tasks to a file.

NOTE

The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

----End

2.10.3.7 Viewing All Inspection Results

A tenant administrator can view all inspection results.

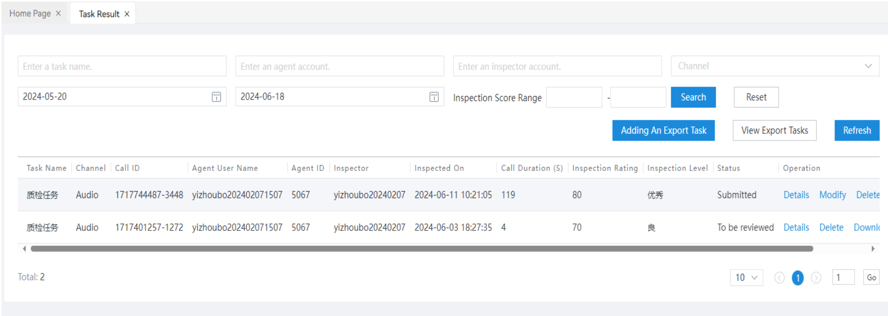
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Inspection** > **Task Result**.

Step 2 Set search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

Step 3 Click **Details** in the **Operation** column corresponding to an inspection result to go to the **Manual Inspection** page.

Figure 2-486 Page for searching for inspection results



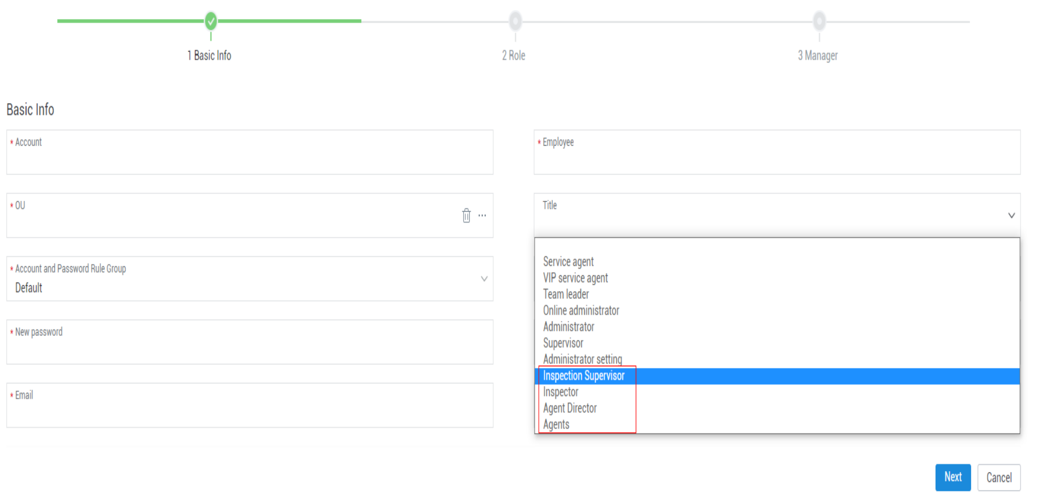
----End

2.10.4 Typical Scenario: Configuring AI Inspection Tasks

AI inspection refers to the process in which the AICC automatically rates agent call records based on specified rules such as wording, pause, and silence during a call between an agent and a customer. This reduces the inspection workload and labor cost in the call center. In addition, the AICC supports the second inspection by an inspector to supplement the AI inspection result, which avoids misjudgment.

Prerequisites

- You have set positions for employees involved in AI inspection on the **Configuration Center** > **Employee Center** > **Employee** page.



The titles and corresponding operations are as follows:

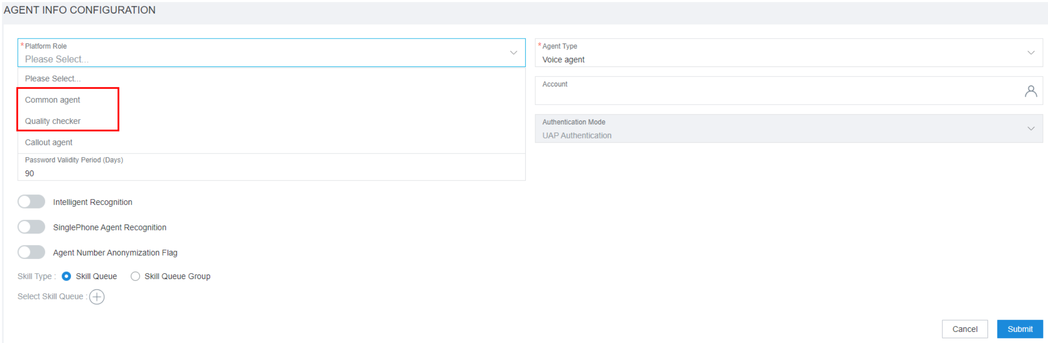
  - **Inspection Supervisor**: allocates an agent appeal application to an inspector.
  - **Inspector**: performs the second inspection based on the AI inspection result.
  - **Agent Director**: reviews the appeal application submitted by an agent.
  - **Agents**: provides call records for inspection and files possible appeals.

NOTICE

You have synchronized the preceding personnel titles to the AI inspection engine (currently, a third-party AI inspection engine).

By default, the AICC synchronizes information to the AI inspection engine every 10 minutes. If the information modified in the AICC is required, wait for 10 minutes before performing operations.

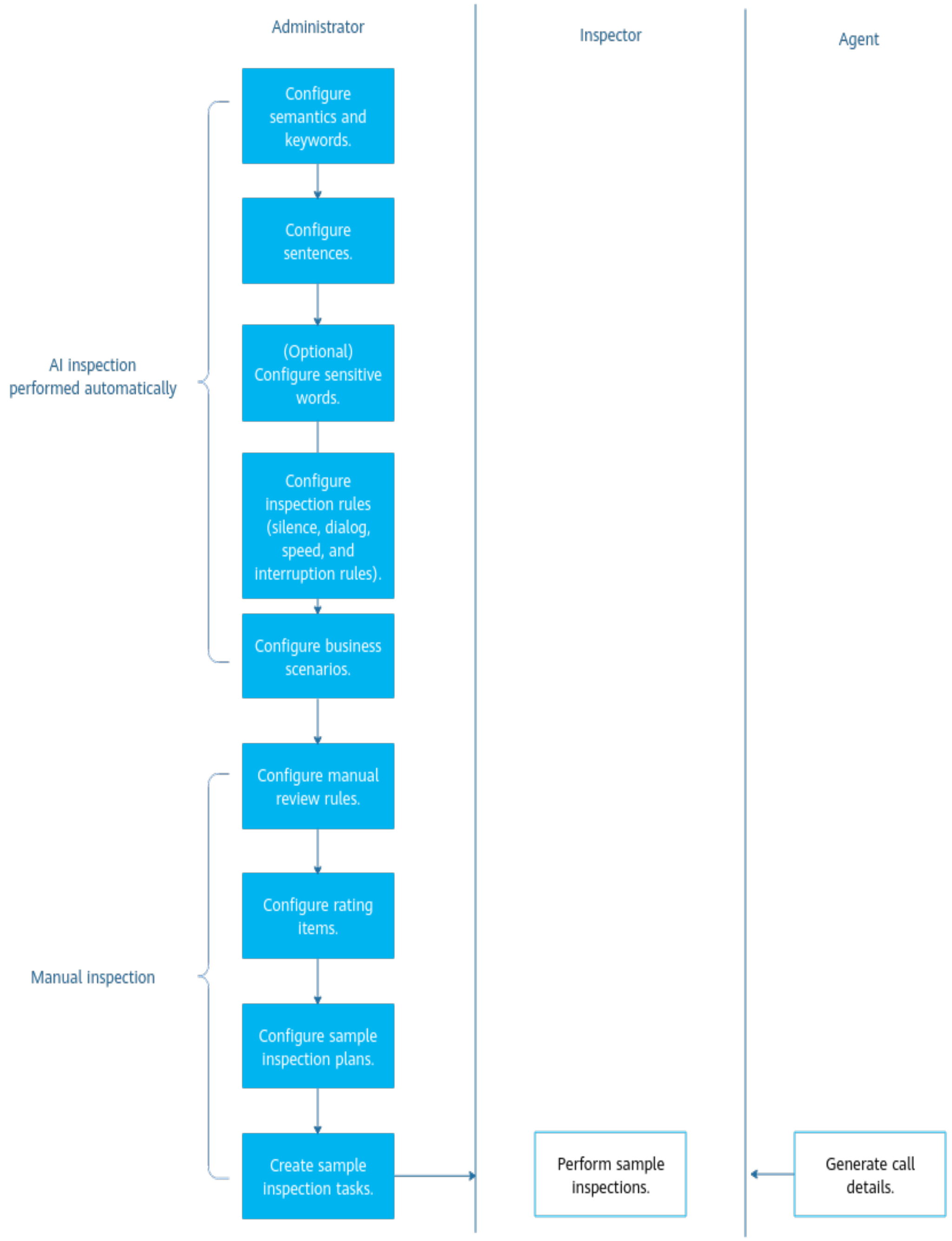
- You have configured **Platform Role** for the involved inspectors and agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.



Context

After the tenant space is enabled, the administrator needs to configure the following items for the AICC to execute AI inspection tasks.

Figure 2-487 Configuration flow



Scenario Description

The following AI inspection scenarios and sample inspection plans are specified in a call center:

- Points are deducted if an agent does not begin with a self-introduction.
- Points are deducted if agent statements contain abusive words during a call.
- Points are deducted if an agent pauses for more than 5 seconds during a call without telling a customer "Please wait".

- Points are deducted if an agent interrupts a customer during a call.
- All call records are inspected intelligently and 5% of them are inspected manually.
- The rating items for manual sample inspection are the same as those for manual post-event inspection.

Procedure

Step 1 Configure semantics and keywords.

1. Choose **Configuration Center** > **Quality Management** > **Sentence**.
2. Add the following tags by referring to **2.10.5.1 Managing Sentences**.

Table 2-148 Configuring semantics and keywords

Tag Name	Tag Type	Description
Self-introduction at the beginning	Semantics	Hello, this is agent ABC of the XXX call center.
Sensitive words	Keyword	Use commas (,) to separate multiple sensitive words.
Waiting prompt	Semantics	Please wait. Please wait a moment. Please hold on.

Step 2 Configure sentences.

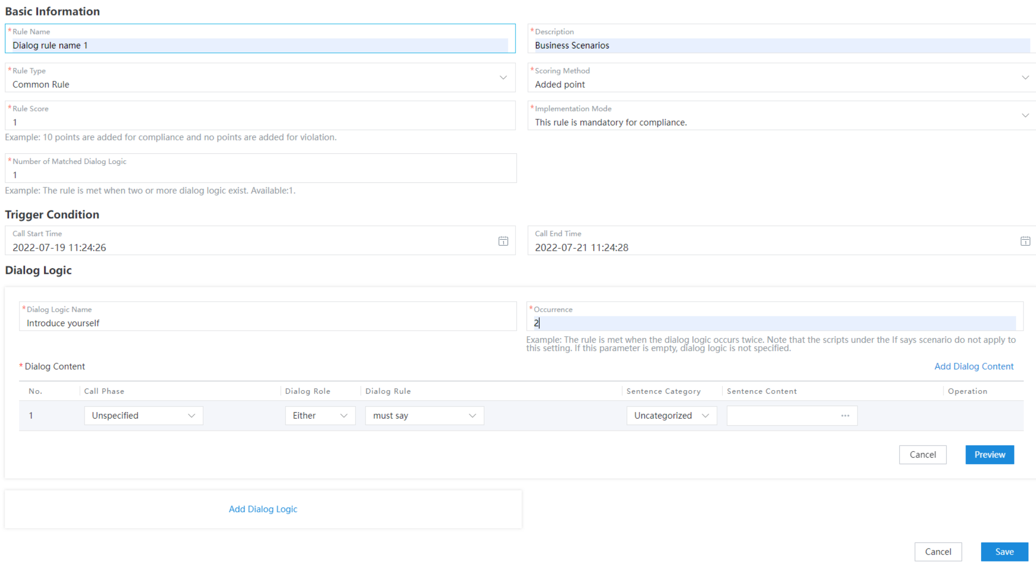
1. Choose **Configuration Center** > **Quality Management** > **Sentence**.
2. Click **Create Sentence** in the upper right corner to add a sentence for each of the three tags in the previous step. For details, see **2.10.5.1 Managing Sentences**.
3. Click **Training Quality Inspection Model** in the upper right corner to train semantics, keywords, and related configurations.

Step 3 Configuring inspection rules.

1. Add a dialog rule by referring to **2.10.5.3.2 Configuring Dialog Rules**.

   Based on the scenario, you can add two dialog rules. One is used to check whether an agent begins with a self-introduction, and the other is used to check whether sensitive words are contained in a call.

   The following uses the rule **Introduction at the call beginning** as an example.



During the configuration, pay attention to the following points:

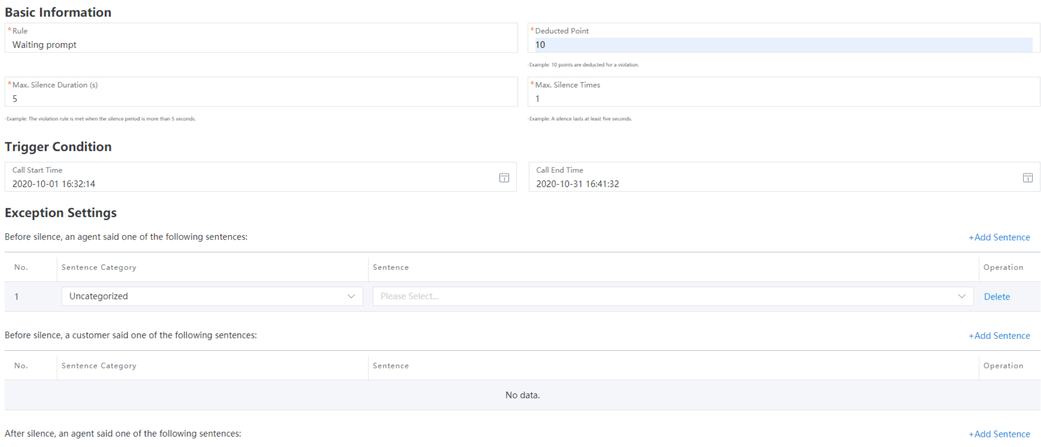
– **Scoring Method** and **Implementation Mode**: used to configure whether the rule is mandatory for compliance and whether the score is deducted when the rule logic is met.

  For example, if **Scoring Method** and **Implementation Mode** are set to **Deducted point** and **This rule is mandatory for compliance**, respectively, the rule is mandatory for compliance and no point is added or deducted when its logic is met. When its logic is not met, points are deducted. Similarly, if **Scoring Method** and **Implementation Mode** are set to **Added point** and **This rule is forbidden for compliance.**, respectively, the rule is forbidden for compliance and no point is added or deducted when its logic is not met. When its logic is met, points are added.

– **Number of Matched Dialog Logic**: The current rule is met only when a specified number of logics are successfully matched in the rule. **Occurrence** in the **Dialog Logic** area: The logic is met only when it occurs for the number of specified times.

– Configure the optional items properly, including **Description** and **Trigger Condition**. If these items are not configured, the inspection rule cannot be associated in subsequent configuration due to incompleteness.

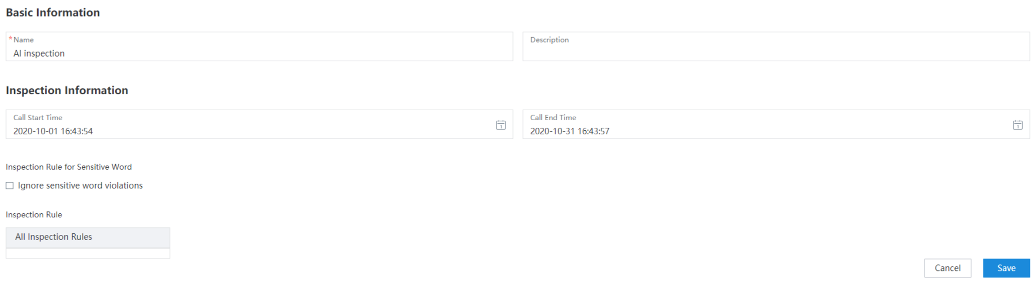
2. Add a silence rule by referring to **2.10.5.3.1 Configuring Silence Rules**, as shown in the following figure.



Step 4 Configure an inspection rating rule. For details, see **2.10.5.4 Configuring Inspection Rating Rules**.

Step 5 Configure a business scenario.

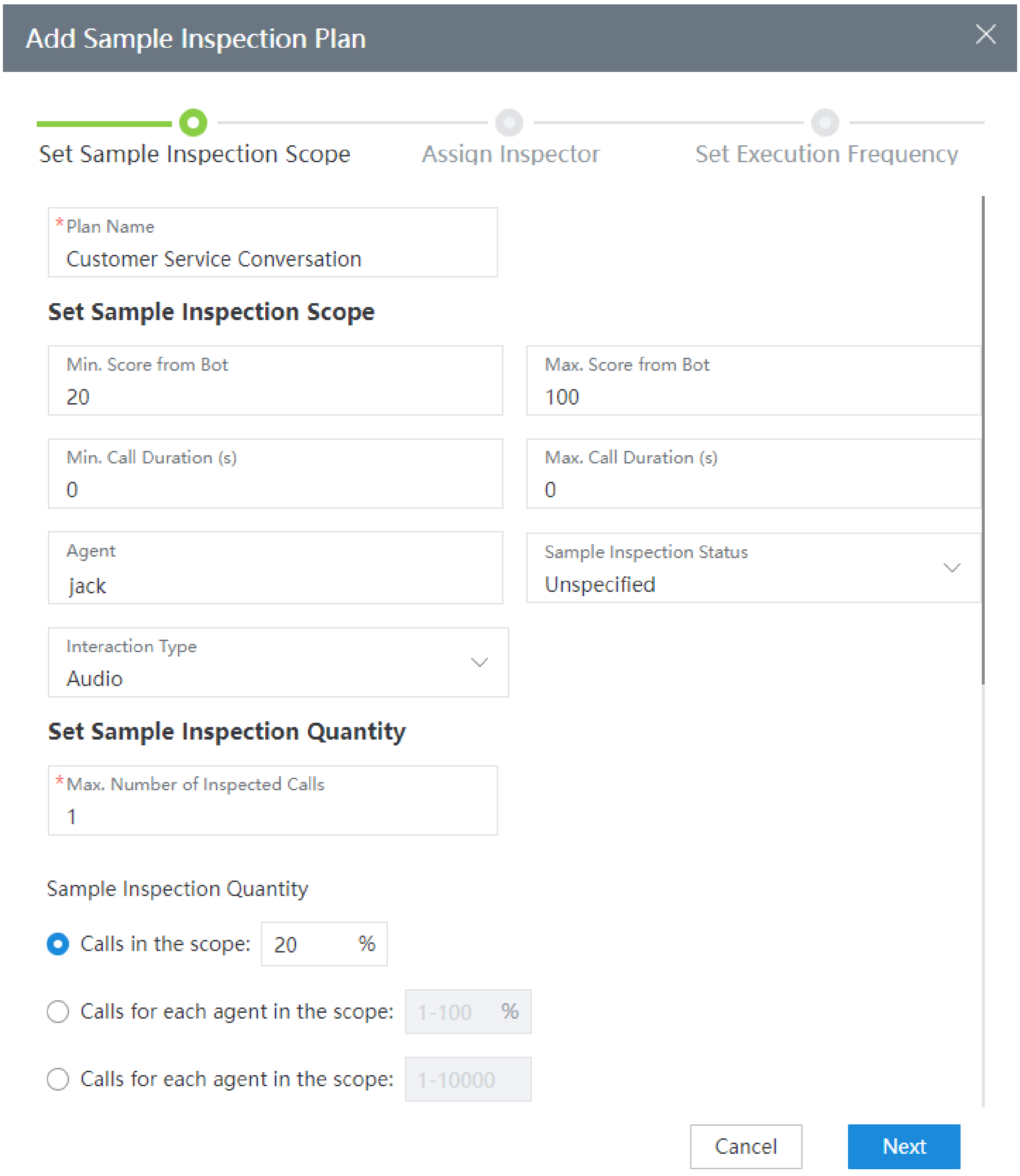
1. For details, see **2.10.5.5 Configuring Business Scenarios**.



In the preceding configuration, **Inspection Rule for Sensitive Word** specifies whether to display sensitive word violations in inspection reports. Currently, the AICC does not rate sensitive words. For details about how to configure sensitive words, see **2.10.5.1 Managing Sentences**.

2. On the **Business Scenario** page, click **Enable** next to the new business scenario.

Step 6 Configure a sample inspection plan. For details, see **2.10.5.7 Configuring Sample Inspection Plans**.



NOTICE

If no inspector or agent is available, check whether the corresponding titles in **Prerequisites** have been added for the employees.

----End

Follow-up Procedure

After operations in **Step 5** are complete, the administrator can view the AI inspection result by referring to **2.10.5.6 Viewing AI Inspection Results**.

After the operation in **Step 6** is complete, the inspector can execute the inspection task by referring to **2.10.5.8 Creating Sample Inspection Tasks**.

2.10.5 Managing AI Inspections (Self-Developed)

Tenant administrators can configure sentences, sensitive words, inspection rules, and scores to implement intelligent inspection management.

2.10.5.1 Managing Sentences

Sentences consist of a group of elements such as semantics and keywords to generally specify a complete purpose. This section describes how to manage sentences.

Context

Sentences are used to form rules. You can classify and manage sentences.

Sentences can be added on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Sentence**.

Step 2 Click  to add a sentence category.

Step 3 Enter a sentence category name and click **OK**.

Step 4 Select the configured sentence category and click **Create Sentence**. The **Create Sentence** page is displayed.

Step 5 Configure a sentence.

1. Enter **Sentence Name** and select **Sentence Category**. The category to which a new sentence belongs can be modified.
2. Select **Semantics and keyword** and click **Add**. The **Add Label** page is displayed.
3. Set **Tag Type**, configure **Synonymous Corpus** and **Antonym Corpus**, click **Add**, and click **OK**. The tag is added.
4. On the **Create Sentence** page, click **OK**. If the sentence is created successfully, the message "Operation succeeded" is displayed. In the dialog box that is displayed, click **OK**.

Step 6 (Optional) If your sentence category is improper, select the sentence and click **Move Category** to move the sentence to the new category.

----End

2.10.5.2 Managing Sensitive Words

This section describes how to configure sensitive words in inspection rules for inspection management.

Context

Sensitive words in inspection rules can be configured and managed by category.

Sensitive words can be added on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Sensitive Word**.

Step 2 Click  to add a sensitive word category.

Step 3 Enter a sensitive word category name and click **OK**.

Step 4 Select the created sensitive word category and click **Add Sensitive Word**. On the page that is displayed, set the parameters as required and click **OK**.

Step 5 (Optional) To move a sensitive word to a new category, select the sensitive word and click **Move Category**.

----End

2.10.5.3 Configuring Inspection Rules

Inspection rules include silence rules, dialog rules, speed rules, and interruption rules. This section describes how to manage and configure these rules.

2.10.5.3.1 Configuring Silence Rules

The behavior of an agent can be reviewed based on the duration in which the agent falls silent in a call. This section describes how to maintain silence rules.

A silence rule regulates the silence duration in a conversation between an agent and customer. If the silence duration is too long, it may affect the satisfaction of the customer. Therefore, silence rules can be configured to review agents on the **Inspection Rule** page. For some special situations, for example, a customer needs to find something in a call with an agent. During this period, the agent falls silent. In this case, exception rules can be set for reviewing agents more fairly

Silence rules can be created on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **SILENCE RULE** tab.

Step 2 Click **Add Rule**. The **Add Silence Rule** page is displayed.

Figure 2-488 Adding a silence rule

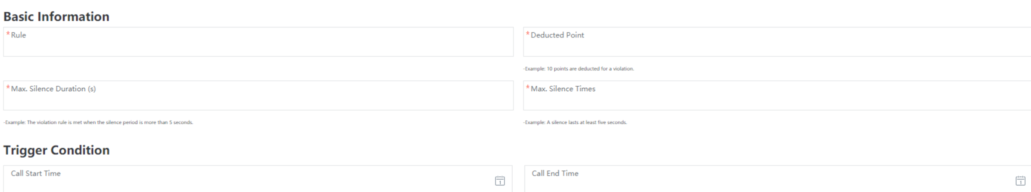
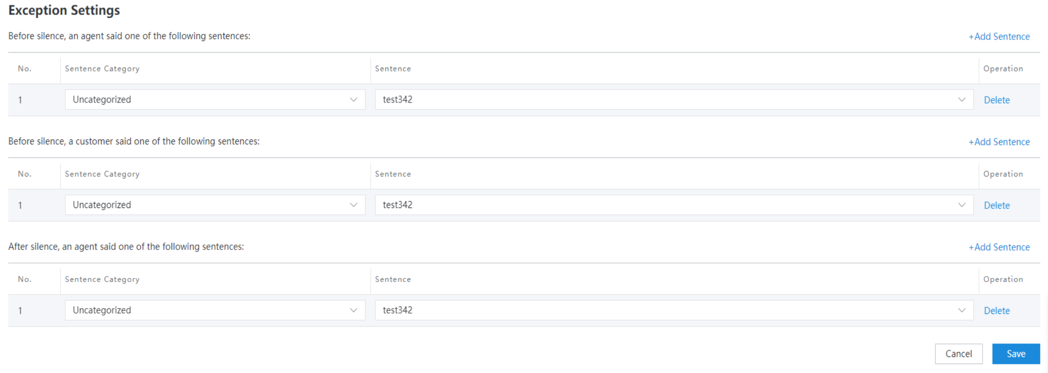


Figure 2-489 Exception settings



Step 3 Set parameters as required and click **Save**. The silence rule is added successfully.

----End

2.10.5.3.2 Configuring Dialog Rules

A dialog rule contains basic rule information, inspection conditions, and dialog logic. A dialog logic contains the dialog content which describes what the customer and agent need to say in different call phases.

Context

You can configure different dialog rules to be referenced when business scenarios are configured. For example, you can configure an agent introduction in a dialog rule for the return visit scenario, including the employee ID and thanks. The introduction semantics can be configured on the **Sentence** and **Semantic/ Keyword** pages. To configure a complete dialog rule, you can reference a series of sentences to form a dialog logic.

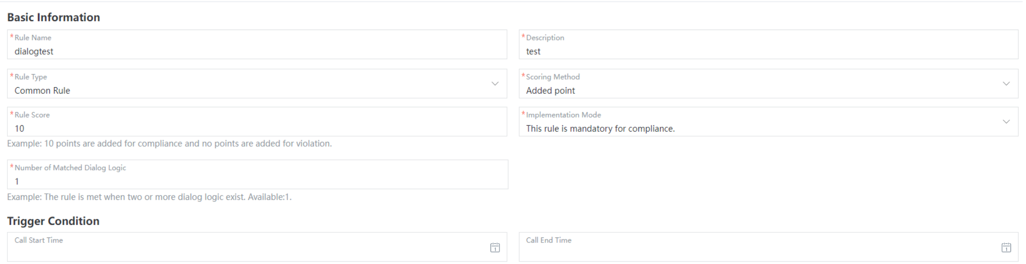
Dialog rules can be created on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **DIALOG RULE** tab.

Step 2 Click **Add Rule** and configure rule information.

Figure 2-490 Creating a dialog rule



- **Basic Information** includes **Rule Name**, **Description**, **Rule Type**, **Scoring Method**, **Rule Score**, **Implementation Mode**, and **Number of Matched Dialog Logic**.

- **Trigger Condition** includes **Call Start Time** and **Call End Time**.

Step 3 Configure the dialog logic.

1. Click **Add Dialog Logic**, and set the dialog logic name and number of occurrences as prompted.
2. Click **Add Dialog Content**, and set the call phase, dialog role, dialog rule, sentence category, and sentence content as prompted.
3. Click to add a sentence category and a sentence. Click to delete a sentence category and a sentence. Click **Delete** to delete the dialog content.
4. Click **Preview** to preview the added dialog logic. On the preview page, click **Modify** to modify the dialog logic. On the preview page, click **Delete** to delete the undesired dialog logic.

Figure 2-491 Adding and modifying a dialog logic

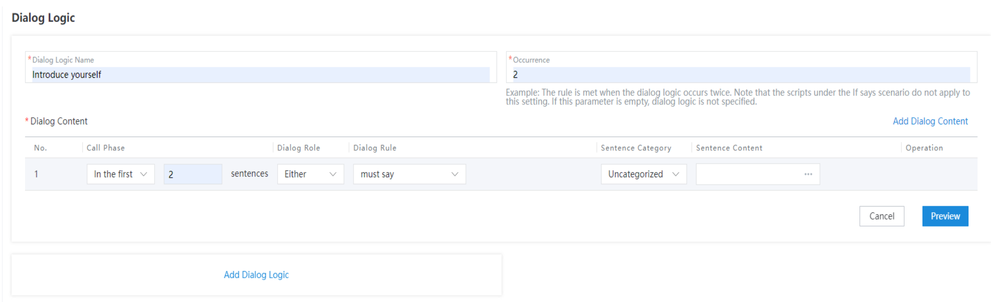
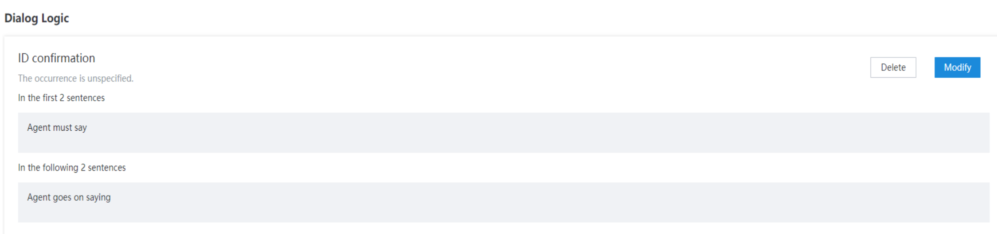


Figure 2-492 Previewing a dialog logic



Step 4 Click **Save** to save the dialog rule and return to the **DIALOG RULE** page.

----End

Follow-up Procedure

On the **DIALOG RULE** page, you can click **Search** to search for desired dialog rules based on the search criteria, click **Reset** to reset the search criteria, click **View** to modify the dialog rules, and click **Delete** to delete undesired dialog rules.

Figure 2-493 DIALOG RULE page

2.10.5.3.3 Configuring Speed Rules

A speed rule contains basic rule information, inspection conditions, and exception sentences. In a scenario where an exception sentence exists, the violation rule is not met.

Context

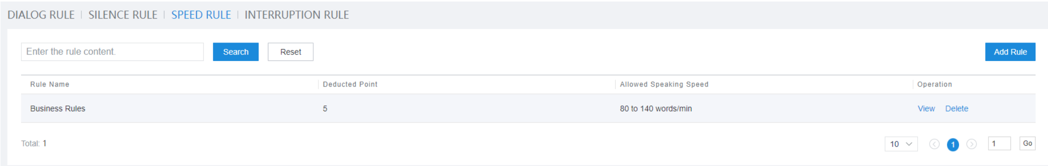
You can configure different speed rules to be referenced when business scenarios are configured.

Speed rules can be created on the GUI.

Procedure

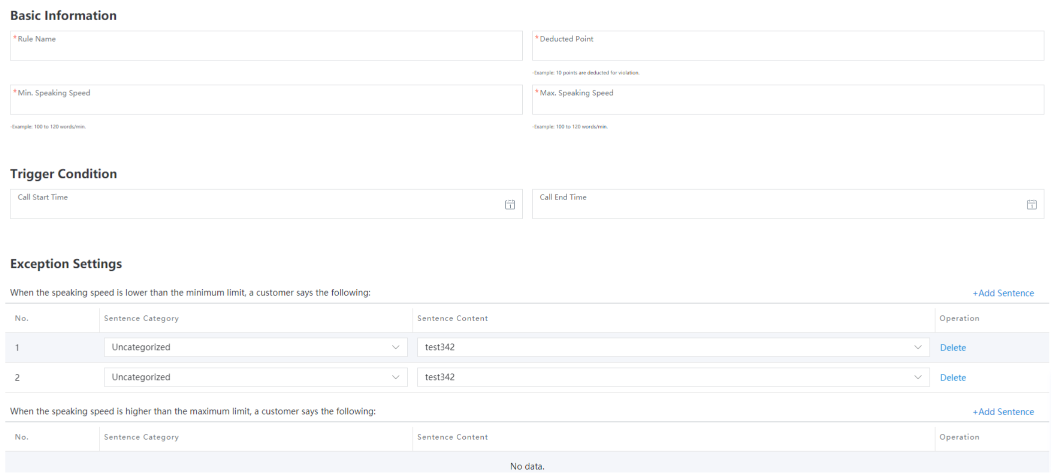
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **SPEED RULE** tab.

Figure 2-494 SPEED RULE page



Step 2 Click **Add Rule** and configure rule information.

Figure 2-495 Creating a speed rule



- **Basic information** includes **Rule Name**, **Deducted Point**, **Min. Speaking Speed**, and **Max. Speaking Speed**.
- **Trigger Condition** includes **Call Start Time** and **Call End Time**.

Step 3 Configure parameters for exception settings.

1. Click **+Add Sentence**, and set the sentence category and sentence content.
2. Click **Delete** to delete the created sentence.

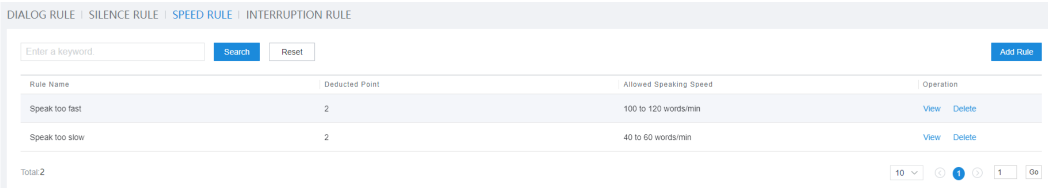
Step 4 Click **Save** to save the speed rule and return to the **SPEED RULE** page.

----End

Follow-up Procedure

On the **SPEED RULE** page, you can click **Search** to search for desired speed rules based on the search criteria, click **Reset** to reset the search criteria, click **View** to modify the speed rules, and click **Delete** to delete undesired speed rules.

Figure 2-496 Speed rules



2.10.5.3.4 Configuring Interruption Rules

An interruption rule contains the rule name, upper limit for crosstalk seconds and times, deducted points, and trigger conditions.

Context

When an agent and a customer speak at the same time, the agent is regarded as interrupting the customer during the call. You can configure different interruption rules to be referenced when business scenarios are configured. In an interruption rule, you can configure the upper limit for crosstalk seconds and times to determine whether an agent is compliant with the rule during a call. If the rule is violated, points are deducted.

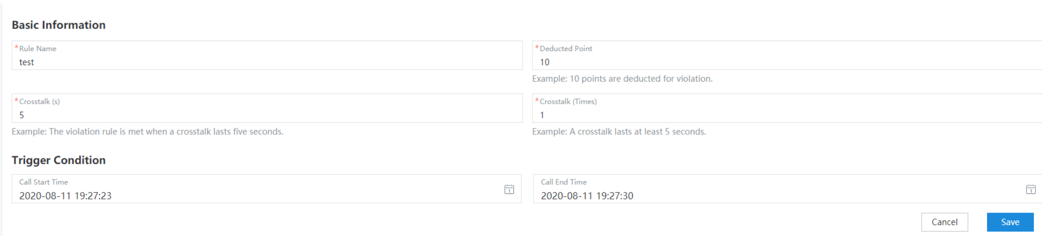
Interruption rules can be created on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **INTERRUPTION RULE** tab.

Step 2 Click **Add Rule** and configure rule information.

Figure 2-497 Creating or modifying an interruption rule



- **Basic information** includes **Rule Name**, **Deducted Point**, **Crosstalk (s)**, and **Crosstalk (Times)**.

- **Trigger Condition** includes **Call Start Time** and **Call End Time**.

Step 3 Click **Save** to save the interruption rule and return to the **INTERRUPTION RULE** page.

----End

2.10.5.4 Configuring Inspection Rating Rules

You can customize inspection rating rules for AI inspection tasks. This section describes how to set inspection scores.

Business Scenario

An inspection trainer sets inspection scores for an insurance industry template online. The start score, minimum score, and maximum score are set to 80, 0, and 100, respectively.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Appraise Score Setting**.

Step 2 Click **Add** to add an inspection rating rule.

Step 3 Configure a rating item.

Set **Rule Name**, **Start Score**, **Minimum Score**, and **Maximum Score**.

Step 4 Click **OK** to save the rating configuration.

Step 5 Click **Apply** to apply the new inspection rating rule. The inspection rating rule is then applied to the AI inspection of call recording.

----End

2.10.5.5 Configuring Business Scenarios

Inspection business scenarios can be configured. Each scenario contains multiple inspection rules. The system implements AI inspections based on business scenarios.

Context

A business scenario is a set of multiple inspection rules. A condition can be set for a business scenario. Calls that meet the condition will be inspected. An inspection rule can belong to multiple business scenarios. For example, a call of a business department belongs to business scenario A. After the business scenario is modified, inspected calls will not be inspected again. Only new calls belong to this modified business scenario will be inspected.

Only business scenarios in **Enabled** state can be used for AI inspections. You can manually switch the business scenario states.

You can maintain business scenarios by adding them on the GUI or by importing them offline.

In the offline scenario, you can fill in an Excel template offline and import elements such as business scenarios, semantics, keywords, sensitive words, sentences, and rules for specified AI inspection tasks.

NOTE

Data that is not associated with businesses can be imported individually. For example, to import a sensitive word associated with a sentence, you need to configure the corresponding sentence data. If the sensitive word is not associated with a sentence, you can directly import it.

In the Excel template scenario, pay attention to the following:

- One sheet corresponds to the configuration item of one element. When a template is imported, only the configuration items corresponding to the sheet with content are updated.

  The following lists the sheets in a template and the corresponding content to be entered:

  - **business-scenario**: Enter business scenarios.
  - **intent-category**: Enter sentences.
  - **intent-corpus**: Enter the semantics content.
  - **intent-rule-corpus**: Enter keywords.
  - **sensitive-group-word**: Enter sensitive words.
  - **dialog-rule**: Enter the basic content of dialog rules.
  - **dialog-flow**: Enter the logic content of dialog rules.
  - **dialog-sentence-group**: Enter sentences of dialog rules.
  - **silence-rule**: Enter the content of silence rules.
  - **speed-rule**: Enter the content of speed rules.
  - **interruption-rule**: Enter the content of interruption rules.
- The business scenarios in each sheet are identified by name. If the name of a business scenario is different from that of the element of the same type in the system, the configuration item can be added. If they are the same, the configuration item cannot be added.

  NOTE

  If the name of a business scenario already exists in the system, update the name of the existing business scenario.
- The column names in the Excel file can be modified based on site requirements, but they cannot be deleted. In addition, the sequence of each column must be fixed. Otherwise, errors may occur during the import.
- Pay attention to special characters in the Excel file, such as < (less-than sign) and > (greater-than sign), which indicates hypertext tags. Otherwise, the import may fail.

Procedure

Scenario 1: Adding a business scenario online

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Business Scenario**.

Step 2 Click **Add** to add a business scenario.

Step 3 On the **Add Business Scenario** page, set **Name**, **Description**, **Call Start Time**, and **Call End Time**, set **Inspection Type** to **Voice Type** or **Text Type**, select inspection rules, and click **Save**.

Step 4 In the dialog box that is displayed, click **OK**.

----End

Scenario 2: Importing business data offline

Step 1 Download the import template from the GUI.

Step 2 Fill in the sheets of the import template by referring to the following table.

NOTICE

The content on each sheet is imported to the corresponding configuration page in the system. If data with the same name exists on the configuration page, the import fails.

Table 2-149 business-scenario sheet

Column	Description	Value Example
Scenario Name	Business scenario name. This column is mandatory.	-
Scenario Description	Business scenario description.	-
Ignore Sensitive Words	Whether to ignore sensitive words. This parameter is mandatory. ● **0**: no ● **1**: yes	1
Scenario Status	Whether a business scenario is enabled. This parameter is mandatory. ● **0**: no ● **1**: yes	1
Call Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Call End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-
Dialog Rule	Dialog rule, which must be configured in the **dialog-rule** sheet.	-

Column	Description	Value Example
Silence Rule	Silence rule, which must be configured in the **silence-rule** sheet.	-
Speed Rule	Speed rule, which must be configured in the **speed-rule** sheet.	-
Interruption Rule	Interruption rule, which must be configured in the **interruption-rule** sheet.	-
Interaction Type	Interaction type of a business scenario. If this parameter is not set, the voice type is used by default. ● **0**: voice type ● **2**: text type	0

Table 2-150 intent-category sheet

Column	Description	Value Example
Sentence Category Name	Sentence category name. This column is mandatory.	-
Sentence Name	Sentence name. This column is mandatory.	-
Sentence Category Usage	Sentence category usage. ● **dialog_rule**: dialog rule ● **speaker_identify_rule**: rule for distinguishing speaker roles	dialog_rule

Table 2-151 intent-corpus sheet

Column	Description	Value Example
Sentence Name	Sentence name. This column is mandatory.	-
Corpus	Semantic name. This column is mandatory.	-
Language	Semantic internationalization. This column is mandatory. ● **zh_CN**: Chinese ● **en_US**: English	-

Column	Description	Value Example
Negative Sample	Whether the corpus is an antonym corpus. This column is mandatory. ● **false**: synonym corpus. ● **true**: antonym corpus.	-
Full Match	Whether the semantic content needs to be fully matched. This column is mandatory. ● **false**: partial match. ● **true**: full match.	false

Table 2-152 intent-rule-corpus sheet

Column	Description	Value Example
Sentence Name	Sentence name. This column is mandatory.	-
Corpus	Keyword. This column is mandatory.	-
Language	Keyword internationalization. This column is mandatory. ● **zh_CN**: Chinese ● **en_US**: English	-
Negative Sample	Whether the corpus is an antonym corpus. This column is mandatory. ● **false**: positive sample. ● **true:** negative sample.	-
Full Match	Whether full match is required for the keyword content. This column is mandatory. ● **false**: partial match. ● **true**: full match.	false

Table 2-153 sensitive-group-word sheet

Column	Description	Value Example
Sensitive Word Category Name	Sensitive word category name. This column is mandatory.	-

Column	Description	Value Example
Sensitive Word	Sensitive word. This column is mandatory.	-
Score	Rule score, which indicates that points are deducted for violation. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Agent Exception	Sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1|Sentence name 2
Customer Exception	Sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 2

Table 2-154 rule-dialogue sheet

Column	Description	Value Example
Rule Name	Dialog rule name. This column is mandatory.	-
Rule Description	Description of a dialog rule.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to +100. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value. ● If the rule is used for point deduction, points deducted for violation are displayed. ● If the rule is used for point adding, points added for compliance are displayed. ● If the rule score is 0, the score is not calculated.	-5

Column	Description	Value Example
Rule Type	Rule type. This column is mandatory. ● **normal**: general rule. ● **critical**: important rule.	normal
Rule Mode	Rule mode. This column is mandatory. ● **positive**: positive rule. This rule is mandatory for compliance. ● **negative**: negative rule. This rule is mandatory for violation.	negative
Number of Dialog Logics for Compliance	Number of dialog logics for compliance. This column is mandatory. The value is an integer ranging from 1 to 100. If a decimal point exists, round down the value.	1
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-

Table 2-155 dialog-flow sheet

Column	Description	Value Example
Dialog Logic Name	Dialog logic name. This column is mandatory.	-
Dialog Rule	Dialog rule name. This column is mandatory.	-
Sentence Group Name	Name of the sentence group. This column is mandatory. Multiple sentence groups can be separated by vertical bars (|).	Sentence group name 1|Sentence group name 2

Column	Description	Value Example
Expression	Expression of a sentence group. ● **must**: must say ● **must|then**: must say|goes on saying ● **must|and**: must say|also says ● **must|and|then**: must say|also says|goes on saying ● **if|after**: Before the previous sentence|must say ● **if|after|and**: Before the previous sentence|must say|also says ● **if|after|then**: Before the previous sentence|must say|goes on saying ● **if|iand**: If says|must say (Either) ● **if|iand|and**: If says|must say (Either)|also says ● **if|iand|then**: If says|must say (Either)|goes on saying ● **if|then not**: cannot say ● **if|then**: After the previous sentence|must say ● **if|then|and**: After the previous sentence|must say|also says ● **if|then|then**: After the previous sentence|must say|goes on saying	if|then not
Minimum Number of Repetitions	Number of times the dialog logic is repeated. The value is an integer ranging from 2 to 127. If a decimal point exists, round down the value.	-

Table 2-156 dialog-sentence-group sheet

Column	Description	Value Example
Sentence Group Name	Sentence group name. This column is mandatory.	-
Dialog Rule Name	Dialog rule name. This column is mandatory.	-

Column	Description	Value Example
Dialog Logic Name	Dialog logic name. This column is mandatory.	-
Dialog Type	Dialog rule type. This column is mandatory. ● **must**: must say ● **if**: if says ● **must_say**: must say ● **must_not_say**: cannot say ● **then**: goes on saying ● **and**: also says	-
Optional	Reserved field. This parameter is mandatory. ● **true**: optional ● **false**: mandatory	-
Dialog Role	Matching role, which specifies whether a customer or an agent speaks in a dialog rule. This column is mandatory. ● **any**: not specified. ● **staff**: agent. ● **customer**: customer	any
Call Phase	Call phase. ● **any**: not specified. ● **top**: beginning of a call. ● **bottom**: end of a call. ● **set**: sets the interval.	any
Interval	Call interval. The value ranges from 1 to 9999. The value must be an integer. If a decimal point exists, round down the value. This column is mandatory only when **Call Phase** is set to **top**, **bottom**, or **set**.	-
Sentence	Sentence name. Multiple sentences can be separated by vertical bars (|).	-

Table 2-157 silence-rule sheet

Column	Description	Value Example
Rule Name	Name of a silence rule. This column is mandatory.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Consecutive Silence Seconds for Violation	Consecutive silence seconds for violation. This column is mandatory. The value is an integer ranging from 1 to 2147483647. If a decimal point exists, round down the value.	3
Number of Silence Times for Violation	Number of silence times for violation. This column is mandatory. The value is an integer ranging from 1 to 2147483647. If a decimal point exists, round down the value.	1
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-
Exception Settings for an Agent Before Silence	Exception settings for an agent before silence. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1| Sentence name 2
Exception Settings for a Customer Before Silence	Exception settings for a customer before silence. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1| Sentence name 2
Exception Settings for an Agent After Silence	Exception settings for an agent after silence. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1| Sentence name 2

Table 2-158 speed-rule sheet

Column	Description	Value Example
Rule Name	Name of a speed rule. This column is mandatory.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Minimum Number of Words/min	If the value is less than the value of this parameter, the speaking speed is too low and a violation is met. This parameter is mandatory. The value is an integer ranging from 1 to 220. If a decimal point exists, round down the value.	180
Maximum Number of Words/min	If the value is greater than the value of this parameter, the speaking speed is too high and a violation is met. This parameter is mandatory. The value is an integer ranging from 1 to 2147483647. If a decimal point exists, round down the value.	300
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-
Customer Statement When the Speed Is Higher Than the Maximum	Customer statement when the speed is higher than the maximum. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1| Sentence name 2
Customer Statement When the Speed Is Lower Than the Minimum	Customer statement when the speed is lower than the minimum. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1| Sentence name 2

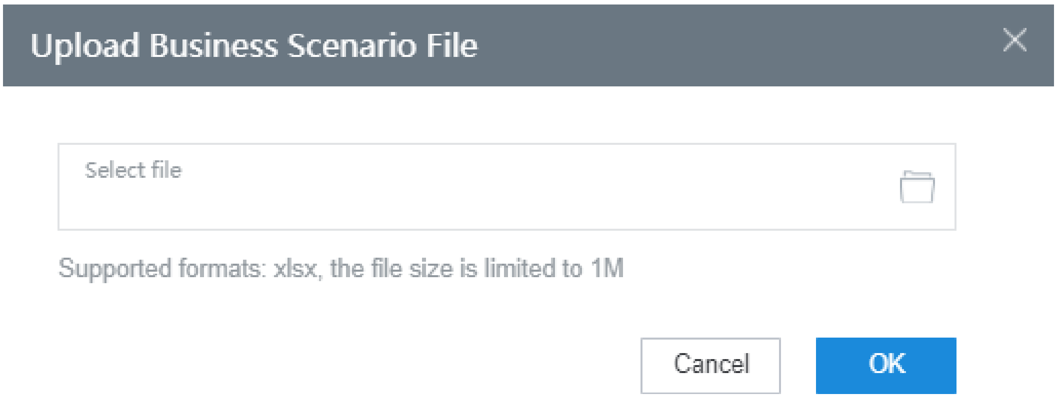
Table 2-159 interruption-rule sheet

Column	Description	Value Example
Rule Name	Name of the interruption rule. This column is mandatory.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Crosstalk Duration (s)	Crosstalk seconds. This column is mandatory. The value is an integer ranging from 1 to 10000. If a decimal point exists, round down the value.	5
Number of Crosstalks	Number of crosstalk times. This column is mandatory. The value is an integer ranging from 1 to 10000. If a decimal point exists, round down the value.	1
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-

Step 3 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Business Scenario**.

Step 4 Click **Import** to import the business scenario file.

If the import fails, the system displays the message "Failed to import the file. Check the data." In the dialog box that is displayed, click **OK** to reselect the business scenario file.

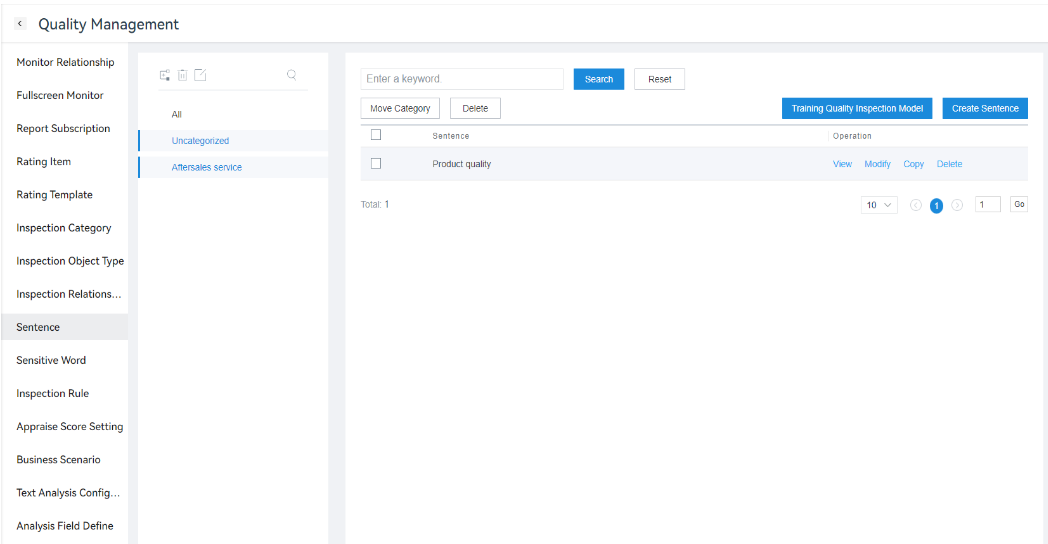


Step 5 Click **OK**. The task is successfully imported.

Step 6 (Optional) Select a business scenario and click Export. A message is displayed, asking you whether to download the business scenario. After you click OK, the business scenario is exported successfully.

The dialog rules associated with the selected business scenario cannot contain sentences or sensitive words in the **Uncategorized** category. Otherwise, the exported Excel file cannot be imported.

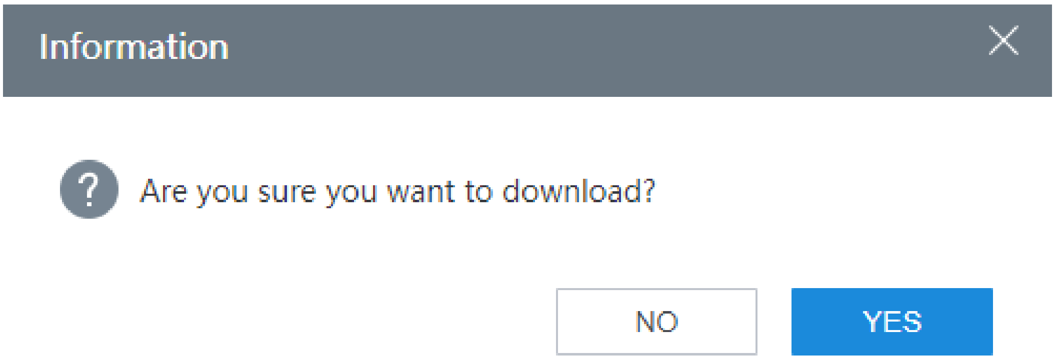
Figure 2-498 Uncategorized page



NOTE

A maximum of 100 records can be exported.

Figure 2-499 Confirmation dialog box



----End

2.10.5.6 Viewing AI Inspection Results

A tenant administrator can query inspection records. After call files are uploaded, the AI inspection and manual review results can be viewed.

Context

A tenant administrator can upload desired call files. The AI inspection system checks the business rules for the call recordings on the backend to determine whether the customer or agent violates the rules. For example, the system checks whether dirty words or sensitive words exist. This improves inspection efficiency.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **Inspected Call List**.

On the **Inspected Call List** page, brief search criteria and the list of inspected calls are displayed.

Step 2 Click **Upload Call** to upload the desired calls. Set **File Type** to **Audio** or **Text**, click to select a file from the local PC, set other information, and click **OK** to upload the file.

NOTE

A text file must be in CSV format, and its size cannot exceed 1 MB. If the file contains Chinese characters, set the CSV encoding format to UTF-8 or use the template to upload.

Step 3 (Optional) On the **Inspected Call List** page, click **To-Be-Inspected Call List** to switch from the completed call list to the pending call list.

Step 4 Click **View** in the list. The **Inspected Call Details** page is displayed.

Step 5 Click Session Content | Call Information on the left to switch between the session content page and the call information page as required.

Step 6 Click of the recording player to play the recording. You can click or to rewind or fast-forward the recording for 10 seconds.

Step 7 Click **Audio Track Marking**. A red dot is displayed in the player on the left, and you can click the red dot to locate the audio track. Click **Unmark Audio Tracks**. The red dot is hidden in the player on the left

Step 8 (Optional) Implement fuzzy search in the text box. The keywords are highlighted in the dialog box below. On the **Call Information** tab page, you can view the call information details.

Step 9 (Optional) Click **Switch Speaker Role** and click **YES** in the dialog box that is displayed to exchange the customer role with the agent role. The call is inspected again and the inspection result is updated.

Step 10 (Optional) Click next to an agent or customer to play the corresponding voice.

Step 11 Click **Switch to Other Inspection Scenarios**. The page for selecting an inspection scenario is displayed on the right.

After an inspection scenario is selected, the details about the scenario are displayed in the table on the main page.

----End

2.10.5.7 Configuring Sample Inspection Plans

An inspection supervisor needs to configure a scheduled sample inspection plan before creating manual sample inspection tasks to re-inspect the calls that have been intelligently inspected.

Context

An inspection supervisor can set a scheduled sample inspection plan to perform the intelligent sample inspection. The inspection supervisor can assign new sample inspection tasks to inspectors.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **Spot-Check Plan**.

Step 2 Click **New** to create and configure a sample inspection plan.

Step 3 Configure the new sample inspection plan.

Figure 2-500 Add Sample Inspection Plan page

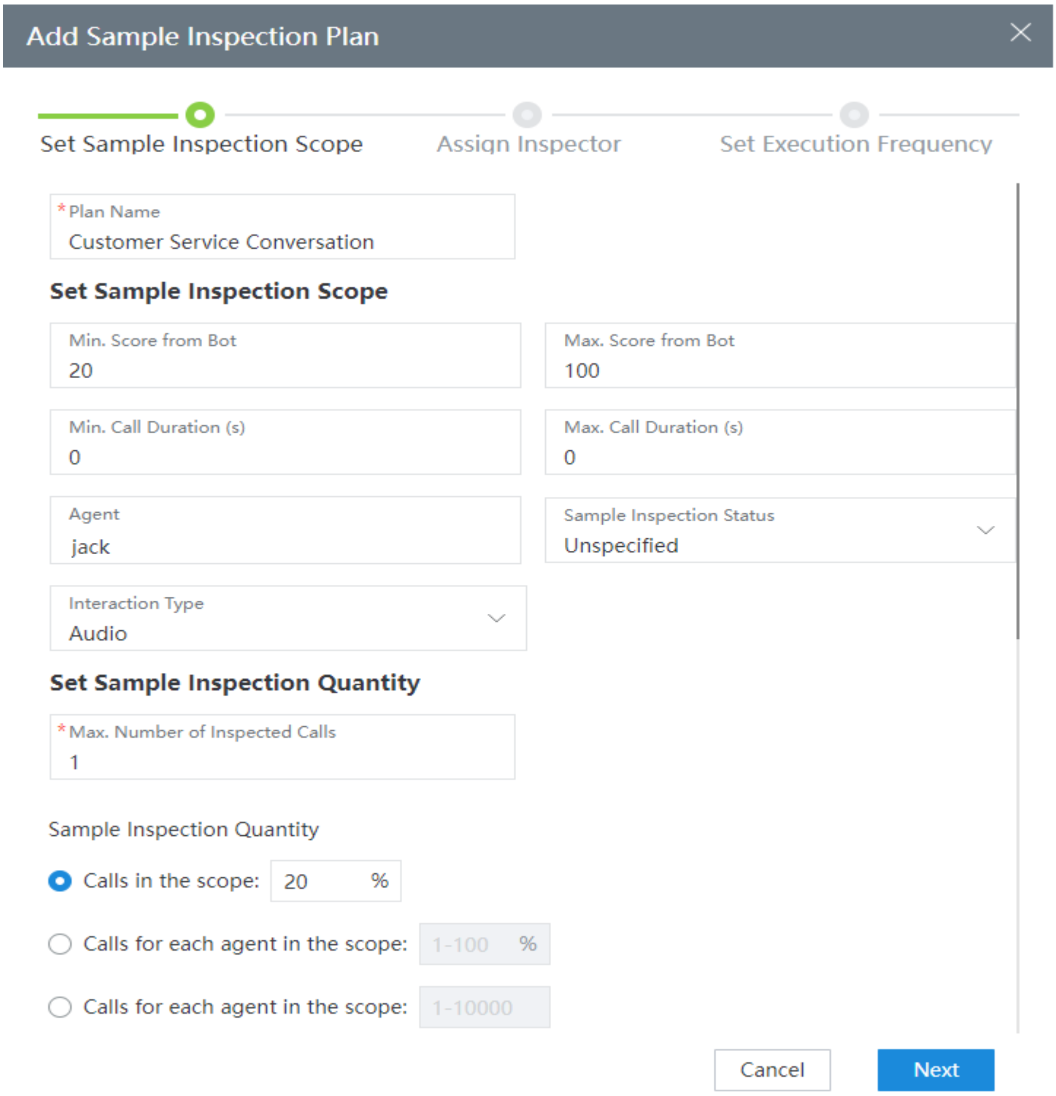


Figure 2-501 Assign Inspector page

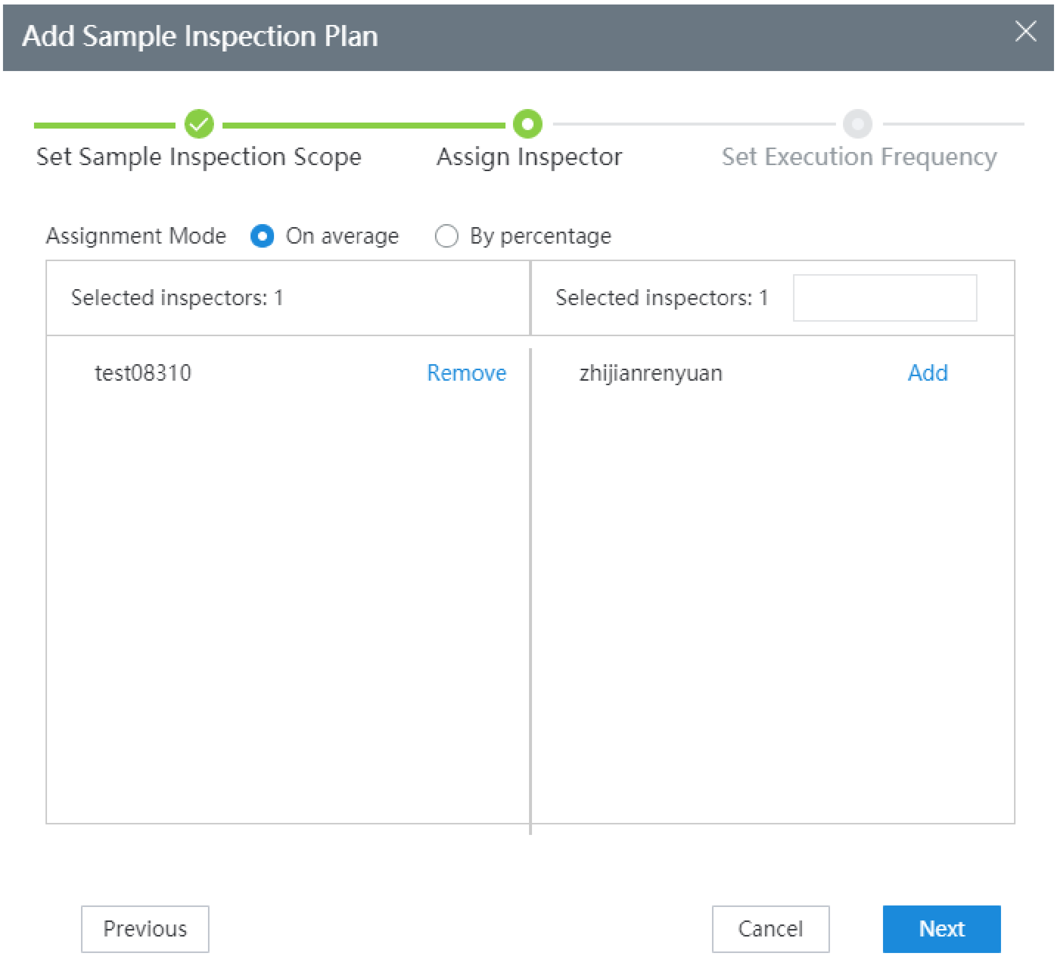
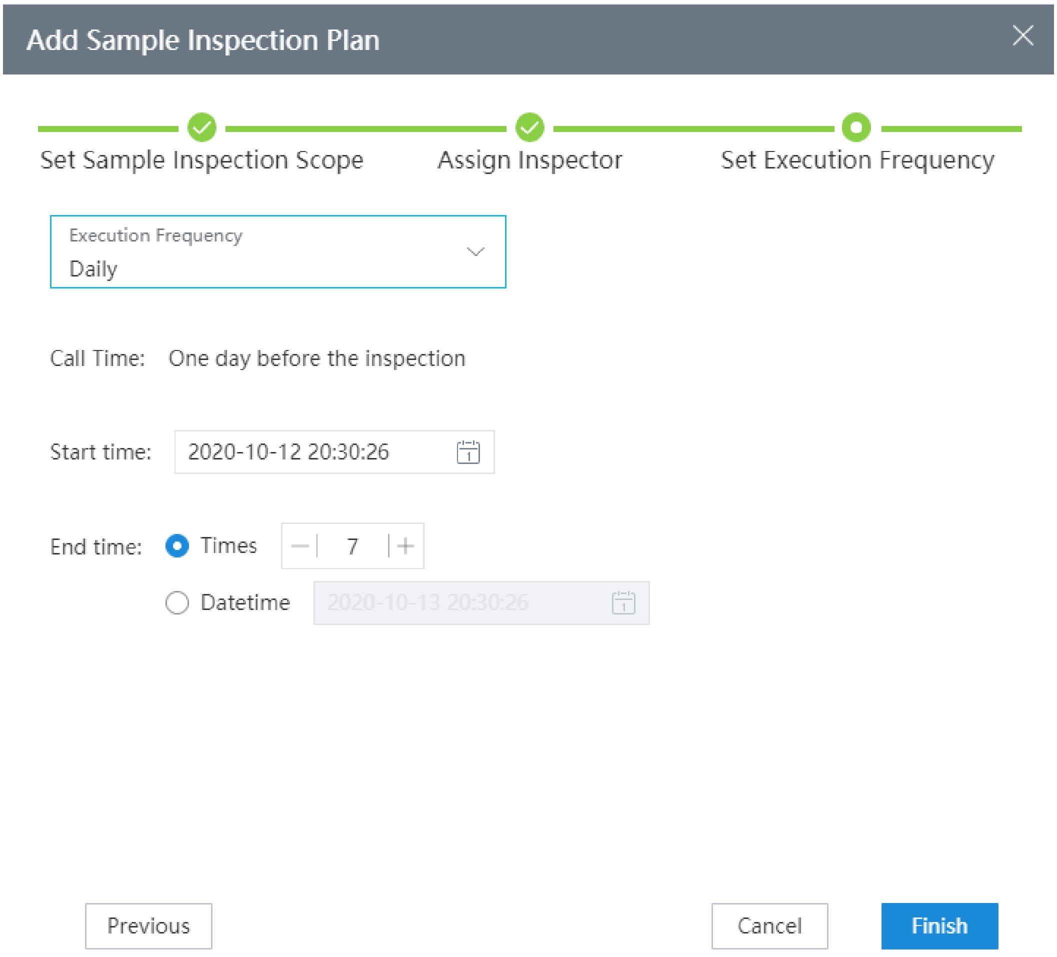


Figure 2-502 Set Execution Frequency page



Step 4 Click **Finish**. A scheduled sample inspection plan is created.

----End

2.10.5.8 Creating Sample Inspection Tasks

An inspection supervisor can create manual sample inspection tasks to re-inspect the calls that have been intelligently inspected.

Prerequisites

- A sample inspection plan has been configured.
- The AI inspection has been performed on the call records.

Context

On the **My Inspection Task** page, the calls that have been intelligently inspected can be assigned to inspectors for manual inspection. An inspection supervisor can view, create, modify, delete, assign, reserve, validate, or terminate inspection tasks.

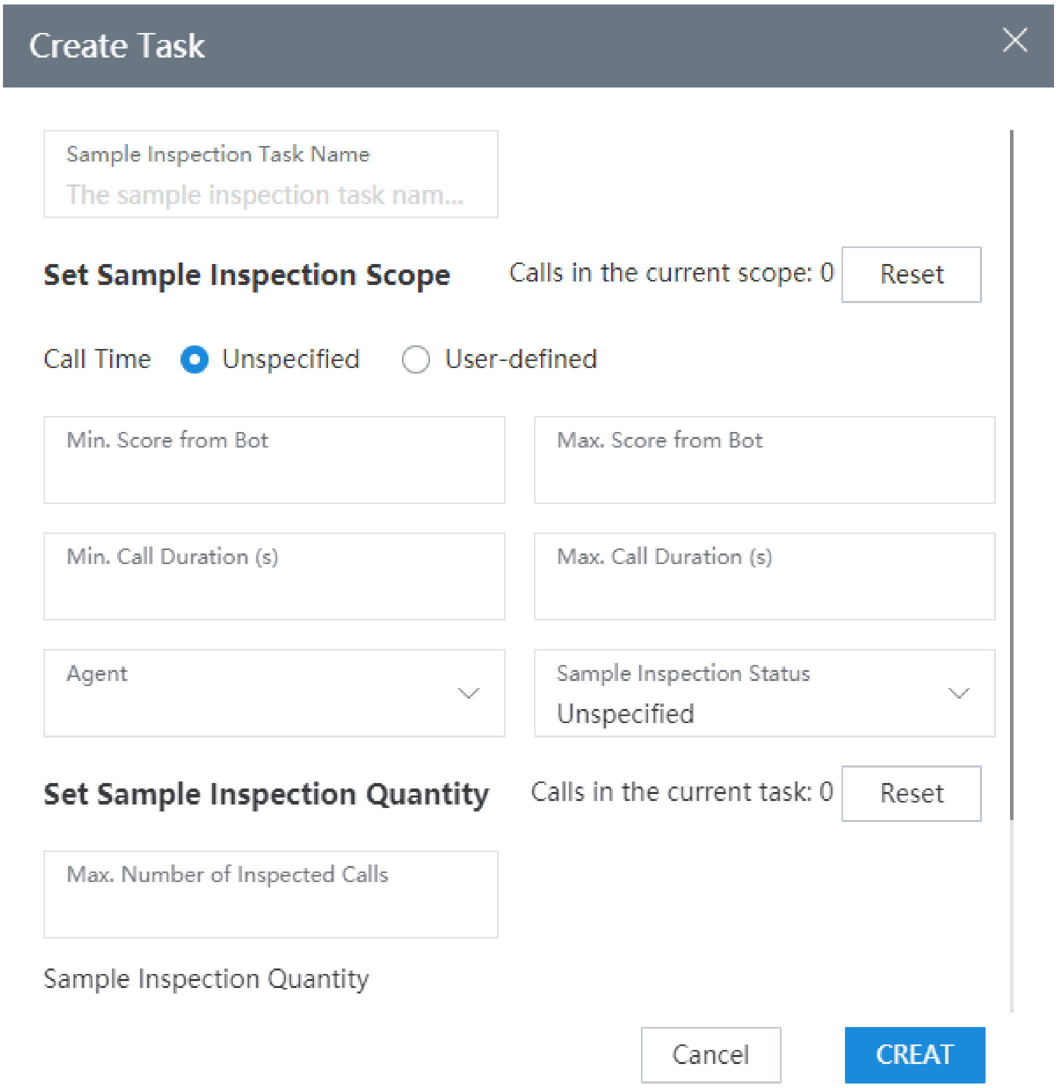
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **My Inspection Task**.

Step 2 Click **Pending Task List**. The **Pending Task List** page is displayed. Click **New** to configure a manual sample inspection.

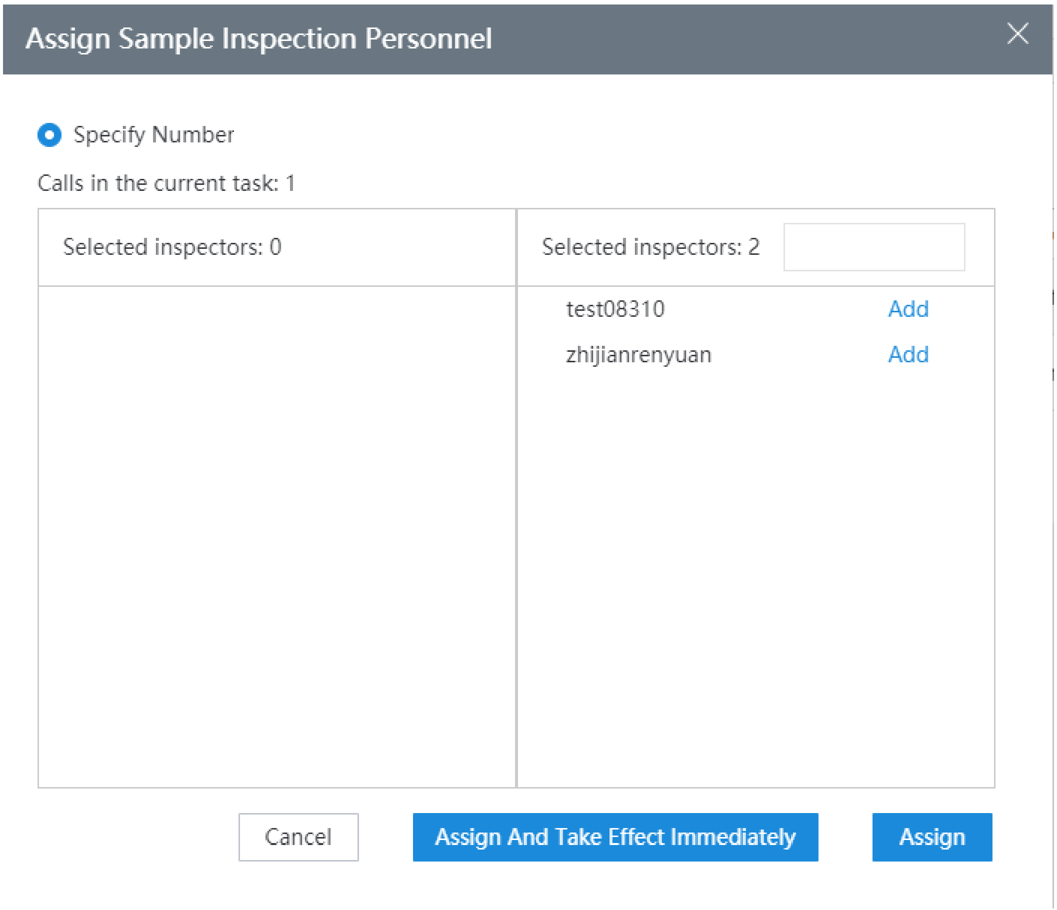
The new task can be created only when at least one call exists.

Figure 2-503 Creating a task



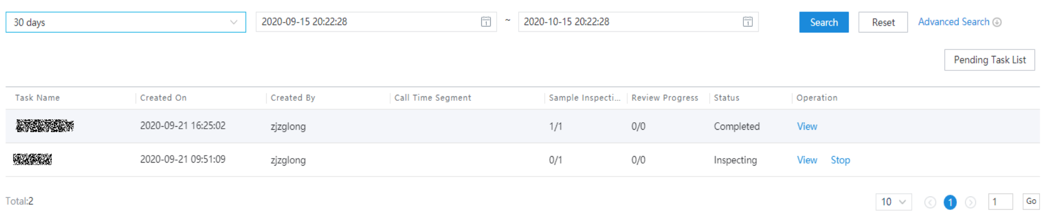
Step 3 Click **Back to My Sample Inspection** and select a created manual sampling inspection. Click **Assign** to assign an inspector to inspect the call.

Figure 2-504 Page for assigning inspectors



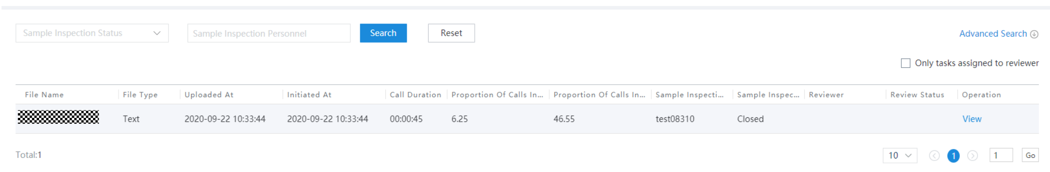
You can click **Reserve**, **Effective**, **Modify**, **Delete**, or **Stop** to perform the corresponding operation on an inspection task.

Figure 2-505 Managing inspection tasks



Step 4 On the **My Inspection Task** page, click **View** next to a desired task. The task details page is displayed. You can assign reviewers to the completed inspection tasks.

Figure 2-506 Task details page



Step 5 On the **Basic Task Details** page, click **View**. The **Call Inspection Details** page is displayed. The inspection administrator can view the call details and modify the sample inspection result.

----End

2.10.5.9 Performing Text and Speech Analysis

2.10.5.9.1 Configuring Text Analysis

You can enable text and speech analysis by setting the analysis interaction type, analysis percentage, and agents to be analyzed.

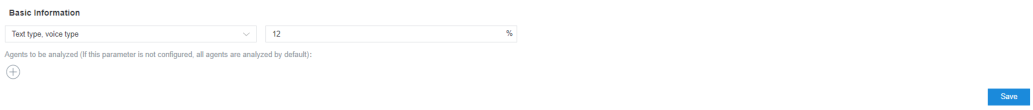
NOTE

To enable text and speech analysis, you must set the analysis type (text, speech, or both) on the **Text Analysis Configuration** page and enable the text analysis feature.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Text Analysis Configuration**.

Figure 2-507 Text Analysis Configuration page

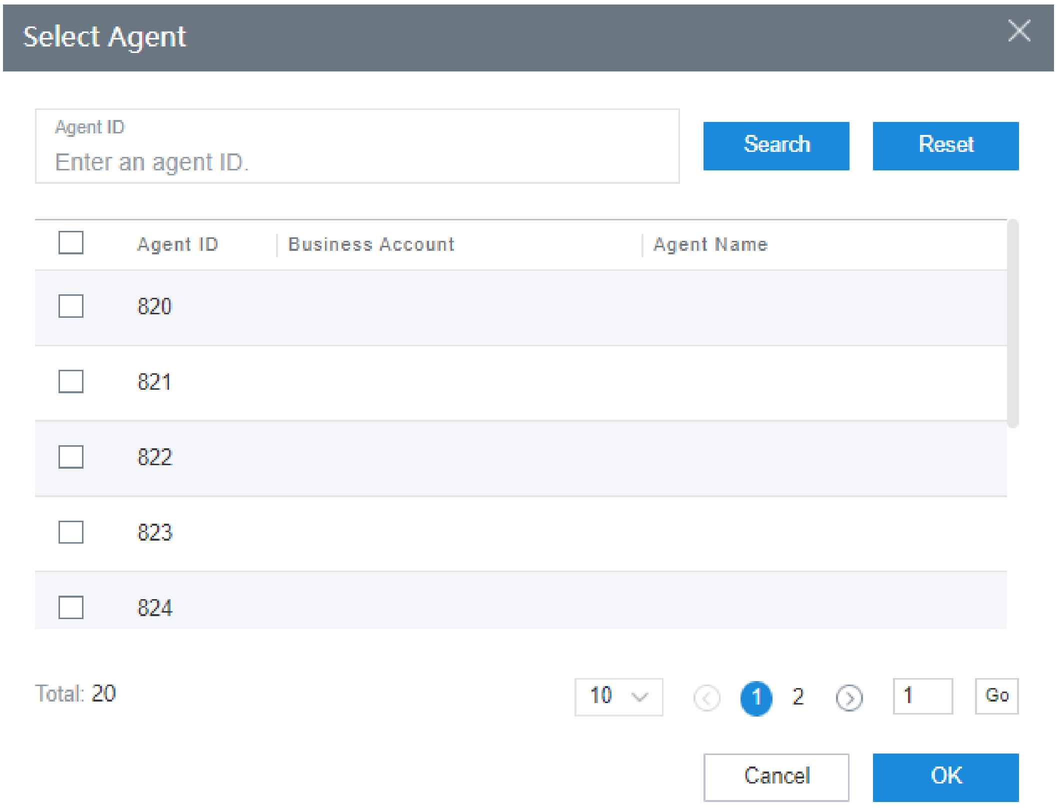


Step 2 Select an interaction type. The options are **Text type**, **voice type**, and **Text type, voice type**.

Step 3 Set the analysis percentage to a number ranging from 0 to 100. If this parameter is not set, the default value **100** is used. The backend determines whether to enable text and speech analysis based on the analysis percentage.

Step 4 Set the agents to be analyzed. Click **+**. On the **Select Agent** page that is displayed, select agents.

Figure 2-508 Select Agent page



Step 5 Click **OK** to save the text analysis configuration.

----End

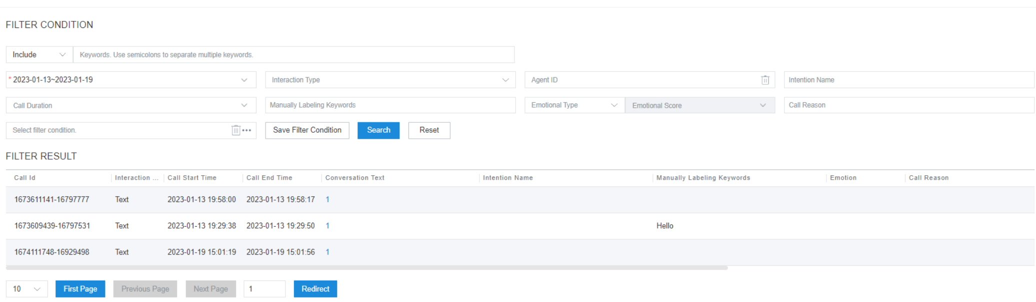
2.10.5.9.2 Searching for Inspection Results Based on Keywords

Inspection results after text and speech analysis can be filtered based on keywords and other conditions.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Speech Text Analysis** > **Keyword Search**.

Figure 2-509 Keyword Search page

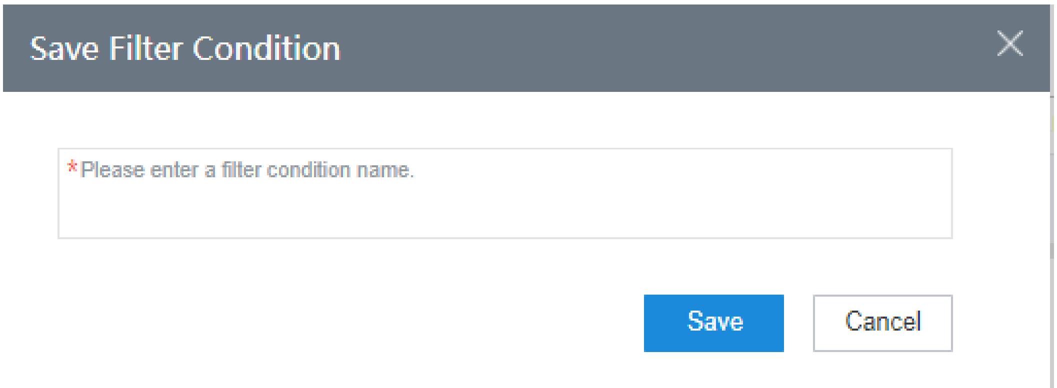


Step 2 Set the start time and end time, and click **Search**. The default time range is last 7 days.

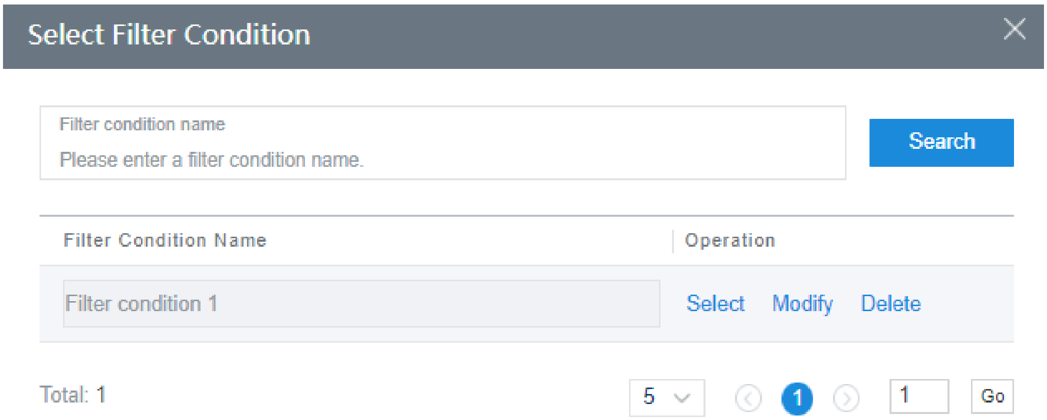
NOTE

The time range must be less than or equal to 31 days.

Step 3 Set other conditions. Click **Save Filter Condition** and set the filter condition name to save the combination of all the current filter conditions.



Step 4 Click **...** in the **Select filter condition.** selection box to select a saved filter condition.



----End

2.10.5.9.3 Viewing the Word Frequency

The word frequency display function is used to collect statistics on hot words generated during calls after AI inspection is complete.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Speech Text Analysis** > **Word Frequency Display**.

Step 2 Click the **HOT WORD DISPLAY** tab. By default, the bar chart of hot word statistics in the last month is displayed. You can set **Agent ID**, **Time Query**, and **Number of Displayed Items** to filter data based on criteria.

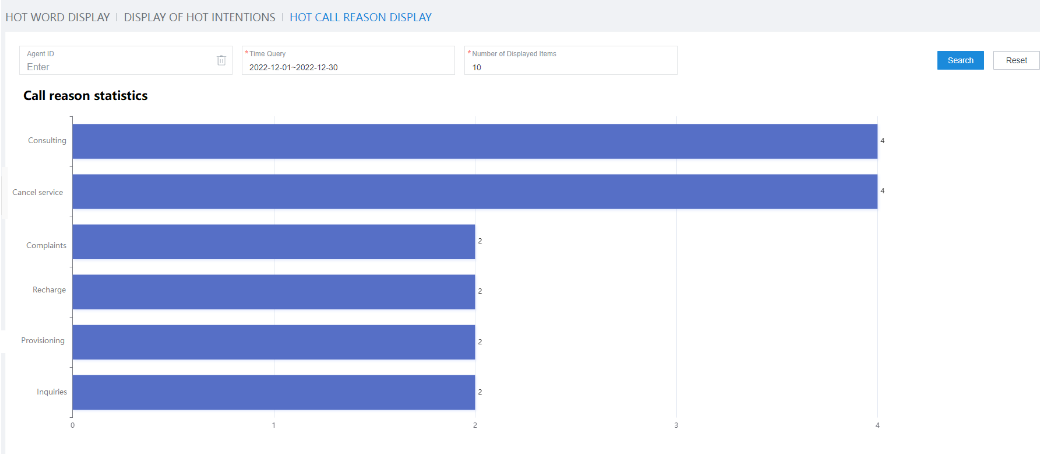
Figure 2-510 HOT WORD DISPLAY tab page

Step 3 Click the **DISPLAY OF HOT INTENTIONS** tab. By default, the bar chart of hot intention statistics in the last month is displayed. You can set **Agent ID**, **Time Query**, and **Number of Displayed Items** to filter data based on criteria.

Figure 2-511 DISPLAY OF HOT INTENTIONS tab page

Step 4 Click the **HOT CALL REASON DISPLAY** tab. By default, the bar chart of hot call reason statistics in the last month is displayed. You can set **Agent ID**, **Time Query**, and **Number of Displayed Items** to filter data based on criteria.

Figure 2-512 HOT CALL REASON DISPLAY tab page



----End

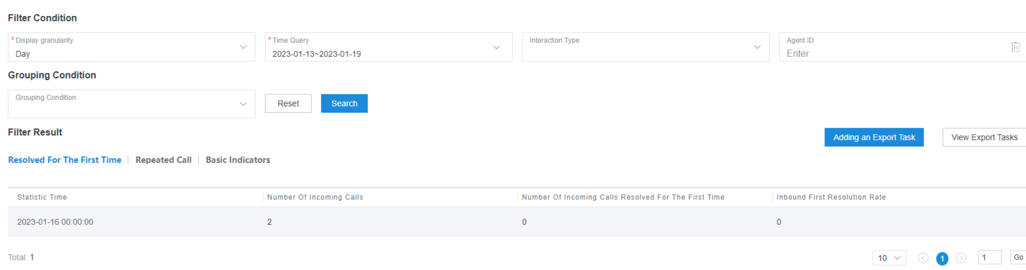
2.10.5.9.4 Collecting Text Analysis Indicator Statistics

The text analysis indicator statistics function is used to query call record statistics after AI inspection is complete.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Speech Text Analysis** > **Text Analysis Indicator Statistics**.

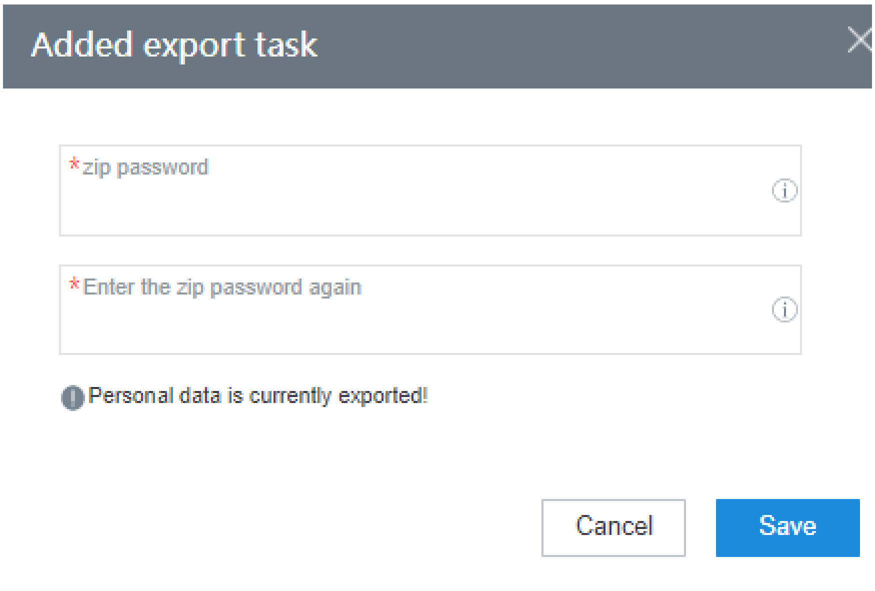
Figure 2-513 Text Analysis Indicator Statistics page



Step 2 Set **Display granularity**, **Time Query**, **Interaction Type**, **Agent ID**, and **Grouping Condition** to filter data based on criteria.

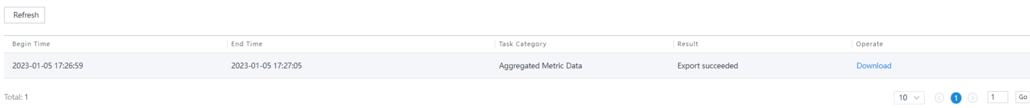
Step 3 Click **Adding an Export Task**. On the page that is displayed, set **zip password** and click **Save**.

Figure 2-514 Added export task page



Step 4 Click **View Export Tasks** to go to the **Export Results** page to view export tasks. Click **Download** to download a package.

Figure 2-515 Export Results page



NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

----End

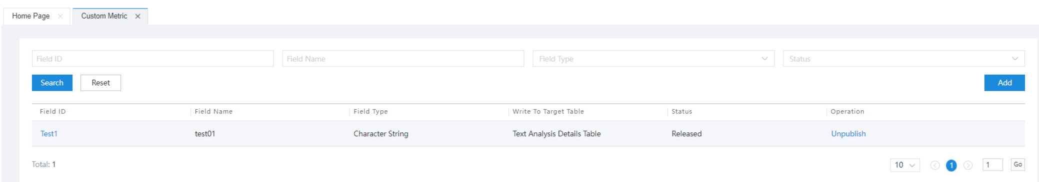
2.10.5.9.5 Configuring Custom Indicators

Indicators generated based on custom filter criteria and calculation logic can be used for indicator statistics display.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Analysis Field Define**.

Figure 2-516 Custom Metric page

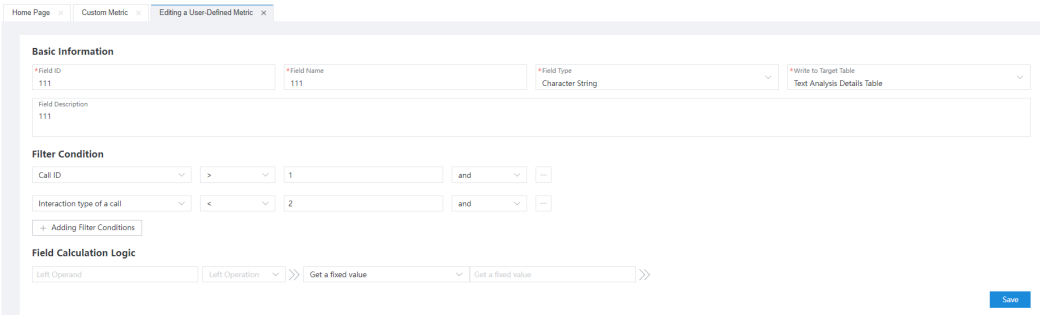


Step 2 Click **Search**. All custom indicators of the tenant are queried by default. You can query indicators based on the field ID, field name, field type, or status.

Step 3 Click **Add** to go to the **Adding a user-defined counter** page. Click **Modify** to go to the **Editing a User-Defined Metric** page. Click **Delete** to delete a custom indicator. Click **Release** to publish a custom indicator. Click **Unpublish** to unpublish a custom indicator.

Step 4 Enter basic information (**Field ID**, **Field Name**, **Field Type**, **Write to Target Table**, and **Field Description**) and add filter condition (**New Conditions** or **Added Brackets And Conditions.**), enter the field calculation logic, and click **Save**.

Figure 2-517 Editing a User-Defined Metric page

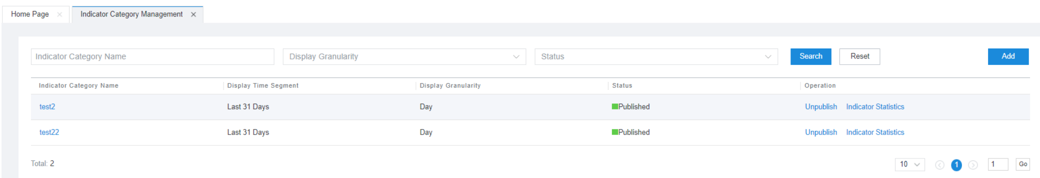


----End

2.10.5.9.6 Managing Indicator Categories

Step 1 Sign in to the AICC as a tenant administrator and choose **Speech Text Analysis** > **Indicator Category Management**.

Figure 2-518 Indicator Category Management page

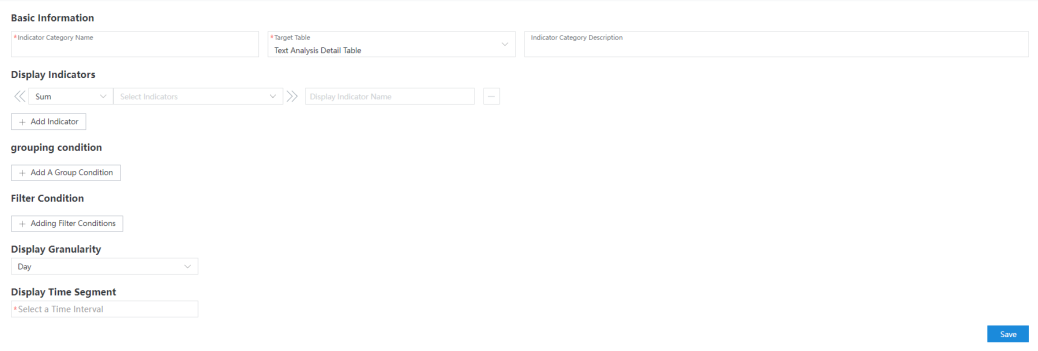


Step 2 Click **Search**. All indicator categories of the tenant are queried by default. You can query the indicator category based on the indicator category name, display granularity, and status.

Step 3 Click **Add** to go to the **Add Indicator Category** page. Click **Modify** to go to the **Edit Indicator Category** page. Click **Delete** to delete an indicator category. Click **Publish** to publish a custom indicator category. Click **Unpublish** to unpublish a custom indicator category.

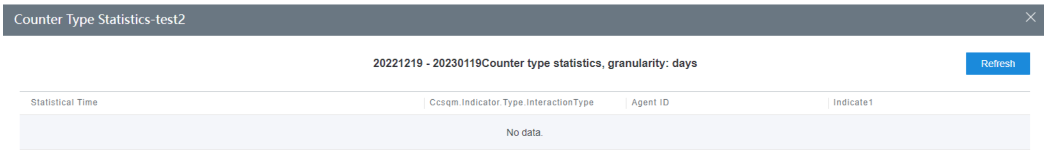
Step 4 Enter the basic information (**Indicator Category Name**, **Target Table**, and **Indicator Category Description**), set display indicator (**Add Basic Indicator** or **Add Custom Indicator**), grouping condition, filter condition (**Add Basic Filter Condition**, **Add Custom Filter Condition**, **Add Basic Brackets Filter Condition**, or **Add Custom Brackets Filter Condition**), display granularity (**15min**, **30min**, **60min**, or **Day**), and display time segment (**On the same day**, **7 Days**, **31 Days**, or a custom period), and click **Save**.

Figure 2-519 Add Indicator Category page



Step 5 Click **Publish** and then click **Indicator Statistics**. A dialog box is displayed, showing the data of the current indicator category.

Figure 2-520 Counter Type Statistics page



----End

2.11 Managing the Notification Center

This section describes how to manage notifications in the notification center.

NOTICE

The notification center can send Huawei Cloud SMS messages. To use this function, configure SMS messages by referring to **2.11.2 Configuring SMS Messages**.

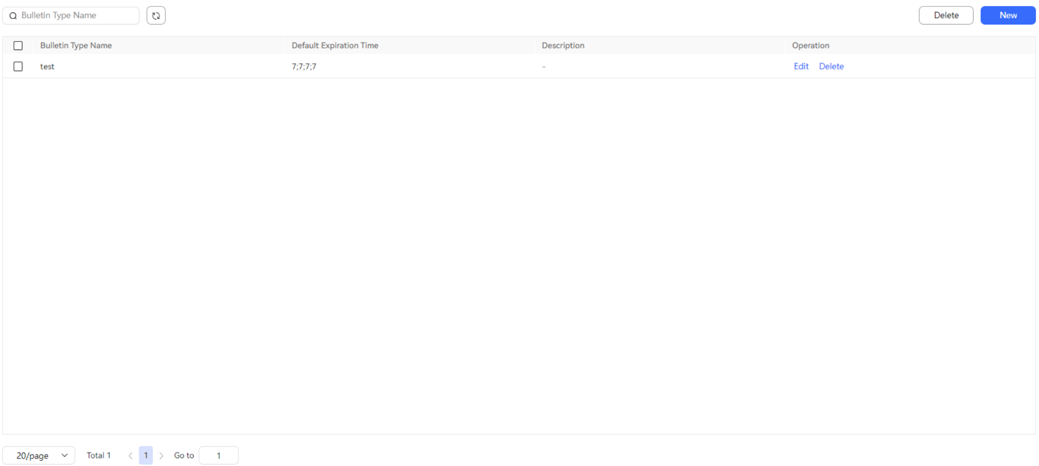
2.11.1 Configuring Bulletin Types

Tenant administrators can configure bulletin types for recipients to distinguish bulletins.

Procedure

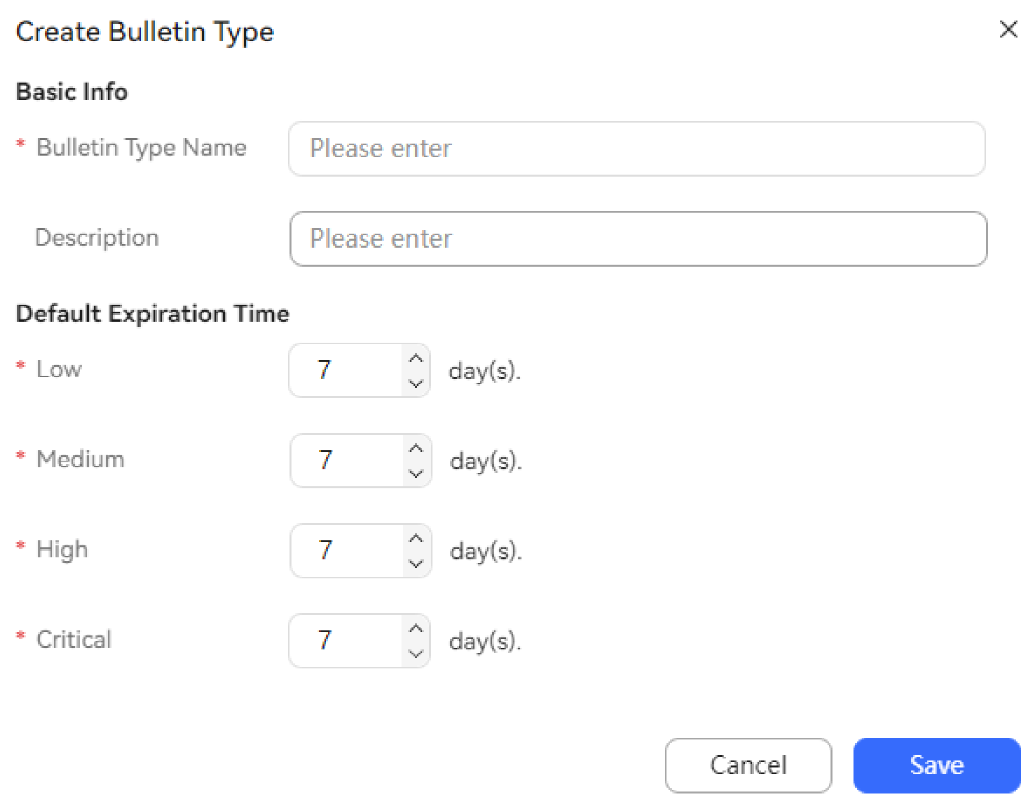
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Notification Type**.

Figure 2-521 Notification Type



Step 2 Click **New**. The **Create Bulletin Type** dialog box is displayed.

Figure 2-522 Create Bulletin Type



- **Basic Info**
  - **Bulletin Type Name**: Enter a customized name. The value can contain a maximum of 128 characters.
  - **Description**: Enter a customized description. The value can contain a maximum of 256 characters.
- **Default Expiration Time**

– **Low**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.
– **Medium**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.
– **High**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.
– **Critical**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.

Step 3 Click **Save**.

Step 4 (Optional) You can perform the following operations on the new bulletin type:
- **Edit**: Edit the bulletin type information.
- **Delete**: Delete the bulletin type.

----End

2.11.2 Configuring SMS Messages

A tenant administrator can set SMS parameters for the notification center to send Huawei Cloud SMS messages. A tenant administrator can configure an SMS message sender number to enable the public number to send SMS gateway messages.

Prerequisites

To use the Huawei SMS function, you must have enabled the Huawei Cloud SMS service at **Message & SMS**.

Context

If information, such as the app key and app secret, is changed on Huawei Cloud SMS, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **SMS Configuration**, click **Edit**, and update the values of parameters, such as **App Key** and **App Secret**.

Configuring Huawei Cloud SMS Messages

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **SMS Configuration**.

Step 2 Click the **HUAWEI CLOUD SMS** tab and click **Edit** to enter the editing mode.

Step 3 Set the following SMS parameters:
- **App Key**
- **App Secret**
- **App Access Address**
- **Signature Channel ID**

NOTE

The preceding parameters are obtained from the enabled Huawei Cloud service.

- **Whether to enable certificate verification**
  - If this parameter is set to **YES**, certificate verification is enabled. You need to obtain a certificate file from the Huawei Cloud SMS service and upload it on the **Configuration Center** > **System Management** > **Certificate** page.
  - If this parameter is set to **NO**, certificate verification is disabled, which may cause peer identity spoofing risks. Exercise caution when using this value.
- **Certificate File**: This parameter is available only when certificate verification is enabled. Select the Huawei Cloud SMS certificate uploaded on the **Configuration Center** > **System Management** > **Certificate** page.

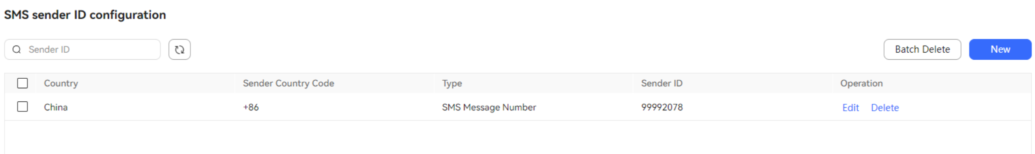
Step 4 Click **Save**.

----End

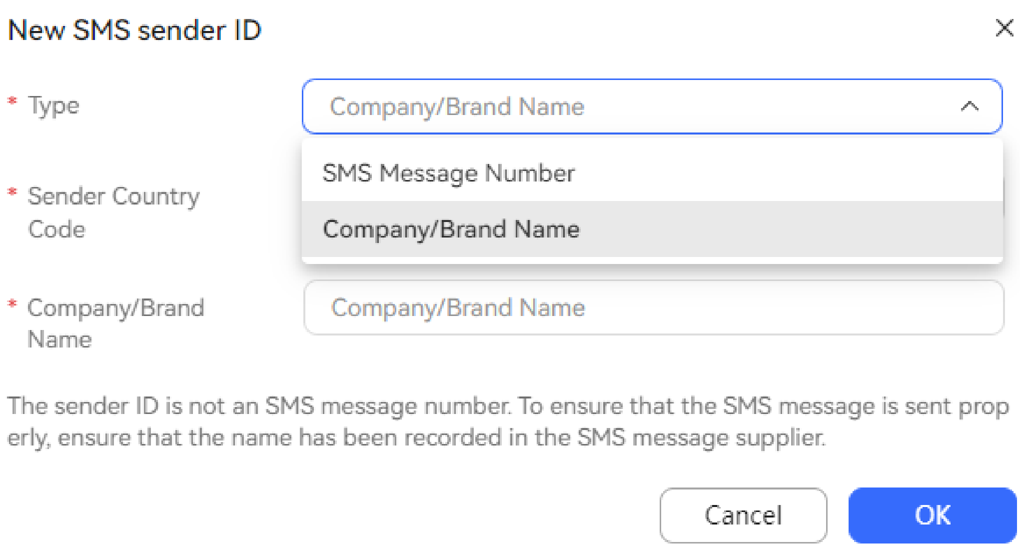
Configuring SMS Message Sender IDs

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **SMS Configuration**.

Step 2 Click the **SMS sender ID configuration** tab.



Step 3 Click **New**. The **New SMS sender ID** dialog box is displayed.



- **Type**: Type of an SMS message sender ID. The options are **SMS Message Number** and **Company/Brand Name**.
- **Sender Country Code**: SMS message sender number.

- **SMS Message Number**: A specific number is required when **Type** is set to **SMS Message Number**. Enter the SMS sender ID. The value is a string of 1 to 20 digits and case-sensitive characters.
- **Company/Brand Name**: A specific company/brand name is required when **Type** is set to **Company/Brand Name**.

  The company or brand name can contain only digits, letters, and spaces. It cannot start or end with a space and can contain a maximum of 11 characters.

Step 4 Click **OK**.

----End

2.11.3 Configuring Gateways

A tenant administrator can configure gateway parameters to implement the SMS and email notification functions.

NOTICE

Before deleting an SMS or email gateway, ensure that the gateway is not used by other businesses. Otherwise, the configured businesses will become invalid.

Determine the gateway application scenario based on the actual business configuration. The involved scenarios are as follows:

- Notification center: **2.11.6 Configuring Message Receiving Routes** and **2.11.7 Sending Notifications as an Administrator**
- Channel configuration: **2.5.6 Configuring the Email Channel** and **2.5.9 Configuring the SMS Channel**
- One-click trial use on Huawei Cloud: automatic email sending and automatic SMS message sending
- Intelligent IVR: **2.7.8 Warning Condition**

2.11.3.1 Configuring SMS Gateways

A tenant administrator can configure SMS gateways to send and receive SMS messages.

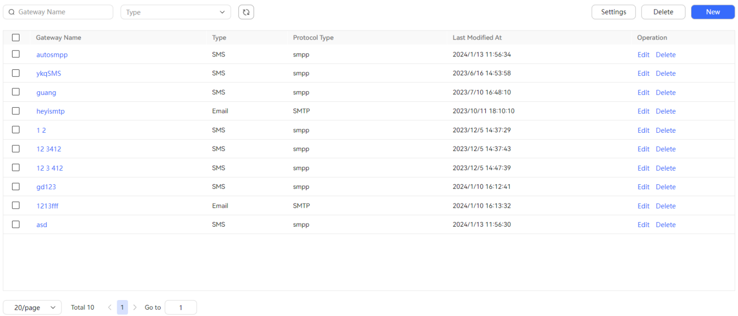
Context

If the user password for connecting to the SMS gateway is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, click **Edit** in the **Operation** column corresponding to the gateway to be modified, click the **Message protocol parameters** tab, and enter the new login password.

Procedure

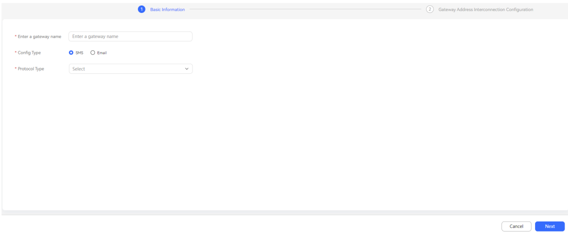
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**.

Figure 2-523 Gateway Configuration



Step 2 Click **New**. The **Create Gateway** page is displayed.

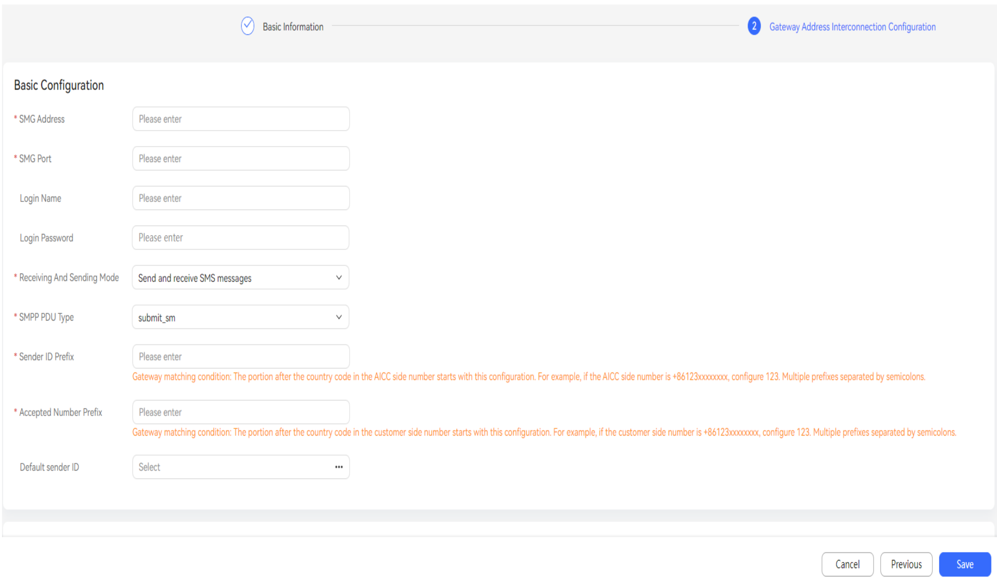
Figure 2-524 Create Gateway - Basic Information



Step 3 After basic information is configured, click **Next**. The **Gateway Address Interconnection Configuration** page is displayed.

- **Basic Configuration**: Parameters in this area are mandatory.

Figure 2-525 Gateway Address Interconnection Configuration - Basic Configuration



 – **SMG Address** (mandatory): IP address of the SMS gateway, for example, **10.10.10.10**.
 – **SMG Port** (mandatory): Port number of the SMS gateway.

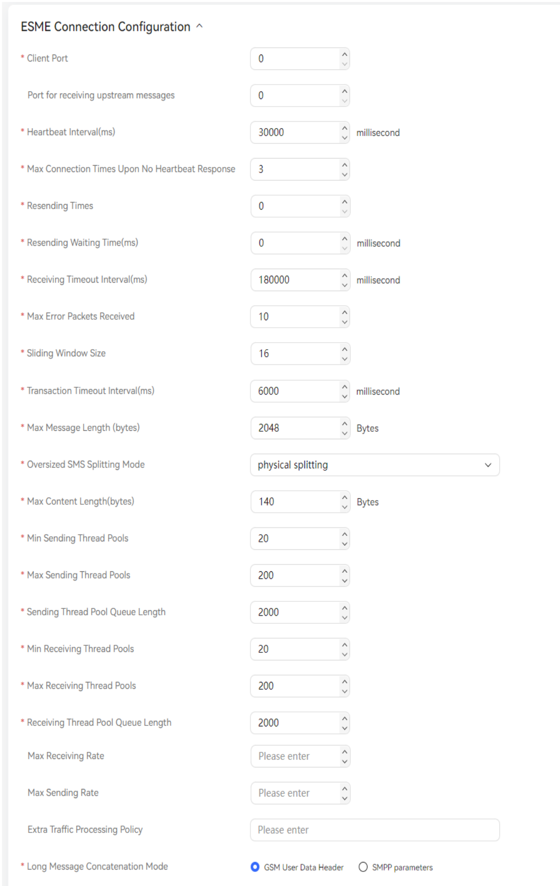
- **Login Name**: Account for logging in to the gateway. This parameter is optional when a gateway simulator is used.
- **Login Password**: Password for logging in to the gateway. This parameter is optional when a gateway simulator is used.
- **Receiving And Sending Mode** (mandatory): Whether the protocol device is used to send or receive SMS messages. The default value is **Send and receive SMS messages**. The options are as follows:
  - **Send and receive SMS messages**: The protocol device is used to process messages received from the SMSC and send SMS messages.
  - **Receive SMS messages**: The protocol device is used to process messages received from the SMSC.
  - **Send SMS Messages**: The protocol device is used to send SMS messages.
- **SMPP PDU Type** (mandatory): Type of the SMPP PDU used for sending SMS messages. The default value is **submit_sm**. The options are as follows:
  - **submit_sm**
  - **data_sm**
- **Sender ID Prefix** (mandatory): Prefix of the number segment configured on the gateway for which SMS messages can be sent. The value can contain only letters and digits.

  Sender ID prefix rule: In a number in the AICC, the part following the country code starts with a sender ID prefix. For example, if the number in the AICC is **+86123***xxxxxxxx*, set this parameter to **123**. Use semicolons (;) to separate multiple prefixes.
- **Accepted Number Prefix** (mandatory): Prefix of the number segment configured on the gateway for which SMS messages can be received. Value range: a number made up of digits

  Accepted number prefix rule: In a customer number, the part following the country code starts with an accepted number prefix. For example, if the customer number is **+86123***xxxxxxxx*, set this configuration item to **123**. Use semicolons (;) to separate multiple prefixes.
- **Default sender ID:** default sender ID of the gateway. The value is the ID configured in **Configuring SMS Message Sender IDs**.

- **ESME Connection Configuration**: Parameters in this area are set by default and can be modified as required.

Figure 2-526 Gateway Address Interconnection Configuration - ESME Connection Configuration



- **Client Port** (mandatory): Number of an unoccupied port for the CC-Notification server. The port number is used to connect to the SMS gateway. If the client port needs to be specified for the SMS gateway, set this parameter. The value ranges from 0 to 65535.

  The default value is **0**, indicating that the CC-Notification randomly allocates a port number.
- **Port for receiving upstream messages**: Port number for receiving MO messages. The value ranges from 0 to 65535.

  The default value is **0**, indicating that the CC-Notification automatically allocates a port number.
- **Heartbeat Interval(ms)**: Interval for sending heartbeat messages to the SMS gateway to maintain the persistent connection between the CC-Notification and SMS gateway. This parameter specifies the interval for sending heartbeat messages. The value is a number of 1 to 10 digits. The value must be greater than that of **Transaction Timeout Interval(ms)** and less than that of **Receiving Timeout Interval(ms)**.

  The default value is **30000**, in milliseconds.
- **Max Connection Times Upon No Heartbeat Response**: Maximum number of consecutive heartbeat response failures. When this value is exceeded, the CC-Notification disconnects from the gateway. The value is a number of 0 to 5 digits.

The default value is **3**.

- **Resending Times**: Maximum number of resending times. After the CC-Notification sends a heartbeat message, if the CC-Notification does not receive a heartbeat response within the transaction timeout interval, the CC-Notification waits for a period of time (specified by **Resending Waiting Time(ms)**) and then resends the heartbeat message. The value is a number of 0 to 10 digits.

  The default value is **0**.

- **Resending Waiting Time(ms)**

  Interval for resending an SMS message after the CC-Notification receives an SMS message sending failure response from the SMS gateway. The value is a number of 0 to 10 digits.

  The default value is **0**.

- **Receiving Timeout Interval(ms)** (mandatory): Maximum duration for allowing no data transmission after an SMS device connects to the gateway. If the SMS device does not receive data from the peer device within this duration, automatic disconnection occurs. The value is a number of 1 to 10 digits. The value must be greater than those of **Heartbeat Interval(ms)** and **Transaction Timeout Interval(ms)**. To prevent invalid connections, do not set this parameter to **0**.

  The default value is **180000**.

- **Max Error Packets Received**: Number of error packets consecutively received by a device. If this value is reached, the link is faulty and will be disconnected. The value is a number of 0 to 10 digits.

  The default value is **10**.

- **Sliding Window Size** (mandatory): Instantaneous concurrent processing capability of the CC-Notification. This parameter is used to limit the number of messages sent by the CC-Notification, preventing errors that may occur on the SMSC due to great pressure. The value is a number of 2 to 5 digits.

  The default value is **16**. Generally, set this parameter to a multiple of 16.

- **Transaction Timeout Interval(ms)**: Maximum duration for an SMS device to wait for a response from the peer device after sending a message. If the peer device does not respond within this duration, the SMS device does not wait any longer. The value is a number of 0 to 10 digits. The value must be less than those of **Heartbeat Interval(ms)** and **Receiving Timeout Interval(ms)**.

  The default value is **6000**, in milliseconds.

- **Max Message Length (bytes)** (mandatory): Maximum message length specified by the protocol. The value is a number of 1 to 5 digits.

  The default value is **2048**, in bytes.

- **Oversized SMS Splitting Mode** (mandatory): Mode of splitting an SMS message when the message content length exceeds the value of **Max Content Length (bytes)**. The options are as follows:

  - **disabled**: A long SMS message is not sent, and an exception is reported on the CC-Notification.

- **not split**: The system directly sends an SMS message without checking whether it is too long.
- **physical splitting**: A long SMS message is segmented into multiple independent SMS messages based on the value of **Max Content Length(bytes)**.
- **ultra-long split**: A long SMS message is split into several continuous SMS messages, that is, the system adds the combination control information to each sub-message. Terminals that support continuous SMS messages can combine the sub-messages into a complete SMS message.

The default value is **disabled**.

- **Max Content Length(bytes)** (mandatory): Maximum message content length specified by the protocol. A long SMS message is split based on the value of this parameter. The value is a number of 1 to 5 digits.

  The default value is **140**, in bytes.
- **Min Sending Thread Pools** (mandatory): Minimum number of threads that start in the thread pool when the protocol stack is used to send messages. The value is a number of 1 to 5 digits.

  The default value is **20**.
- **Max Sending Thread Pools** (mandatory): Maximum number of threads that start in the thread pool when the protocol stack is used to send messages. The value is a number of 1 to 5 digits.

  The default value is **200**.
- **Sending Thread Pool Queue Length** (mandatory): Length of the thread queue to be processed in the sending thread pool. The value is a number of 1 to 5 digits.

  The default value is **2000**.
- **Min Receiving Thread Pools** (mandatory): Minimum number of state report receiving threads. Set this parameter by referring to the settings of the sending thread pool, but the values can be different. The value is a number of 1 to 5 digits.

  The default value is **20**.
- **Max Receiving Thread Pools** (mandatory): Maximum number of state report receiving threads. The value is a number of 1 to 5 digits.

  The default value is **200**.
- **Receiving Thread Pool Queue Length** (mandatory): State report receiving thread queue length. The value is a number of 1 to 5 digits.

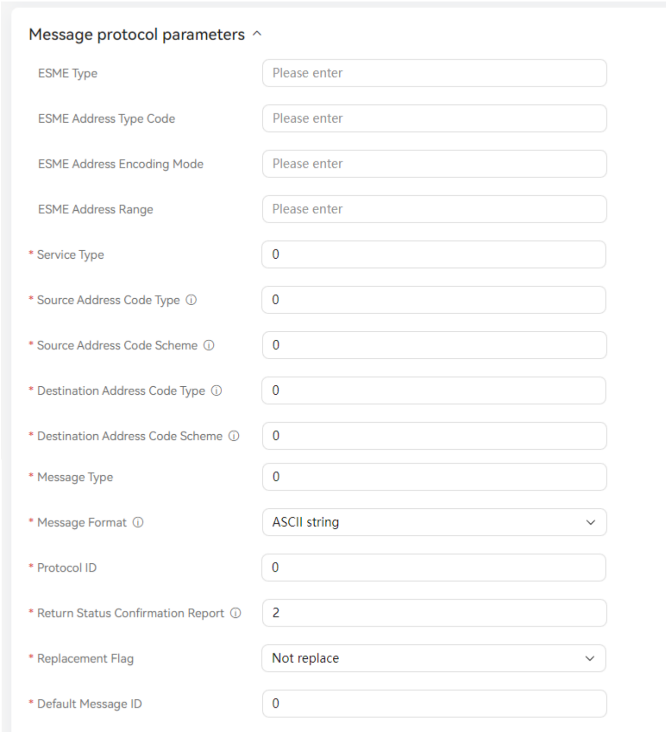
  The default value is **2000**.
- **Max Receiving Rate**: Maximum rate at which messages are received using a protocol. The value can be empty or a positive integer. If the value is empty, the values of **Max Sending Rate** and **Extra Traffic Processing Policy** must also be empty.
- **Max Sending Rate**: Maximum rate at which messages are sent using a protocol. The value can be empty or a positive integer. If the value is empty, the values of **Max Receiving Rate** and **Extra Traffic Processing Policy** must also be empty.

- **Extra Traffic Processing Policy**: Policy for sending messages when the traffic exceeds the threshold. The value can be empty or a positive integer. If the value is empty, the values of **Max Receiving Rate** and **Max Sending Rate** must also be empty.
- **Long Message Concatenation Mode** (mandatory): Mode of combining long SMS messages. The options are **GSM User Data Header** and **SMPP parameters**.

  The default value is **GSM User Data Header**.

- **Message protocol parameters**: Parameters in this area are set by default and can be modified as required.

Figure 2-527 Gateway Address Interconnection Configuration - Message protocol parameters



- **ESME Type**: External short message entity (ESME) type. The value can contain a maximum of 13 characters.

  For details, see the description of the **system_type** field in the bind message of the SMPP protocol.
- **ESME Address Type Code**: Address type ID of the extended SMS message entity. The value is a positive integer less than 2^8.

  For details, see the description of the **addr_ton** field in the bind message of the SMPP protocol.
- **ESME Address Encoding Mode**: Address encoding mode of the extended SMS message entity. The value is a number of 0 to 10 digits.

  For details, see the description of the **addr_npi** field in the bind message of the SMPP protocol.
- **ESME Address Range**: Address encoding mode of the extended SMS message entity. The value can contain a maximum of 15 characters.

For details, see the description of the **address_range** field in the bind message of the SMPP protocol.

- **Service Type**: Type of the SMS application service specified by the gateway. The value can contain a maximum of 500 characters.

  For details, see the description of the **service_type** field in the submit_sm/data_sm message of the SMPP protocol.

- **Source Address Code Type** (mandatory): Type of the code in the source address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **source_addr_ton** field in the submit_sm/data_sm message of the SMPP protocol.

- **Source Address Code Scheme** (mandatory): Scheme of the code in the source address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **source_addr_npi** field in the submit_sm/data_sm message of the SMPP protocol.

- **Destination Address Code Type** (mandatory): Type of the code in the destination address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **dest_addr_ton** field in the submit_sm/data_sm message of the SMPP protocol.

- **Destination Address Code Scheme** (mandatory): Scheme of the code in the destination address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **dest_addr_npi** field in the submit_sm/data_sm message of the SMPP protocol.

- **Message Type** (mandatory): Message type. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **esm_class** field in the submit_sm/data_sm message of the SMPP protocol.

- **Message Format** (mandatory): SMS message encoding mode. The options are as follows:

  - **ASCII string**: ASCII string in which one character occupies one byte
  - **binary information**
  - **UCS2 encoding**: ISO/IEC-10646 in which one character occupies two bytes

  The default value is **ASCII string**.

- **Protocol ID** (mandatory): GSM protocol ID. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **data_coding** field in the submit_sm message of the SMPP protocol.

- **Return Status Confirmation Report** (mandatory): State reports to be returned. The options are as follows:

  - **0**: No state report is received.
  - **1**: Success and failure state reports are returned.
  - **2**: Failure state reports are returned.

  The default value is **2**.
- **Replacement Flag** (mandatory): Whether to replace the existing SMS messages whose source addresses and destination addresses are the same. The options are **Not replace** and **Replace**.

  The default value is **Not replace**.
- **Default Message ID** (mandatory): ID of a predefined SMS message. It is the index of a predefined SMS message created by the administrator of the message center. The value can contain a maximum of 500 characters.

  The default value is **0**. For details, see the description of the **sm_default_msg_id** field in the submit_sm message of the SMPP protocol.

Step 4 After gateway interconnection information is configured, click **Save**.

----End

Follow-up Procedure

- Rebuild a gateway.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Rebuilding**.
- Disconnect a gateway that fails to be connected.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Disconnected**.

2.11.3.2 Configuring Email Gateways

A tenant administrator can configure gateways to enable the AICC to send and receive emails.

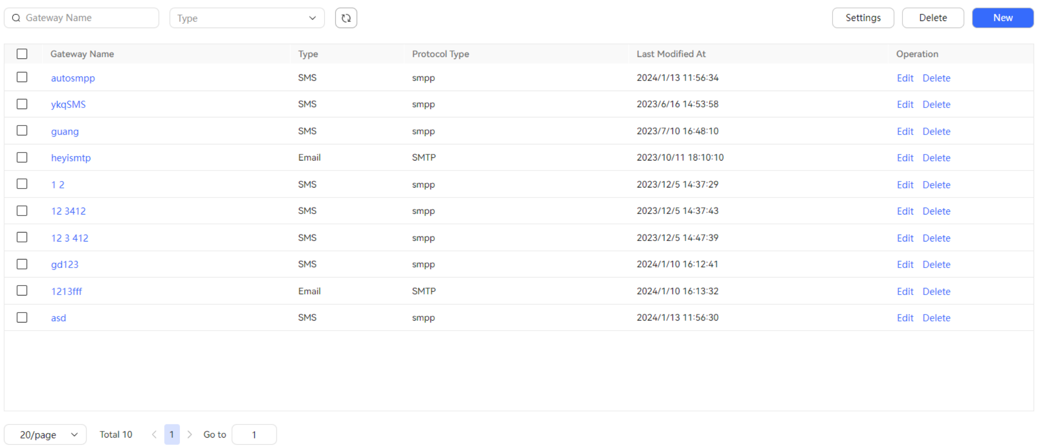
Context

If the user password for connecting to the email gateway is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, click **Edit** in the **Operation** column corresponding to the gateway to be modified, click the **Gateway Address Interconnection Configuration** tab, and enter the new user password.

Procedure

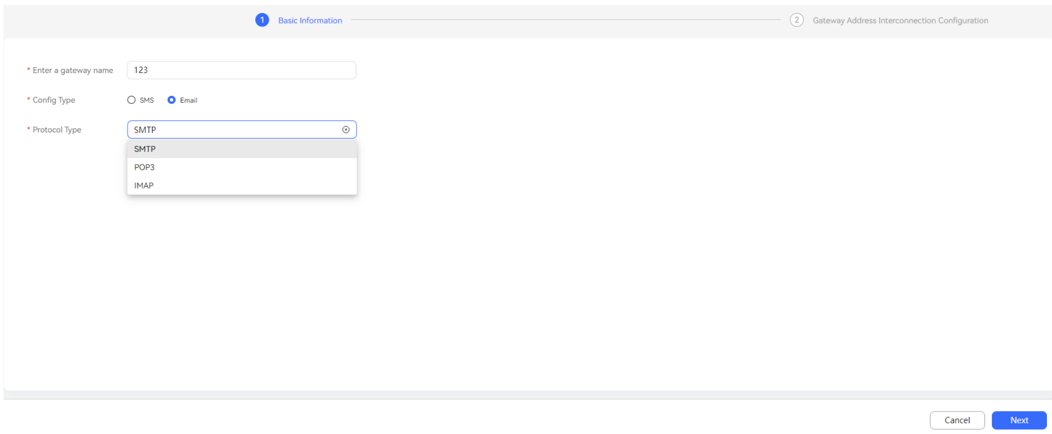
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**.

Figure 2-528 Gateway Configuration



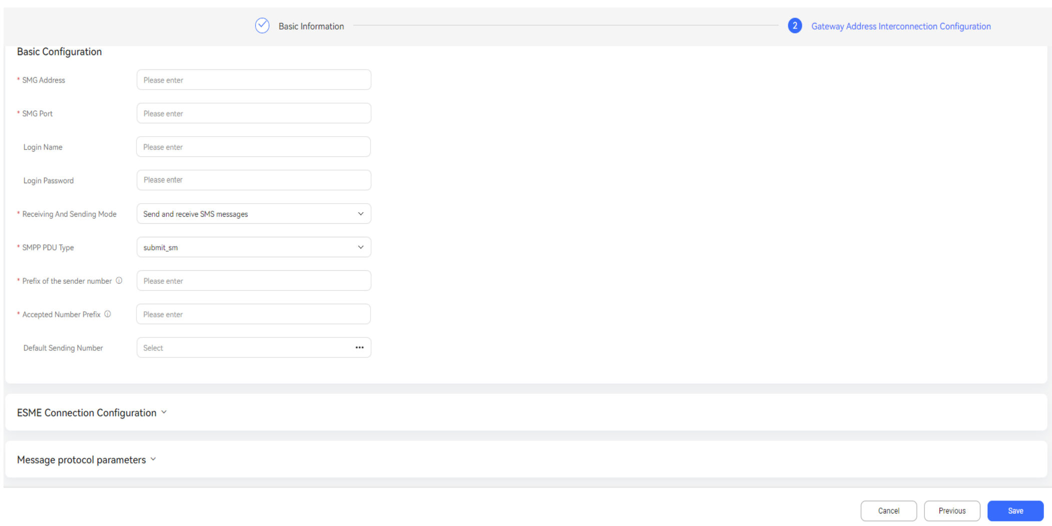
Step 2 Click **New**. The **Create Gateway** page is displayed.

Figure 2-529 Create Gateway - Basic Information



Step 3 After basic information is configured, click **Next**. The **Gateway Address Interconnection Configuration** page is displayed.

Figure 2-530 Gateway Address Interconnection Configuration



- **Host** (mandatory): Address of the email server, for example, **10.10.10.1** or **www.*****.com**.
- **User ID**: Username for logging in to the email server. The value can contain a maximum of 500 characters.
- **User Password**: Password for logging in to the email server. The value can contain a maximum of 64 characters.
- **Default Email Address**: Default email address for sending emails.
- **Default User Name**: Default username for sending emails. After this parameter is set, the username is displayed in front of the email address when an agent sends an email through the email channel on the text chat workbench. The username is not displayed when an email is sent using the notification sending function of the notification center.
- **Authentication Flag**: Whether the email address requires password authentication. The options are **True** and **False**. The default value is **True**.

> ⚠ CAUTION
>
> **False** may cause security risks. **True** is recommended to enable password authentication.

- **Encoding Mode**: Email encoding mode. The default value is **UTF-8**.
- **Port**: Host port number. Contact the O&M personnel of the email server.
- **Encryption Mode**: Email encryption mode. The options are as follows:
  - **NONE**: Data is transmitted in plaintext.
  - **TLS**: TLS is used to create a secure connection between two applications through the network to prevent data from being intercepted or tampered with during data exchange.
  - **STARTTLS**: STARTTLS is an extension of plaintext communication protocols, which offers a way to upgrade a plaintext connection to an encrypted (using TLS or SSL) connection instead of using a separate port for encrypted communication. STARTTLS uses opportunistic encryption.

> ⚠ CAUTION
>
> **NONE** indicates that data is transmitted in plaintext, which may cause information leakage.
>
> **STARTTLS** is an insecure protocol, which may cause security risks. TLS is recommended.
>
> **TLS** indicates TLSv1.2 by default.

- **Certificate File**: Certificate file. This parameter is mandatory when **Encryption Mode** is set to **TLS** or **STARTTLS**. For details about how to manage certificates, see **2.17.6 Managing a Certificate**.
- Case sensitivity: Select whether the email address is case sensitive. By default, it is case insensitive. The sender's email address is in lowercase when the CC-Notification receives emails and sends MO messages.

Step 4 After gateway interconnection information is configured, click **Save**.

----End

Follow-up Procedure

- Rebuild a gateway.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Rebuilding**.
- Disconnect a gateway that fails to be connected.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Disconnected**.

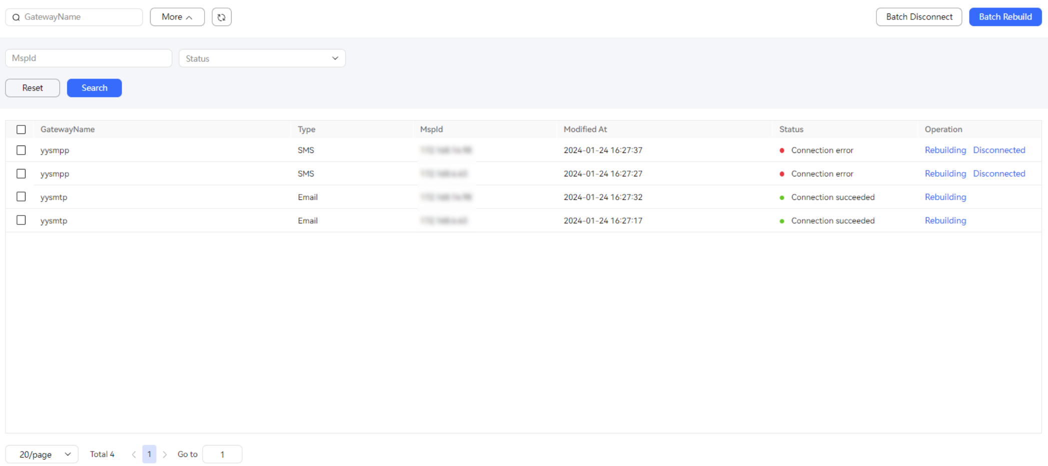
2.11.3.3 Monitoring Gateways

A tenant administrator can view the gateway status on the **Gateway monitoring** page and perform operations such as reconnection and disconnection.

Procedure

Step 1 Sign in to the AICC as the system administrator and choose **Configuration Center** > **System Management** > **Gateway Monitoring**.

Figure 2-531 Gateway Monitoring



- **GatewayName**: Gateway name, which is customized.
- **Type**: Gateway type, which is **Email** or **SMS**.
- **MspId**: Deployment address of the notification center.
- **Modified At**: Time when the gateway status is last modified.
- **Status**: Gateway connection status, which is **Connection succeeded**, **Connection stopped**, **Connection error**, **Initialization**, or **Connecting**. Only gateways in **Connection error** state can be disconnected.
- **Operation**: Operations that can be performed on a gateway, including **Rebuilding** and **Disconnected**.

Step 2 Set data filter criteria.

- Enter a gateway name and click to filter gateway status data based on the gateway name.
- Click **More** to expand advanced search criteria. Set **Mspld** and **Status**, and click **Search** to filter detailed data.
- Click to refresh real-time data or filter data based on filter criteria.

Step 3 Configure the gateway connection status.

- Select multiple gateways in **Connection error** state and click Batch Disconnect to disconnect them in batches.
- Select multiple gateways and click Batch Rebuild to rebuild them in batches.
- Click **Disconnected** or **Rebuilding** in the **Operation** column corresponding to a gateway to update its connection status.

----End

2.11.3.4 Configuring Notification Settings

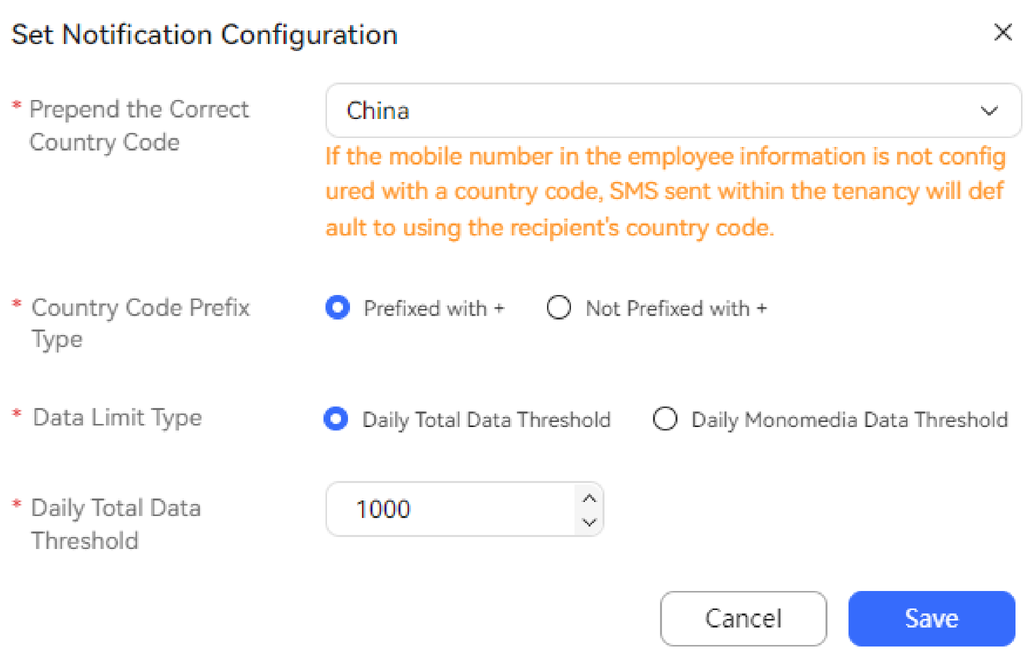
A tenant administrator sets the country code, SMS message sender number, and gateway data threshold in notification settings to control data.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, and click **Settings**.

Step 2 Configure notification settings.

Figure 2-532 Set Notification Configuration



- **Recipient Country Code**: Select the country where recipients are located.
- **Country Code Prefix Type**: Determine whether to add the plus sign (+) before the notification sender number when sending an SMS notification.
- **Data Limit Type**: Select a notification data limit type. The options are **Daily Total Data Threshold** and **Daily Monomedia Data Threshold**.
- **Daily Total Data Threshold**: Set the maximum number of notifications, including SMS messages and emails, that all gateways can send in a day. The value ranges from 1 to 1000000. Set this parameter when **Data Limit Type** is set to **Daily Total Data Threshold**.
- **Daily Data Threshold For SMS Messages/Daily Data Threshold For Emails**: Set the maximum number of notifications that SMS or email gateways can send in a day. The value ranges from 1 to 1000000. Set these parameters when **Data Limit Type** is set to **Daily Monomedia Data Threshold**.

Step 3 Click **Save**.

----End

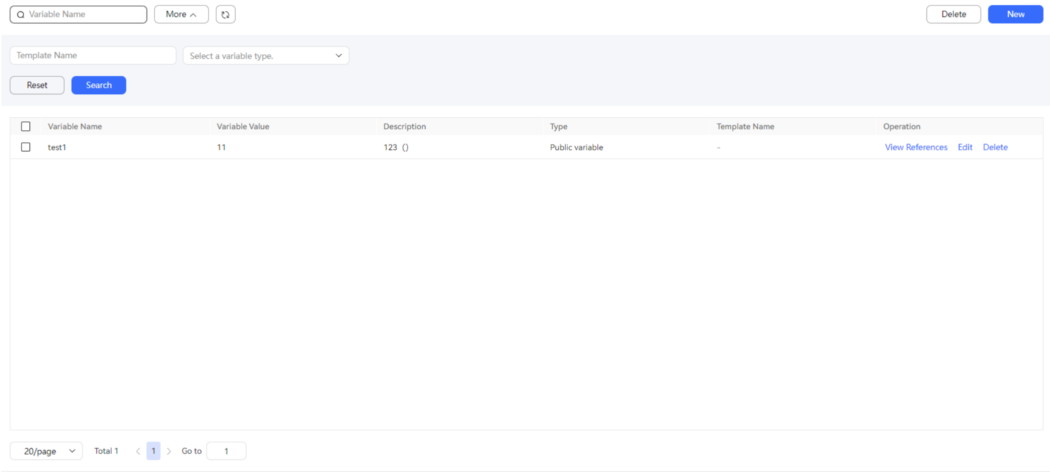
2.11.4 Configuring Variables

After a tenant administrator configures variables, these variables can be used for configuring a notification template, and can be applied when the notification template is used to send notifications.

Procedure

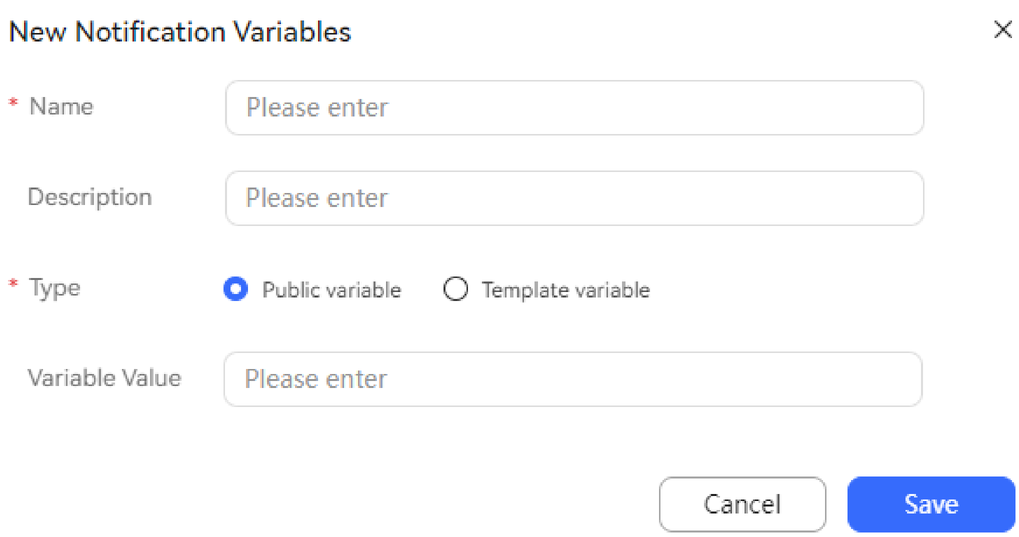
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Notification Variables**.

Figure 2-533 Notification Variables



Step 2 Click **New**.

Figure 2-534 New Notification Variables



- **Name** (mandatory): Enter a customized variable name. The value can contain a maximum of 100 characters, including only letters, digits, underscores (_), and periods (.).
- **Description**: Enter a variable description. The value can contain a maximum of 200 characters.
- **Type**
  - **Template variable**: If a variable is unique to a template, select this value.
  - **Public variable**: If a variable can be used by all templates, select this value.
- **Variable Value**: Enter a default value. The value can contain a maximum of 500 characters, including only letters, digits, spaces, and the following special characters: -;@.

Step 3 Click **Save**.

Step 4 Click **View References** corresponding to the new notification variable to view notification templates that reference the variable.

Figure 2-535 View References

Step 5 (Optional) You can perform the following operations on the new notification variable:

- Click **Edit** to modify the notification variable information. The variable name and type cannot be modified.
- Click **Delete** to delete the notification variable. Variables that have been referenced by templates cannot be deleted.

----End

2.11.5 Configuring Notification Templates as an Administrator

A tenant administrator can configure notification templates to reference when sending common notifications.

NOTICE

Before deleting an SMS or email notification template, ensure that the template is not used by other businesses. Otherwise, the configured businesses will become invalid.

Determine the notification template application scenario based on the actual business configuration. The involved scenarios are as follows:

- Agent monitoring and inspection: **4.3.1.3 Configuring Report Subscription**
- Intelligent outbound call: SMS template referenced during outbound call task creation in **2.13.2.6 Creating Outbound Call Templates** and **2.13.3 Managing Outbound Call Tasks**
- Configuration center: conference link SMS template in **2.3.3.2 Configuring Satisfaction Surveys** and **2.17.3 Configuring Parameters**
- Agent workbench: notification sending on the voice and video workbench (**3.7.8 Sending Notifications**), conference link SMS message sending, and notification sending on the contact details page of a contact record.
- One-click trial use on Huawei Cloud: automatic email sending and automatic SMS message sending
- Robot management: SMS message diagram element and SMS template referenced during outbound call risk monitoring

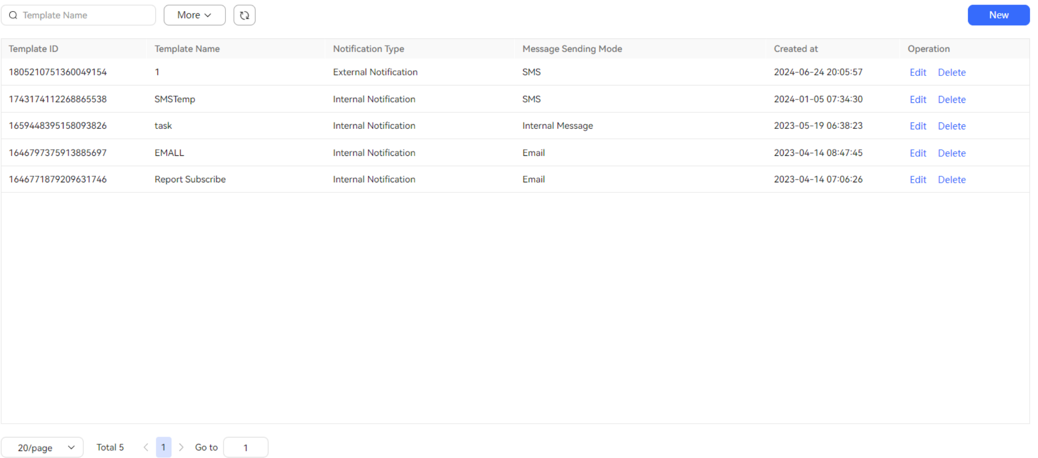
Context

- Variables can be inserted into notification templates. You can configure some variables in advance. For details about how to configure variables, see **2.11.4 Configuring Variables**.
- An administrator can directly reference configured notification templates when sending notifications.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Notification Template**.

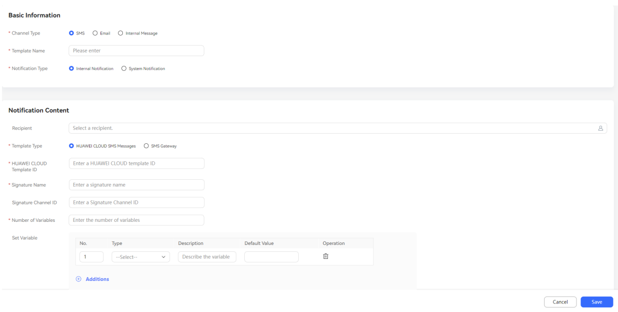
Figure 2-536 Notification Template



Step 2 Create an SMS notification template.

1. Click **New**. The **Creating a Notification Template** page is displayed.

   Figure 2-537 Creating a Notification Template - SMS

2. Configure basic information.
   - **Channel Type** (mandatory): Select a notification sending type.
   - **Template Name** (mandatory): Enter a customized notification template name. The value can contain a maximum of 200 characters and cannot contain special characters. The template name must be unique.
   - **Notification Type** (mandatory): Select a notification template type. The options are **Internal Notification** and **External Notification**.

- **Home Organization**: Select the OU to which a notification template belongs.

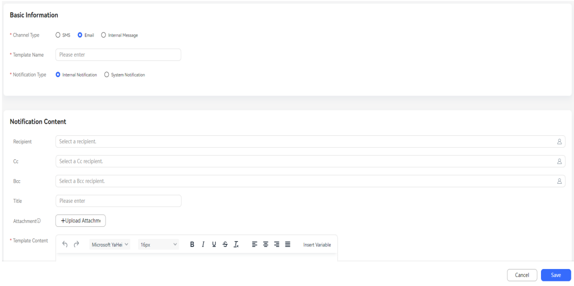
3. Configure the notification content.
   - **Recipient**: Select recipients. The value can contain a maximum of 4000 characters.
   - **Template Type**: Select an SMS notification template type. The options are **HUAWEI CLOUD SMS Messages** and **SMS Gateway**.
   - **HUAWEI CLOUD Template ID**, **Signature Name**, and **Signature Channel ID**: Set these parameters when **Template Type** is set to **HUAWEI CLOUD SMS Messages**. You need to enable and log in to Huawei Cloud, enable the SMS message sending service, and obtain the Huawei Cloud template ID, signature name, and signature channel ID.
   - **Number of Variables**: Enter a value ranging from 1 to 10. Set this parameter when **Template Type** is set to **HUAWEI CLOUD SMS Messages**.
   - **Set Variable**: Click 

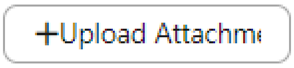
 to add a variable and set the following parameters:
     - **No.**: Enter a variable No. The value is a positive integer.
     - **Type**: Select a variable type. The options are **PHONE**, **DATETIME**, **CHARDIGIT**, and **MONEYTEXT**.
     - **Description**: Enter a variable description. The value can contain a maximum of 50 characters.
     - **Default Value**: Enter a default variable value.
       - For the **PHONE** type, the value is a number of 1 to 15 digits.
       - For the **DATETIME** type, the date format is *yyyy-MM-dd*, and the time format is *HH:mm:ss*.
       - For the **CHARDIGIT** type, the value is a string of 1 to 20 digits and letters.
       - For the **MONEY** type, the value is a number of 1 to 20 digits. Only digits and decimal points that can properly express the amount can be passed.
       - For the **TEXT** type, the value is a string of 1 to 20 characters and cannot contain the following special characters: .{}

Step 3 Create an email notification template.

1. Click **New**. The **Creating a Notification Template** page is displayed.

Figure 2-538 Creating a Notification Template - Email

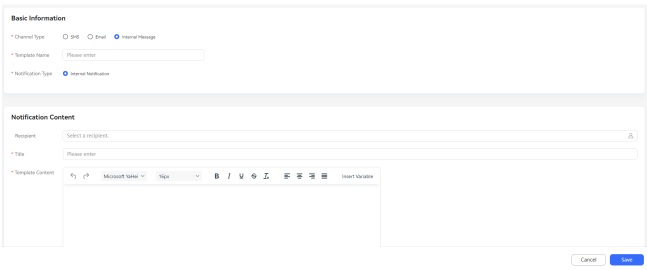


2. Configure basic information.
   - **Channel Type** (mandatory): Select a notification sending type.
   - **Template Name** (mandatory): Enter a customized notification template name. The value can contain a maximum of 200 characters and cannot contain special characters. The template name must be unique.
   - **Notification Type** (mandatory): Select a notification template type. The value can only be **Internal Notification**.
   - **Home Organization**: Select the OU to which the notification template belongs.
3. Configure the notification content.
   - **Recipient**, **Cc**, and **Bcc**: Select recipients, Cc recipients, and Bcc recipients.
   - **Title**: Enter a notification template title. The value can contain a maximum of 200 characters.
   - **Attachment**: Click  and select a local file to add it to the email as an attachment. The file must be a DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, or PPTX file whose size is less than 10 MB. A maximum of 10 files can be uploaded.
   - **Template Content**: Enter the notification content.

Step 4 Create an internal message notification template.

1. Click **New**. The **Creating a Notification Template** page is displayed.

Figure 2-539 Creating a Notification Template - Internal Message



2. Configure basic information.
   - **Channel Type** (mandatory): Select a notification sending type.
   - **Template Name** (mandatory): Enter a customized notification template name. The value can contain a maximum of 200 characters. The template name must be unique.

- **Notification Type** (mandatory): Select a notification template type. The options are **Internal Notification**, **System Notification**, and **Merchant Notification**. Merchant notifications are notifications sent to merchants.
- **Home Organization**: Select the OU to which the notification template belongs.

3. Configure the notification content.
   - **Recipient**: Select recipients.
   - **Title**: Enter a notification template title. The value can contain a maximum of 200 characters.
   - **Template Content**: Enter the notification content.

Step 5 Click **Save**.

----End

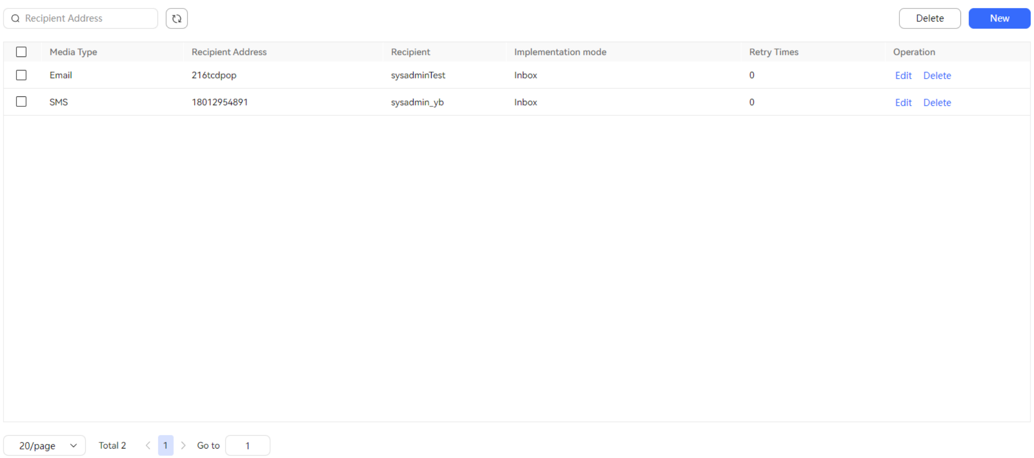
2.11.6 Configuring Message Receiving Routes

A tenant administrator can create an email receiving route to store emails in the default inbox configured in the gateway configuration to the AICC inbox, and create an SMS receiving route to store SMS messages in the recipient address to the AICC inbox.

Procedure

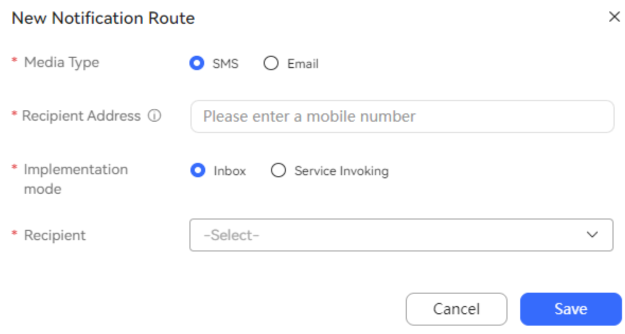
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Notification Route**.

Figure 2-540 Notification Route



Step 2 Choose **New**. The **New Notification Route** dialog box is displayed.

Figure 2-541 New Notification Route



- **Media Type**: Media type of received messages. The options are **SMS** and **Email**.
- **Recipient Address**: Address for receiving messages. When **Media Type** is set to **SMS**, enter a mobile number. You can enter multiple numbers and separate them with commas (,). The mobile number must be unique.
- **Gateway**: Gateway for receiving messages. When **Media Type** is set to **Email**, select a gateway. The options are email gateways whose **Protocol Type** is **POP3** or **IMAP** in the tenant space.
- **Implementation mode**: Implementation mode of a notification route. The options are as follows:
  - **Inbox**: Notification routing is implemented through the inbox.
  - **Service Invoking**: Notification routing is implemented through service invocation. The options are **Satisfaction Survey** and **Cas service**.
- **Recipient**: Select a business account in the tenant space.

Step 3 Click **Save**.

----End

2.11.7 Sending Notifications as an Administrator

A tenant administrator can send internal notifications.

Prerequisites

- To send bulletins, a bulletin type has been configured on the **Configuration Center** > **Workbench Configuration** > **Notification Type** > **Bulletin Type** page. If no bulletin type has been configured, configure one by referring to **2.11.1 Configuring Bulletin Types**.
- To send Huawei Cloud SMS messages:
  - Huawei Cloud SMS requires that the server has the permission to access the external network.
  - The Huawei Cloud SMS service has been purchased, and SMS configuration has been completed on the **Configuration Center** > **Access Configuration** > **SMS Configuration** page. If SMS configuration has not been completed, complete it by referring to **2.11.2 Configuring SMS Messages**.
  - A Huawei Cloud SMS notification template has been configured on the **Configuration Center** > **Workbench Configuration** > **Notification**

Template page. If no SMS notification template has been configured, configure one by referring to **2.11.5 Configuring Notification Templates as an Administrator**.

- To send SMS gateway messages:
  - An SMS message sender number has been configured on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page. If no SMS message sender number has been configured, configure one by referring to **2.11.2 Configuring SMS Messages**.
  - An SMS gateway has been configured on the **Configuration Center** > **Access Configuration** > **Gateway Configuration** page. If no SMS gateway has been configured, configure one by referring to **2.11.3.1 Configuring SMS Gateways**.
- To send emails, an email gateway has been configured on the **Configuration Center** > **Access Configuration** > **Gateway Configuration** page. If no email gateway has been configured, configure one by referring to **2.11.3.2 Configuring Email Gateways**.

Procedure

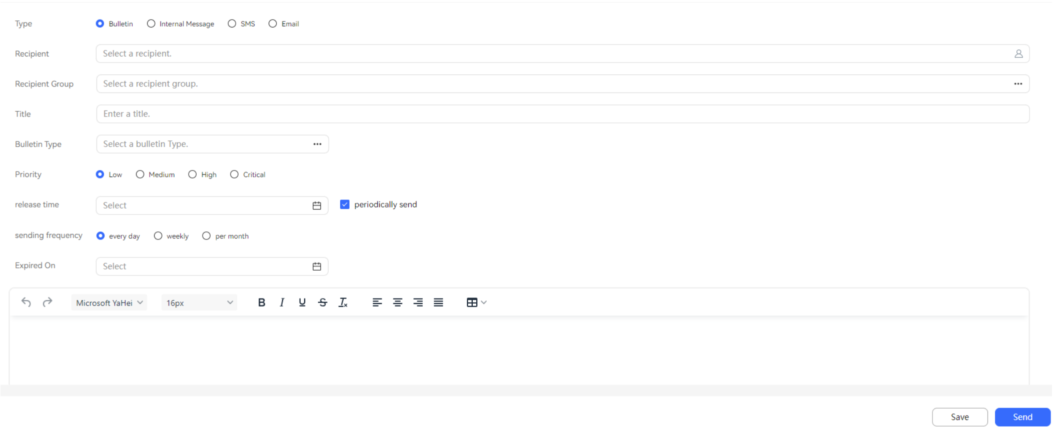
Step 1 Sign in to the AICC as a tenant administrator and click in the upper right corner of the page. The **Notification Center** page is displayed.

Step 2 Click 

. The **Send a notification** page is displayed.

Step 3 Send a bulletin notification.

Figure 2-542 Sending a bulletin notification



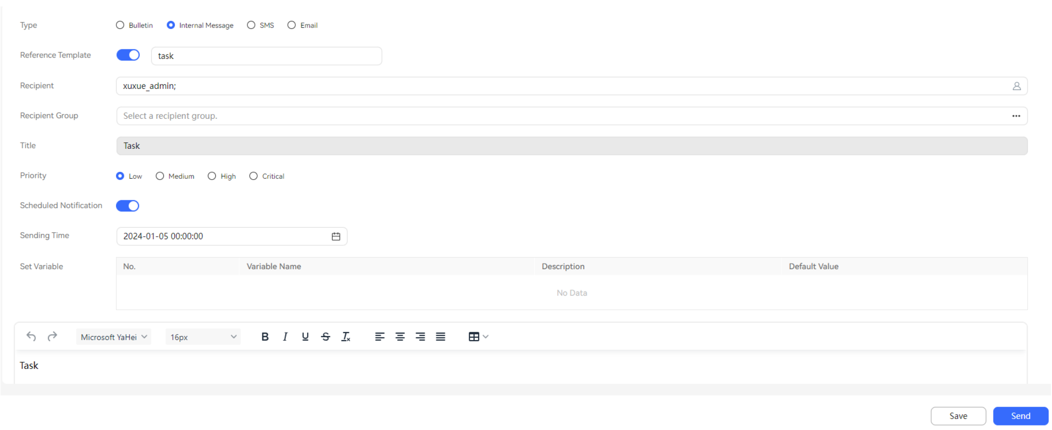
1. Configure the bulletin notification content.
   - **Type**: Select **Bulletin**.
   - **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select recipients and click **Complete**.
   - **Recipient Group**: Click **Recipient Group**. In the **Recipient Group** dialog box, select recipient groups and click **Complete**.

- **Title**: Enter a notification title. The value can contain a maximum of 200 characters.
- **Bulletin Type**: Select a bulletin type. For details about how to configure bulletin types, see **2.11.1 Configuring Bulletin Types**.
- **Priority**: Select a notification urgency level. The options are **Low**, **Medium**, **High**, and **Critical**.
- **release time**: Set the bulletin release time.
  - If this parameter is set to a specific time, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.
  - If this parameter is left blank, the notification content is sent immediately after you click **Send**.
- **periodically send**: Determine whether to send the notification periodically.
- **sending frequency**: After you select **periodically send**, select a notification sending frequency. The options are **every day**, **weekly**, and **per month**.
- **weekly** or **per month**: Select a week or date for sending the notification. The value ranges from **Monday** to **Sunday** or **Day 1** to **Day 31**. This parameter is mandatory when **sending frequency** is set to **weekly** or **per month**.
- **Expired On**: Set the time when the notification expires. After the notification expires, the notification will not be sent.
- Notification content: Enter the notification content.

2. (Optional) Click **Save** to save the notification to the draft box.
3. Click **Send** to send the notification content.

Step 4 Send an internal message notification.

Figure 2-543 Sending an internal message notification



1. Configure the internal message notification content.
   - **Type**: Select **Internal Message**.
   - **Reference Template**: Determine whether to reference a notification template.

– **Select Template**: After you enable **Reference Template**, select a notification template whose **Message Sending Mode** is **Internal Message** in the tenant space and click **Complete** to reference it.

  For details about how to configure notification templates, see **2.11.5 Configuring Notification Templates as an Administrator**.

– **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select recipients and click **Complete**.

– **Recipient Group**: Click **Recipient Group**. In the **Recipient Group** dialog box, select recipient groups and click **Complete**.

– **Title**: Enter a notification title. The value can contain a maximum of 200 characters.

– **Priority**: Select a notification urgency level. The options are **Low**, **Medium**, **High**, and **Critical**.

– **Scheduled Notification**: Determine whether to specify the notification sending time.

  ■ If this function is enabled, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.

  ■ If this function is disabled, the notification content is sent immediately after you click **Send**.

– **Sending Time**: After you enable **Scheduled Notification**, select a specific time for sending the notification.

– **Set Variable**: After you enable **Reference Template** and select a template, you can change the default values of variables in the template.

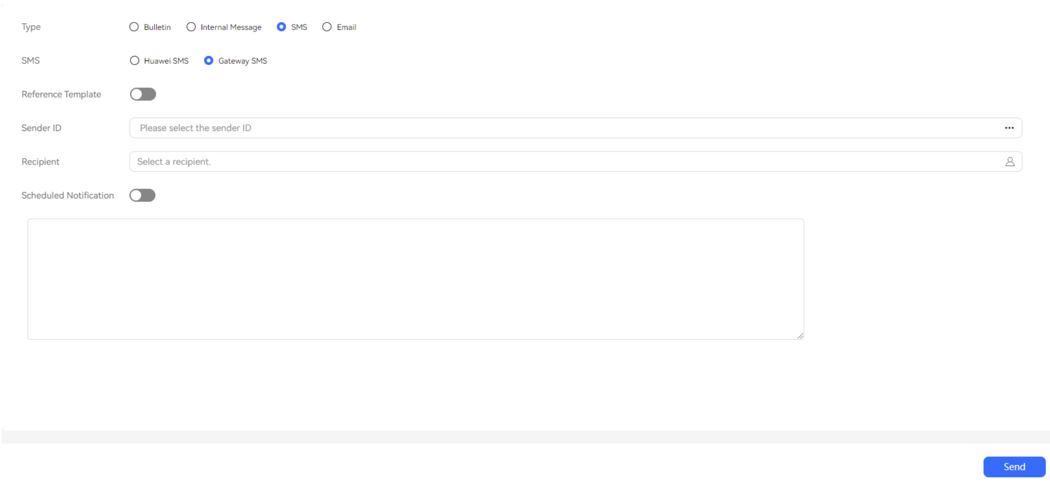
– **Preview**: Update the variables in the notification content to the default values.

– Notification content: Enter the notification content.

2. (Optional) Click **Save** to save the notification to the draft box.
3. Click **Send** to send the notification content.

Step 5 Send an SMS notification.

Figure 2-544 Sending an SMS notification

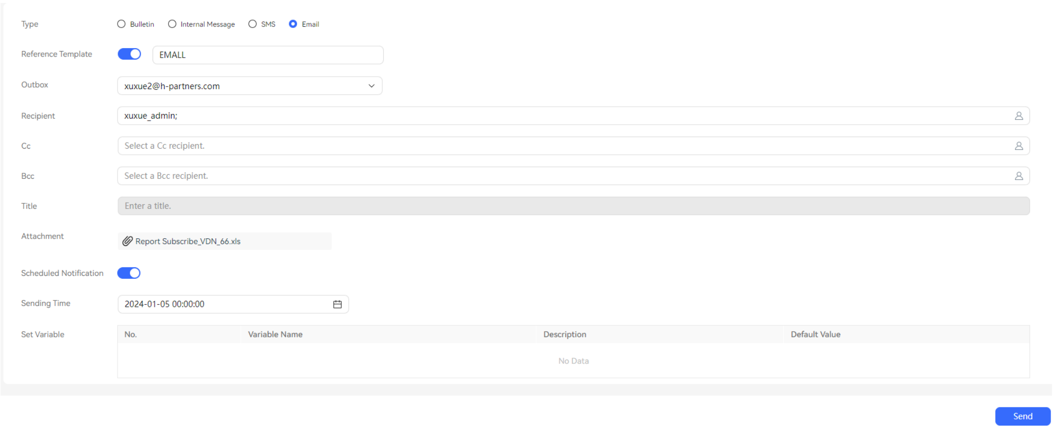


1. Configure the SMS notification content.
   - **Type**: Select **SMS**.
   - **SMS**: Select an SMS channel. The options are **Huawei SMS** and **Gateway SMS**.
   - **Reference Template**: Determine whether to reference a notification template.
   - **Select Template**: After you enable **Reference Template**, select a notification template whose **Message Sending Mode** is **SMS** in the tenant space and click **Complete** to reference it.

     For details about how to configure notification templates, see **2.11.5 Configuring Notification Templates as an Administrator**.
   - **Sender ID**: Set this parameter when **SMS** is set to **Gateway SMS**. For details about how to configure sender numbers, see **Configuring SMS Message Sender IDs**.
   - **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select recipients and click **Complete**.
   - **Scheduled Notification**: Determine whether to specify the notification sending time.
     - If this function is enabled, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.
     - If this function is disabled, the notification content is sent immediately after you click **Send**.
   - **Sending Time**: After you enable **Scheduled Notification**, select a specific time for sending the notification.
   - **Set Variable**: After you enable **Reference Template** and select a template, you can change the default values of variables in the template.
   - **Preview**: Update the variables in the notification content to the default values when **SMS** is set to **Gateway SMS**.
   - Notification content: Enter the notification content when **SMS** is set to **Gateway SMS**.
2. Click **Send** to send the notification content.

Step 6 Send an email notification.

Figure 2-545 Sending an email notification



1. Configure the email notification content.
   - **Type**: Select **Email**.
   - **Reference Template**: Determine whether to reference a notification template.
   - **Select Template**: After you enable **Reference Template**, select a notification template whose **Message Sending Mode** is **Email** in the tenant space and click **Complete** to reference it.

     For details about how to configure notification templates, see **2.11.5 Configuring Notification Templates as an Administrator**.
   - **Recipient**, **Cc**, and **Bcc**: Click **Recipient**, **Cc**, or **Bcc**. In the **Recipient**, **Cc**, or **Bcc** dialog box, select objects and click **Complete**.

     NOTE

     The Cc and Bcc recipients are optional. If the Cc or Bcc recipient does not exist, the email can still be sent. However, the system displays a message indicating that the Cc or Bcc recipient does not exist.
   - **Title**: Enter a notification title. The value can contain a maximum of 200 characters.
   - **Attachment**: Click 

 and select a local file to add it to the email as an attachment. The file must be a DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, PPTX, or PDF file whose size is less than 10 MB. A maximum of 10 files can be uploaded.
   - **Scheduled Notification**: Determine whether to specify the notification sending time.
     - If this function is enabled, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.
     - If this function is disabled, the notification content is sent immediately after you click **Send**.
   - **Sending Time**: After you enable **Scheduled Notification**, select a specific time for sending the notification.
   - **Set Variable**: After you enable **Reference Template** and select a template, you can change the default values of variables in the template.
   - **Preview**: Update the variables in the notification content to the default values.
   - Notification content: Enter the notification content.
2. Click **Send** to send the notification content.

----End

2.11.8 Viewing Notifications

A tenant administrator can view bulletins that have been sent, emails that have been sent and received, notification sending records, and notification drafts.

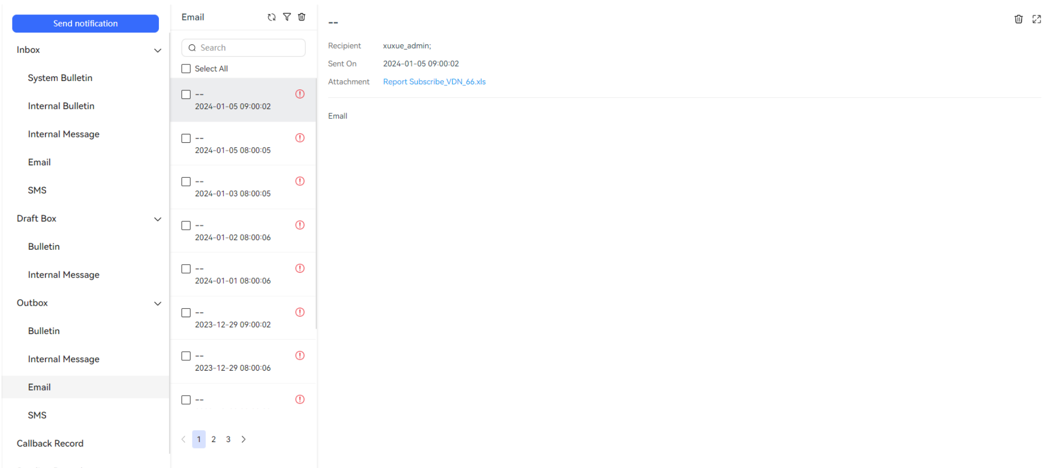
Prerequisites

- To view emails in the inbox, an email message route has been configured on the **Configuration Center** > **Access Configuration** > **Notification Route** page. If no email message route has been configured, configure one by referring to **2.11.6 Configuring Message Receiving Routes**.
- To view Huawei Cloud SMS messages or SMS gateway messages in the inbox, an SMS message route has been configured on the **Configuration Center** > **Access Configuration** > **Notification Route** page. If no SMS message route has been configured, configure one by referring to **2.11.6 Configuring Message Receiving Routes**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and click in the upper right corner of the page. The **Notification Center** page is displayed.

Figure 2-546 Viewing notifications



Step 2 Select a mailbox and click to view the notification types contained in the mailbox.

- **Inbox**, containing **System Bulletin**, **Internal Bulletin**, **Internal Message**, **Email**, and **SMS**
- **Draft**, containing **Bulletin** and **Internal Message**
- **Outbox**, containing **Bulletin**, **Internal Message**, **Email**, and **SMS**
- **Callback Record**
- **Sending Record**

Step 3 Select a notification type and view the corresponding notification list.

- **Inbox**
  - Enter a notification title and click to search for notifications based on the notification title.
  - Click to refresh notifications of the selected notification type.
  - Click and choose **All**, **Read**, or **Unread** to filter notifications of the selected notification type based on the notification status.

- Select multiple notifications, click ⋮, and choose **Mark messages as read** or **Delete** to operate them in batches. These operations are not supported for emails.
- Click ⋮ and choose **Delete all read messages** to delete notifications in batches. This operation is not supported for emails.
- Select multiple notifications and click the mail icon to mark them as read in batches. This operation is supported only for emails.

- **Draft Box**
  - Enter a notification title and click the search icon to search for notifications based on the notification title.
  - Click the refresh icon to refresh notifications of the selected notification type.
  - Select multiple notifications and click the delete icon to delete them in batches.
- **Outbox**
  - Enter a notification title and click the search icon to search for notifications based on the notification title.
  - Click the refresh icon to refresh notifications of the selected notification type.
  - Click the filter icon and choose **All**, **Read**, or **Unread** to filter notifications of the selected notification type based on the notification status.
  - Select multiple notifications and click the delete icon to delete them in batches.
- **Callback Record**
  - Select a notification callback time range and click the refresh button to search for notification callback records. The options are **1 Day**, **Last 3 days**, **Last 7 days**, and **Customization**.
  - Set **Recipient**, **Sender**, and **Callback Status** to further filter notification callback records.
- **Sending Record**
  - Select a notification sending time range and a notification sending state, and click the refresh button to search for notification sending records. The options are **1 Day**, **Last 3 days**, **Last 7 days**, and **Customization**.
  - Set **Recipient** to further filter notification sending records.

Step 4 Select a notification and view its details.

- **Inbox**
  - Click the delete icon to delete the notification.
  - Click the reply icon to reply to the notification. This operation is not supported for internal bulletins.
  - Click the maximize icon to maximize the notification.
- **Draft Box**

  - Click to modify the notification.
  - Click to delete the notification.
  - Click to maximize the notification.
- **Outbox**
  - Click to delete the notification.
  - Click to maximize the notification.
  - Click the name of an attachment to download the attachment and view its content.

    NOTE

    The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

----End

2.12 Managing the Customer Center

A tenant administrator or an agent can view customer information and customer contact records, and add customer information.

Prerequisites

- The agent has the **Customer Center Management** menu permission. By default, a tenant administrator has this permission.
- The **Customer Center** feature has been enabled for the tenant space.
- The tenant parameter **Display Unified Customer Contact Information** has been set to **Yes**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Customer Center** > **Customer Center Management**.

Step 2 Set search criteria to search for customer information based on the criteria.

Table 2-160 GUI elements on the Customer Center Management page

Element	Type	Description
Search for name/ phone/ email	Text box	Enter the name, mobile number, or email address for searching for customer information. The value can contain 0 to 255 characters.
	Button	Refresh the page.

Element	Type	Description
	Button	Import user information.
BatchDelete	Button	Select names and delete them.
Create	Button	Add customer information.
Name	Label	Customer name.
Phone	Label	Customer mobile number.
Email	Label	Customer email address.
Remark	Label	Customer information description.
CreateTime	Label	Time when customer information is created.
UpdateTime	Label	Time when customer information is updated.
Operation	Button group	Operations that can be performed. ● **View**: View customer information and customer contact records. ● **Delete**

Step 3 Add a customer.

You can add customers one by one or import customers in batches as required.

- Adding customers one by one
  a. Click **Create**.
  b. Configure customer information.

Table 2-161 GUI elements on the Add Customer page

Element	Type	Description
name	Text box	Customer name. The value can contain 0 to 80 characters.

Element	Type	Description
gender	Option button	Customer gender. ▪ **Male** ▪ **female** ▪ **Information not available**
Phone	Text box	Customer mobile number. Click Add on the right to add a mobile number. A maximum of three mobile numbers can be configured. The value can contain 0 to 20 characters.
Email	Text box	Customer email address. Click Add on the right to add an email address. A maximum of two email addresses can be configured. The value can contain 0 to 128 characters.
Company	Text box	Company to which a customer belongs. The value can contain 0 to 80 characters.
Address	Drop-down list	Contact address of a customer.
address Detail	Text box	Detailed contact address of a customer. The value can contain 0 to 80 characters.

Element	Type	Description
Channel	Drop-down list + text box	Channel information. Click Add to add a channel. ▪ **wechat** ▪ **twitter** ▪ **weibo** ▪ **facebook** ▪ **skype** ▪ **linkedin** ▪ **web** ▪ **line** ▪ **instagram** ▪ **telegram** ▪ **whatsapp** Enter a customer login channel account in the text box, for example, a WeChat account. The value can contain 0 to 255 characters.
Remark	Text box	Customer information description. The value can contain 0 to 80 characters.

c. Click **Save**.

- Importing customers in batches

a. Click .

b. Click **Customer Information Import Template** to obtain the import template.

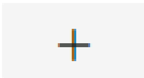
c. Open the downloaded template file and configure the data to be imported by referring to **Figure 2-547**.

Figure 2-547 Adding data

A	B	C	D	E	F	G	H	I	J	K
customerName	cellPhone	email	gender	country	province	city	area	addtionalAddress	company	remark

- **customerName**: This field is mandatory. Other fields are optional.
- **customerName**, **addtionalAddress**, **company**, and **remark**: It is recommended that the values contain a maximum of 80 characters.
- **cellPhone**: It is recommended that the value contain a maximum of 20 characters.
- **email**: It is recommended that the value contain a maximum of 128 characters.
- **gender**: The value can only be **male**, **female**, or **unKnownSex**.
- **country**, **province**, **city**, and **area**: The values are address names preset in address data. Invalid address data is not imported.

d. Save the file.

e. Click  and select the configured .xlsx file.

f. Click **Save** to upload the customer information.

----End

2.13 Making Intelligent Outbound Calls

This section describes how to configure intelligent automatic outbound calls, manage outbound call tasks by category (including automatic and manual outbound call tasks), and properly plan outbound call tasks.

2.13.1 Overview of Outbound Call Tasks

To maintain customer relationships, improve customer satisfaction, or seek business opportunities, enterprises often call customers for return visits, surveys, additional information, product promotion, or other activities.

The AICC is a comprehensive outbound call management platform for enterprises. It supports the following types of outbound call tasks.

NOTE

If the number of predicted outbound call tasks is greater than or equal to 4 and the number of outbound call records configured for each task is greater than or equal to 100,000, performance risks may arise when all tasks are being executed and the database is running on a server with an 8-core CPU.

Table 2-162 Outbound call task types

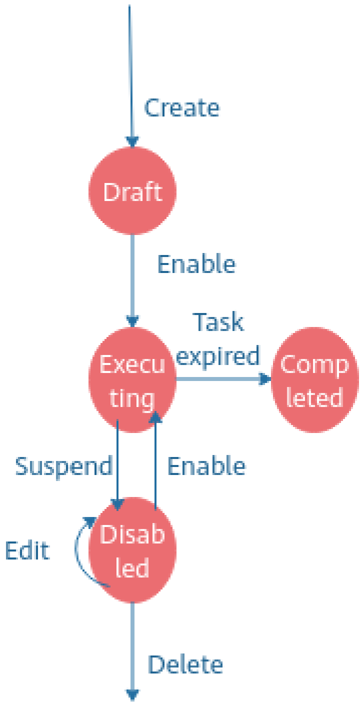
Task Type	Agent Participation (Yes/No)	Application Scenario	Required Resource	Advantage
Common IVR outbound call task	No	Revisit, survey, standardized information collection, or other scenarios with standard script processes.	IVR channel	• This method is cost-effective, because agent participation is not required. • IVR flows are used to interact with customers by playing voices, collecting digits, and routing calls.
Predicted outbound call task	Yes	Customer care, product marketing, and business opportunity seeking.	Skill queue	• This method is more friendly and flexible due to agent participation. • This method ensures efficient outbound calls, because the AICC dynamically assigns calls based on factors such as the call completion rate and rejection rate.
Intelligent robot outbound call task	No	Revisit, survey, standardized information collection, or other scenarios with standard script processes.	Enabled intelligent IVR TTS and ASR channels	• This method is cost-effective, because agent participation is not required. • This method optimizes the experience and shortens the operation and service durations due to the semantic recognition technology of the intelligent IVR flow.

Task Type	Agent Participation (Yes/No)	Application Scenario	Required Resource	Advantage
Manual outbound call task	Yes	Customer care, product marketing, and business opportunity seeking	Skill queue	• This method is more friendly due to agent participation. • Agents determine the number of outbound calls.
Previewed outbound call task	Yes	Scenarios where customer background information needs to be obtained in advance, for example, dunning tasks.	Skill queue	• This method is more friendly due to agent participation. • Agents have enough time to learn about the customer's background information, which provides better experience.
Preempted outbound call task	Yes	Agents are preoccupied. After a customer is connected, the call is directly connected to an agent, reducing the customer's waiting time.	Skill queue	• This method is more friendly due to agent participation. • This method reduces the probability of hang-up due to waiting. After a customer accesses the system, the customer can be connected to the preoccupied agent immediately.
Fixed outbound call task	Yes	Customer care, product marketing, and business opportunity seeking.	Skill queue	• This method is more friendly due to agent participation. • Outbound call tasks can be assigned based on the idle agent rate.

You can select a desired outbound call task based on the application scenarios and advantages.

The following figure shows the task states and corresponding operations in the AICC.

Figure 2-548 Status of the outbound call task



2.13.2 Preparations for Creating Outbound Call Tasks

2.13.2.1 Managing Special Dates

Special dates are specified in automatic outbound call tasks. For example, if a call center expects the agents to make outbound calls on workdays at a time different from that on weekends and public holidays, set weekends and public holidays to special dates which can be selected when you create automatic outbound call tasks.

Context

You can set special dates in any of the following ways:

- Specify one or more days in a week, usually weekends or workdays.
- Specify a date or time period. Generally, usually holidays or workdays temporarily adjusted.
- Specify one or more days in a year, usually public holidays.

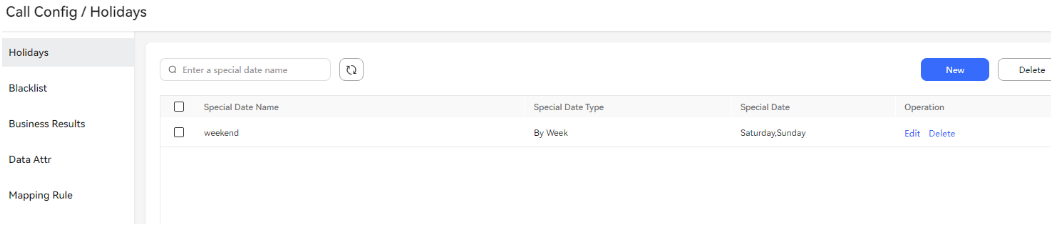
Business Scenario

In a call center, Saturday and Sunday are special days, and no agent needs to be on duty.

Procedure

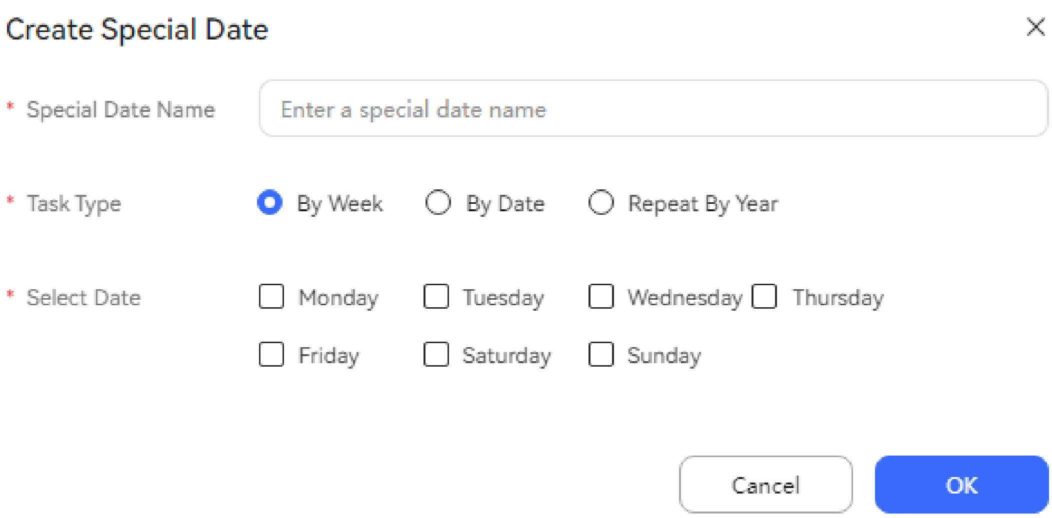
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Holidays**.

Figure 2-549 Holidays page



Step 2 Click **New** to create a special date.

Figure 2-550 Create Special Date page



Step 3 Set **Task Type** to **By Week**, and select **Saturday** and **Sunday**. The following table describes the parameters on the page.

Table 2-163 Parameters on the Create Special Date page (By Week)

Parameter	Description
Special Date Name	Enter a special date name.
Task Type	Set this parameter to **By Week**.
Select Date	Select dates as required, for example, select **Saturday** and **Sunday**.

Table 2-164 Parameters on the Create Special Date page (By Date)

Parameter	Description
Special Date Name	Enter a special date name.
Task Type	Set this parameter to **By Date**.
Select Date	Set **Start Date** and **End Date**. The end date must be later than or equal to the start date.

Table 2-165 Parameters on the Create Special Date page (Repeat By Year)

Parameter	Description
Special Date Name	Enter a special date name.
Task Type	Set this parameter to **Repeat By Year**.
Select Date	Set **Start Date** and **End Date**. The end date must be later than or equal to the start date.

Step 4 Click **OK**.

----End

2.13.2.2 Managing Blocklisted Outbound Numbers

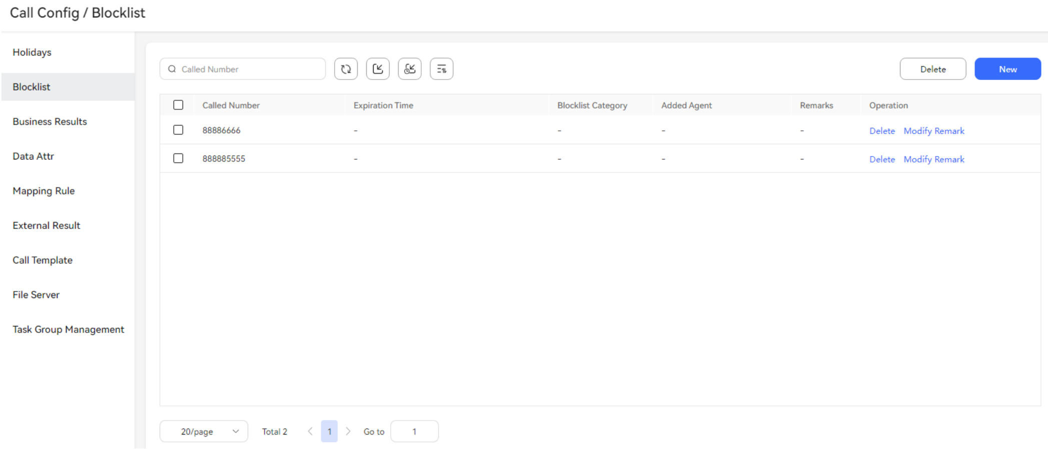
You can blocklist the numbers of unfriendly customers or known numbers that cannot be called. These blocklisted numbers will not be called during the execution of outbound call tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Blocklist**.

By default, the outbound number blocklist displays the blocklisted numbers of the tenant space.

Figure 2-551 Blocklist



Step 2 Create a blocklist category.

1. Click **New**. The **Add Number to Blocklist** dialog box is displayed.
2. Click **Blocklist Category**. The **Select Blocklist Category** dialog box is displayed.
3. In the **Select Blocklist Category** dialog box, click **New** to create a blocklist category.

Step 3 Configure outbound number blocklist data.

- Adding numbers one by one
   a. Click **New**. The **Add Number to Blocklist** dialog box is displayed.

Figure 2-552 Add Number to Blocklist

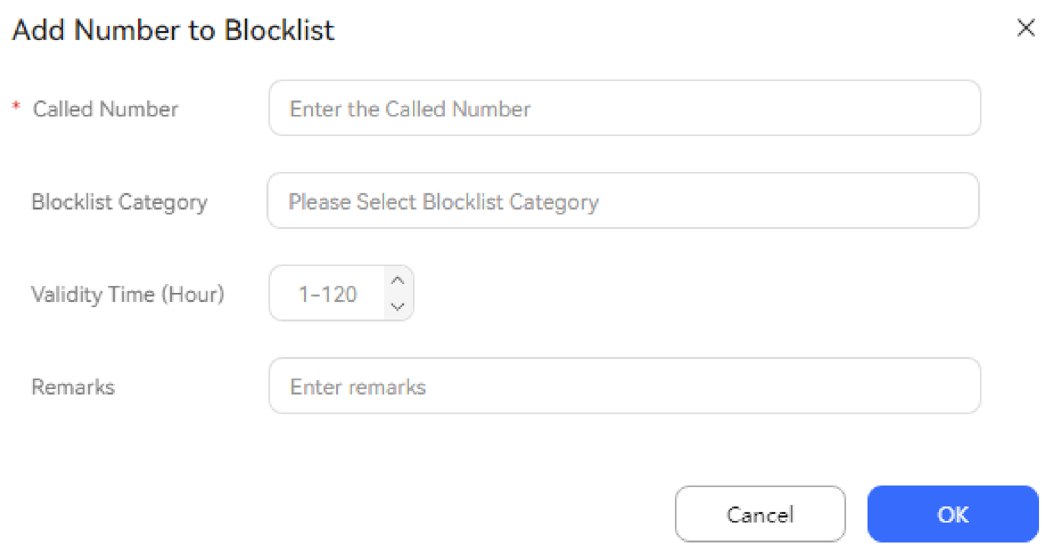


Table 2-166 GUI elements on the Add Number to Blocklist page

Element/Component	Description
Called Number	Blocklisted number.

Element/Component	Description
Blocklist Category	▪ If no blocklist category exists, create a blocklist category by referring to **Step 2**. ▪ If a blocklisted number is not bound to a blocklist category, the number is a global blocklisted number and takes effect for all outbound call tasks. ▪ If a blocklisted number is bound to a blocklist category, the number takes effect only for outbound call tasks bound to the blocklist category when being created.
Validity Time (Hour)	Validity period of a blocklisted number, in hours. The value ranges from 1 to 120. For example, if you enter **1**, the blocklisted number becomes invalid 1 hour after it is created.
Remarks	Remarks of a blocklisted number.

b. Enter information as prompted and click **OK**.

- Importing numbers in batches

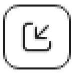
a. Click .

Figure 2-553 Setting Import Method to Using file

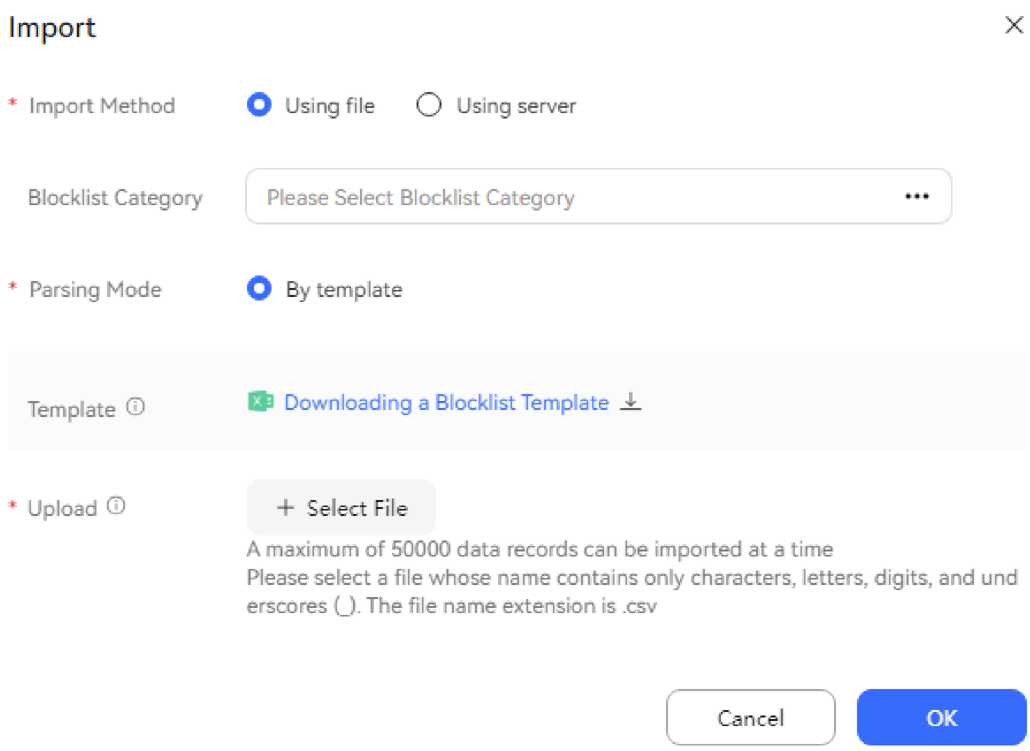
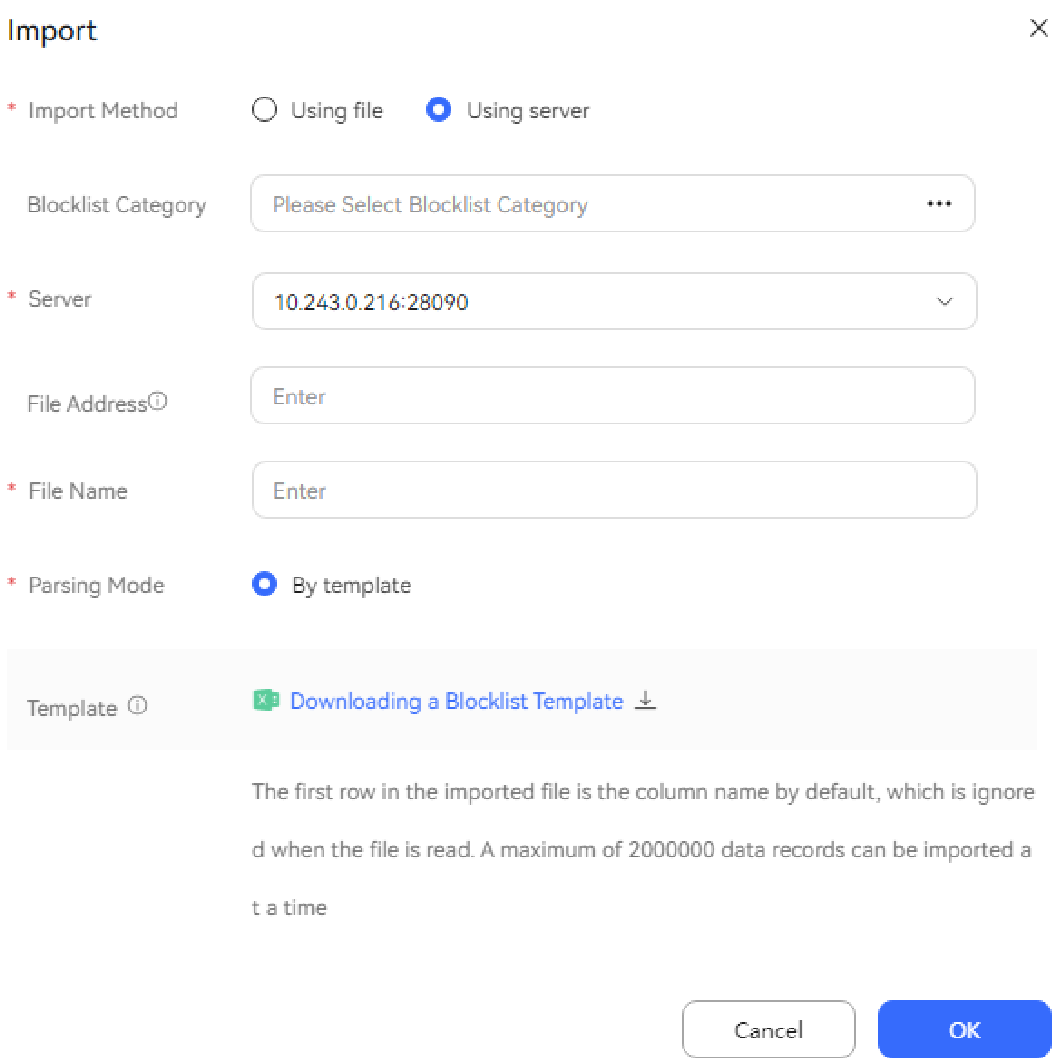


Figure 2-554 Setting Import Method to Using server



b. Set the file upload parameters.

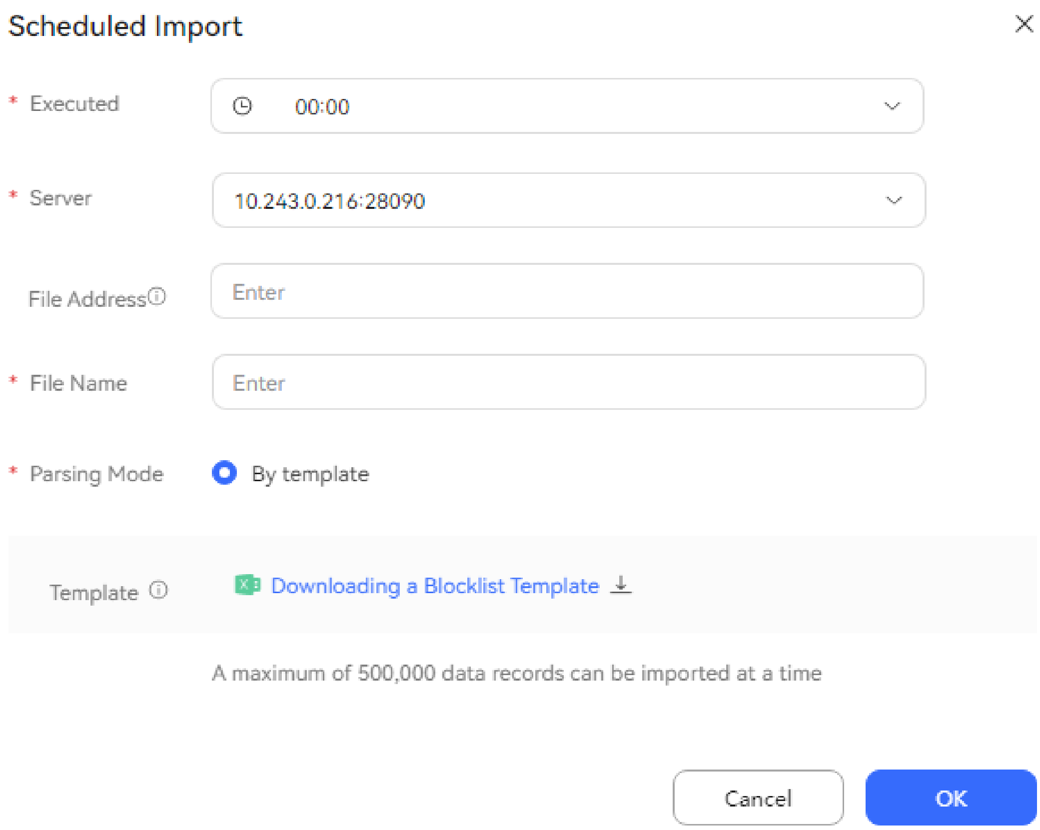
Table 2-167 File upload parameters

Parameter	Description
Import Method	The options are as follows: ▪ **Using file**: A maximum of 50,000 data records can be imported at a time. ▪ **Using server**: A maximum of 500,000 data records can be imported at a time.
Blocklist Category	Blocklist category.
Server	Set this parameter to the IP address of the server where the blocklist file is located. This parameter is available when **Import Method** is set to **Using server**.

Parameter	Description
File Address	Set this parameter to the relative path of the default path on the file server where the blocklist file is located. This parameter is available when **Import Method** is set to **Using server**.
File Name	Enter the import file name including the file name extension. This parameter is available when **Import Method** is set to **Using server**.
Parsing Mode	The option is as follows: ■ **By template**: Click Downloading a Blocklist Template to download the import file template.
Select File	Upload a local file. This parameter is available when **Import Method** is set to **Using file**.

c. Click  to import outbound number blocklist data using scheduled tasks. The number of scheduled tasks for importing blocklist data is restricted by the tenant parameter **Maximum number of scheduled tasks in the outbound call blocklist**. The default value is **10**. To change the value, go to the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Figure 2-555 Scheduled Import



d. Click **OK** to import the outbound number blocklist data.

e. On the **Blocklist** page, click the import result icon to view the imported data.

Step 4 On the **Blocklist** page, enter a blocklisted number in the called number text box and press **Enter** to search for information about the blocklisted number.

----End

2.13.2.3 Defining Business Results

The business result refers to the processing result of the outbound call service. Tenant administrators define common business result types. Agents mark the business result based on the business execution result during the outbound call process.

Context

For outbound calls, tenant A has the following business results:

1: success

2: failure

3: uncertain

The business result **2** (failure) has the following sub-business results:

1: The customer does not want to purchase the product.

2: The customer has purchased the product.

The business result **3** (uncertain) has the following two sub-business results:

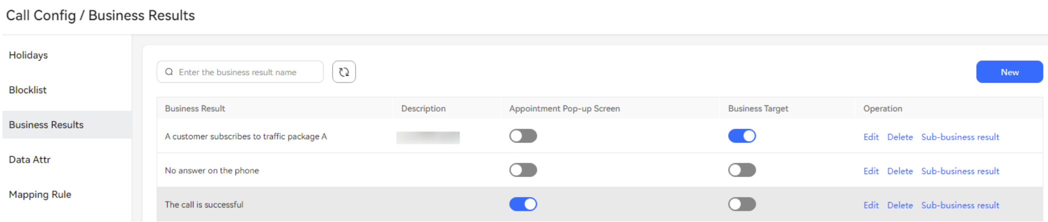
1: The call is not answered by the customer.

2: The call is interrupted.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Business Results**.

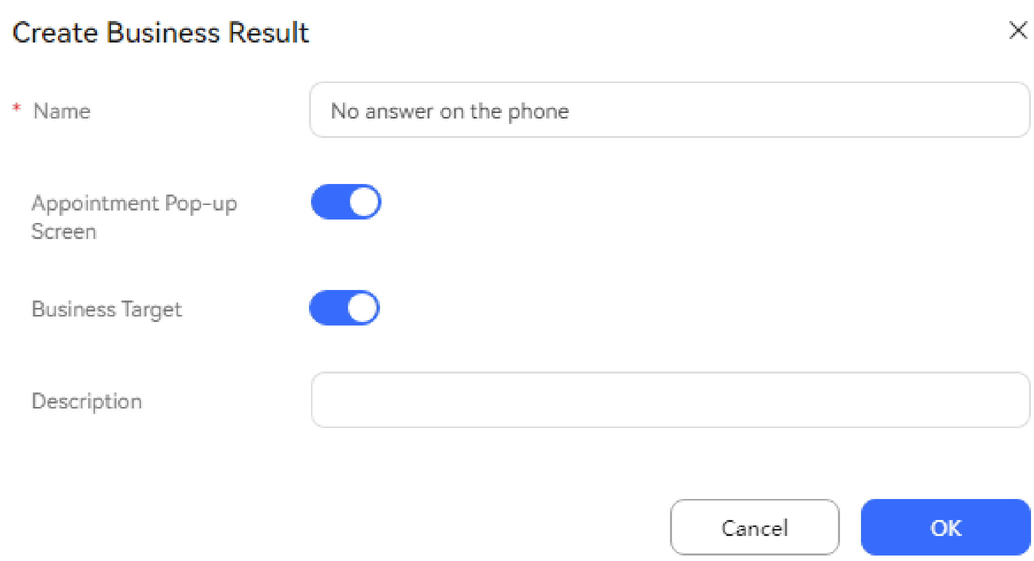
Figure 2-556 Business Results



Step 2 Click 

. In the **Create Business Result** dialog box, enter related information.

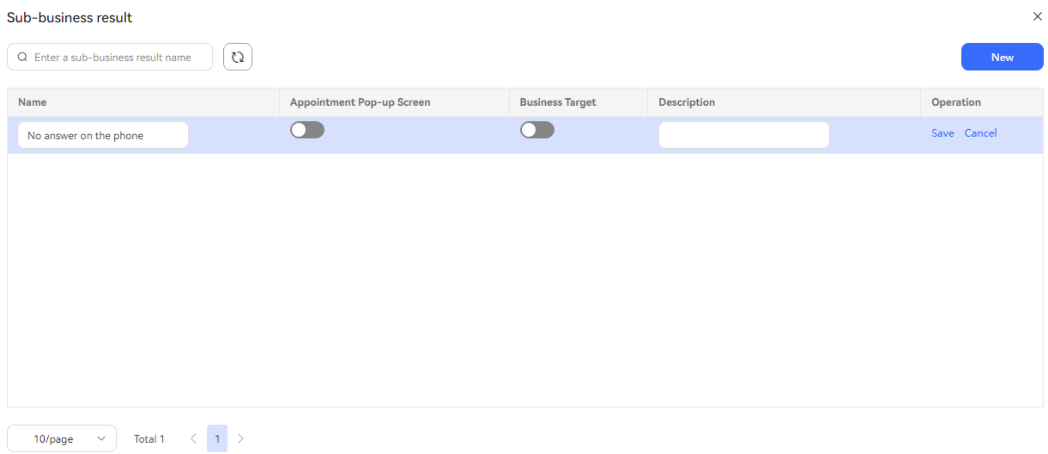
Figure 2-557 Create Business Result



Step 3 Click **OK**.

Step 4 Click **Sub-business result** in the **Operation** column corresponding to the new business result and click **New**.

Figure 2-558 Page for creating a sub-business result



Step 5 Configure the sub-business result content and click **Save**.

Step 6 (Optional) Click **Edit** to modify the name and description of the sub-business result.

NOTE

The name of a referenced sub-business result cannot be modified.

Step 7 Enable **Appointment Pop-up Screen** corresponding to the business result. After an agent selects and saves the business result on the outbound call workbench, the reserved outbound call task dialog box is displayed.

Step 8 Enable **Business Target** corresponding to the business result. After an agent selects and saves the business result on the outbound call workbench, the number of calls that have achieved the business target is incremented by 1 on the **Outbound Call** > **Call Monitor** page.

----End

2.13.2.4 Defining Outbound Call Data Attributes

The purpose of defining outbound call attributes is to create customized attributes for outbound call data configuration. The attributes can be used for outbound call filtering and sorting.

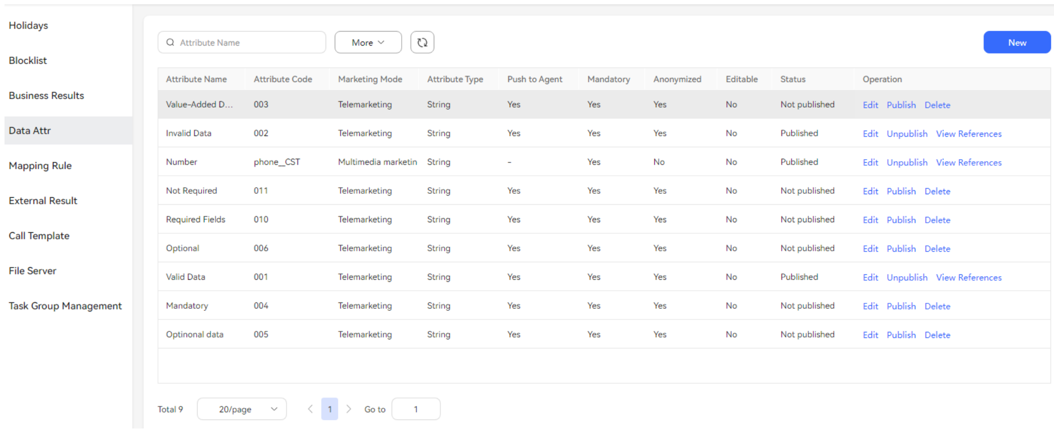
Context

A tenant can set business information about a specific enterprise, for example, the customer name and arrears amount defined in an outbound call attribute.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Data Attr**.

Figure 2-559 Data Attr



Step 2 Click **New** and configure attribute parameters.

Figure 2-560 Create Attribute

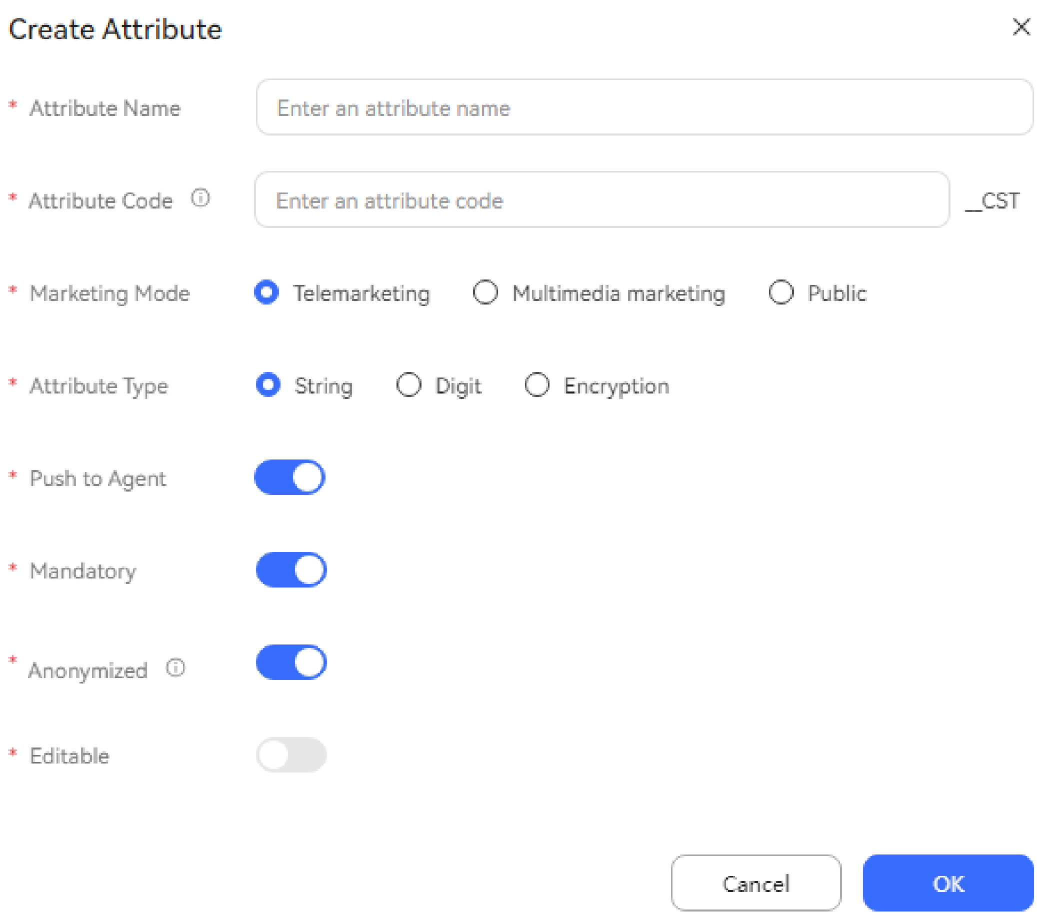


Table 2-168 Parameters on the Create Attribute page

Parameter	Description
Attribute Name	Attribute name, which is customized. The value can contain a maximum of 20 characters.
Attribute Code	Attribute code, which is customized. The value can contain a maximum of 30 characters. Digits, letters, and hyphens (-) are allowed. When letters are used as attribute codes, outbound call attributes can be sorted in alphabetical order.
Marketing Mode	• **Telemarketing** • **Multimedia marketing** • Public (available for both **Telemarketing** and **Multimedia marketing**)
Attribute Type	Attribute type. The options are as follows: • **String** • **Digit** • **Encryption** **NOTE** For security purposes, set **Attribute Type** to **Encryption** if the attribute contains personal data, such as the customer ID card number.
Push to Agent	The options are as follows: •  : The attribute is displayed on the outbound call workbench. • 
Mandatory	The options are as follows: •  • 
Anonymized	The options are as follows: •  •  **NOTE** For security purposes, set **Anonymized** to **Yes** if the attribute contains personal data, such as the customer ID card number.

Parameter	Description
Editable	The options are as follows: •  • 

Step 3 Click **OK**. The attribute is successfully created and is in unpublished state.

Step 4 (Optional) If the created data attribute is incorrect, click **Edit** in the **Operation** column to edit the attribute content, including **Attribute Name**, **Push to Agent**, **Mandatory**, **Anonymized**, and **Editable**.

(Optional) If the data attribute is no longer needed, click **Delete** in the **Operation** column to delete it.

Step 5 Click **Publish** in the **Operation** column corresponding to the new data attribute to publish it.

Step 6 Select a published data attribute and click **Unpublish** to cancel it.

----End

2.13.2.5 Defining Outbound Call Results

Outbound call results can be defined to identify the causes of failed outbound call tasks.

Context

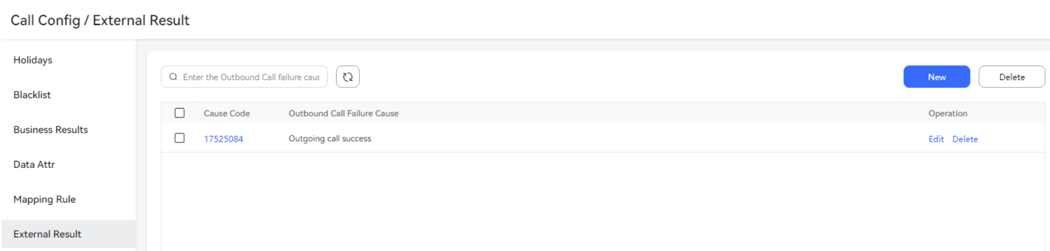
For failed calls, the outbound call system records cause codes based on the failed process nodes and communication signaling. Cause codes can be configured in sequence based on business scenarios. Multiple cause codes can be aggregated into one outbound call failure cause, based on which outbound call results are pushed back.

The mappings between outbound call failure causes and cause codes are preset in the system before delivery. You can customize the mappings as required.

Procedure

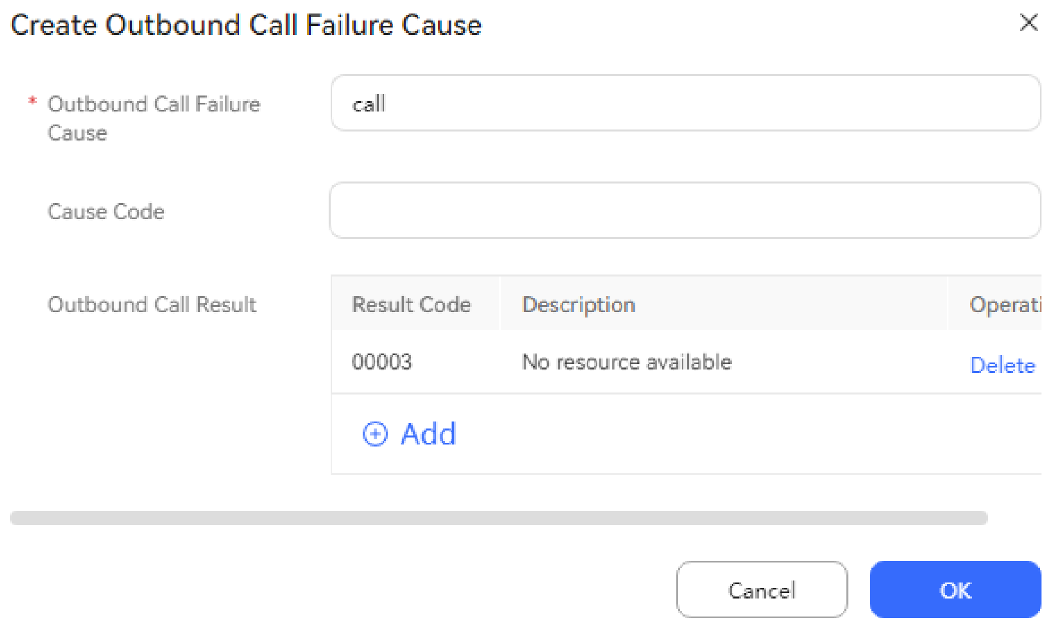
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **External Result**.

Figure 2-561 External Result



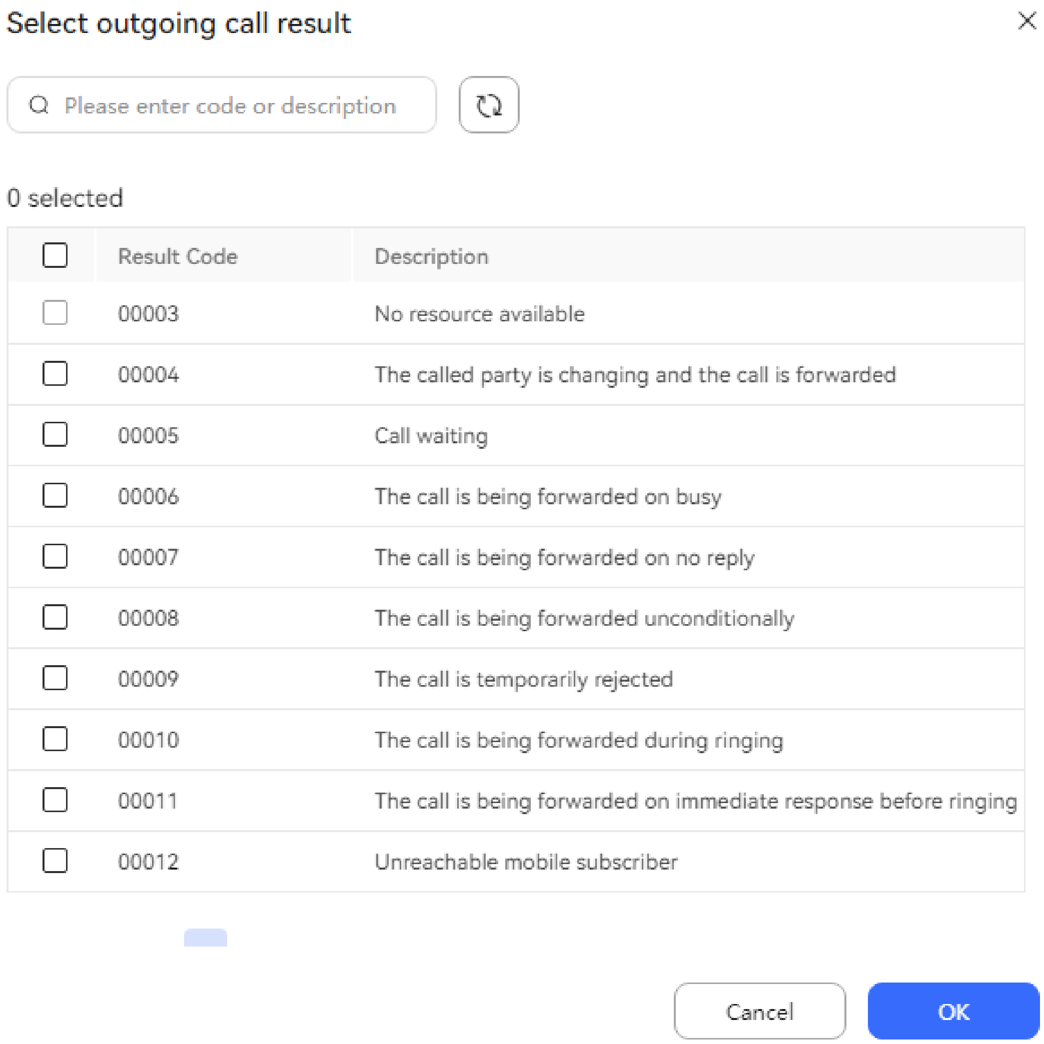
Step 2 Click **New** to create an outbound call result.

Figure 2-562 Create Outbound Call Failure Cause



Step 3 Configure the outbound call failure cause and click **Add** to add outbound call results.

Figure 2-563 Adding outbound call results



Step 4 Select one or more outbound call results and click **OK**.

Step 5 Click **OK**.

----End

2.13.2.6 Creating Outbound Call Templates

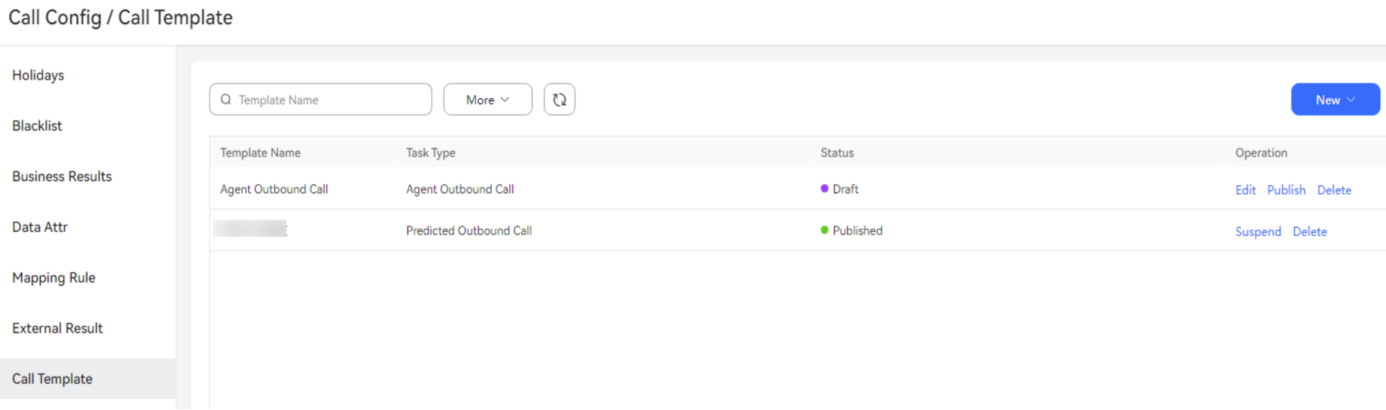
The use of outbound call templates facilitates creation of outbound call tasks. Many outbound call tasks use similar settings, except time and names. Therefore, using an existing outbound call template considerably shortens the time spent in creating outbound call tasks.

Procedure

Scenario 1: Create a common IVR outbound call template.

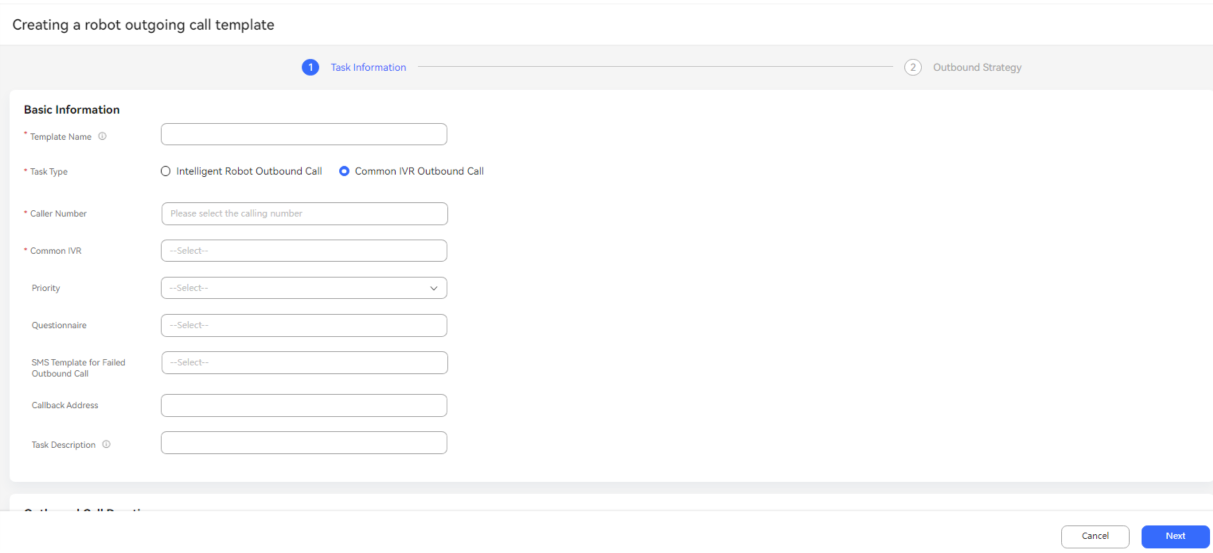
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Call Template**.

Figure 2-564 Call Template



Step 2 Choose **New** > **Robot outbound call template**.

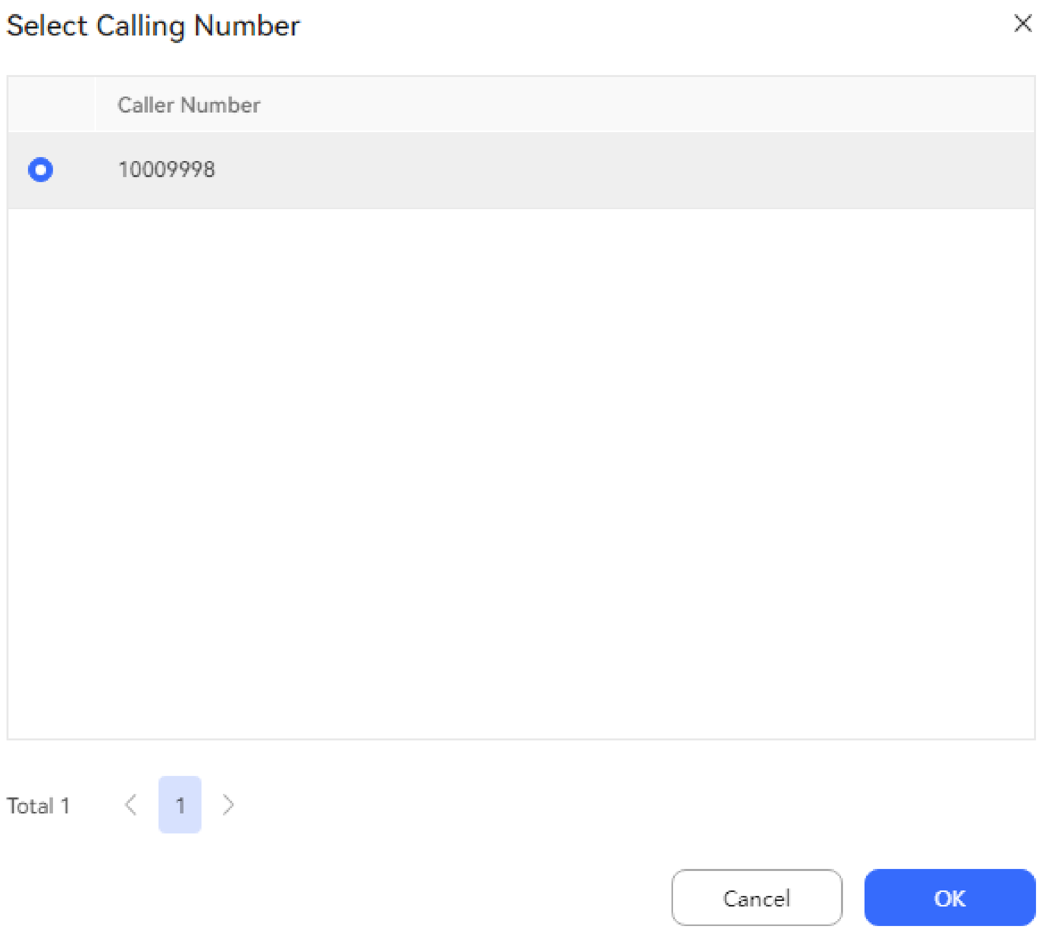
Figure 2-565 Creating a robot outgoing call template



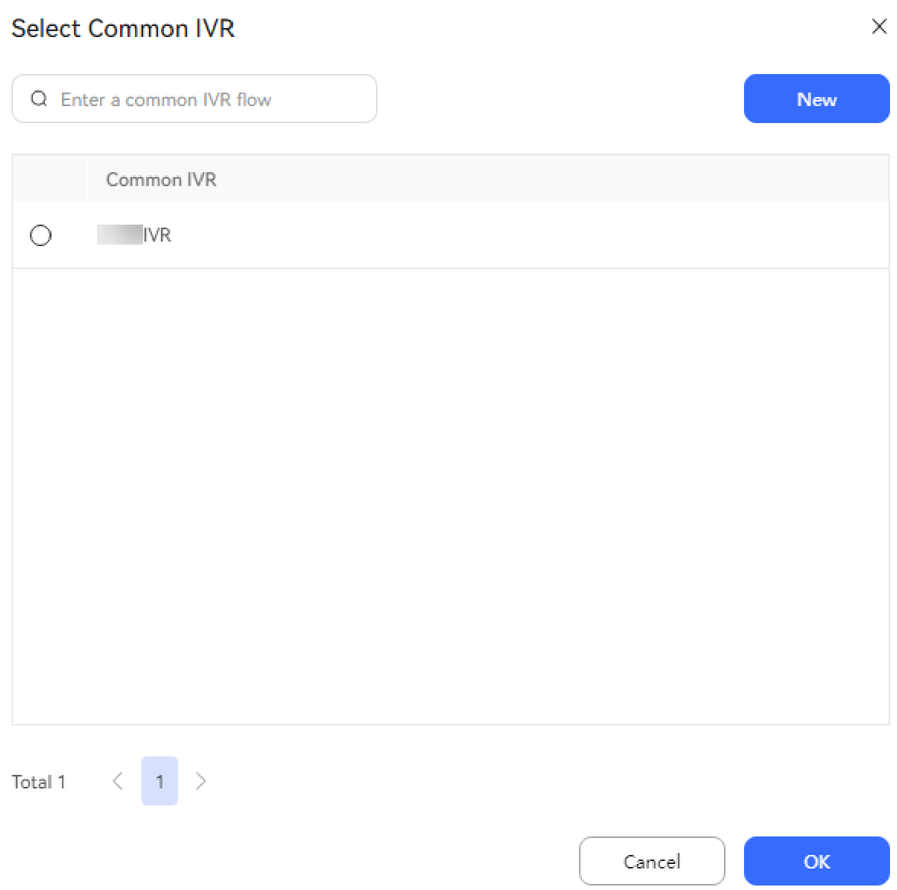
Step 3 Configure basic template information.

1. Click the **Caller Number** selection box. The **Select Calling Number** dialog box is displayed. The default value of **Priority** is **3**. You can select a value from the drop-down list.

Figure 2-566 Select Calling Number

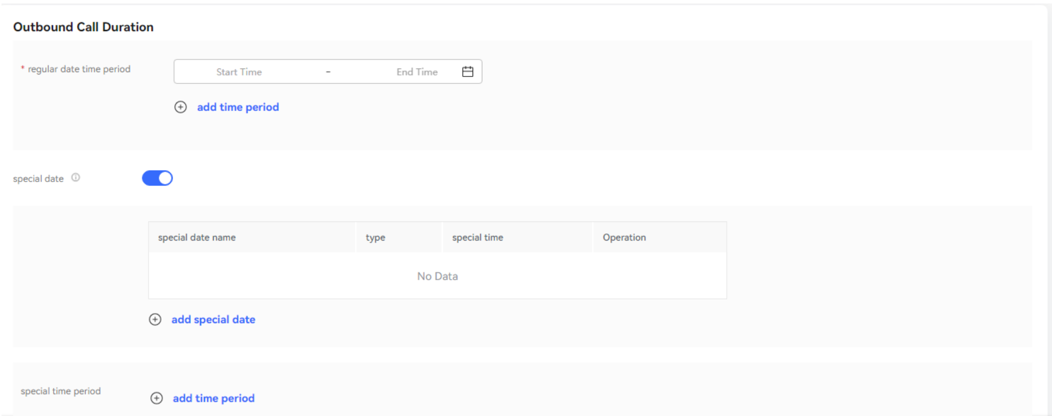


2. Select calling numbers and click **OK**.
3. Select an IVR flow and click **OK**.



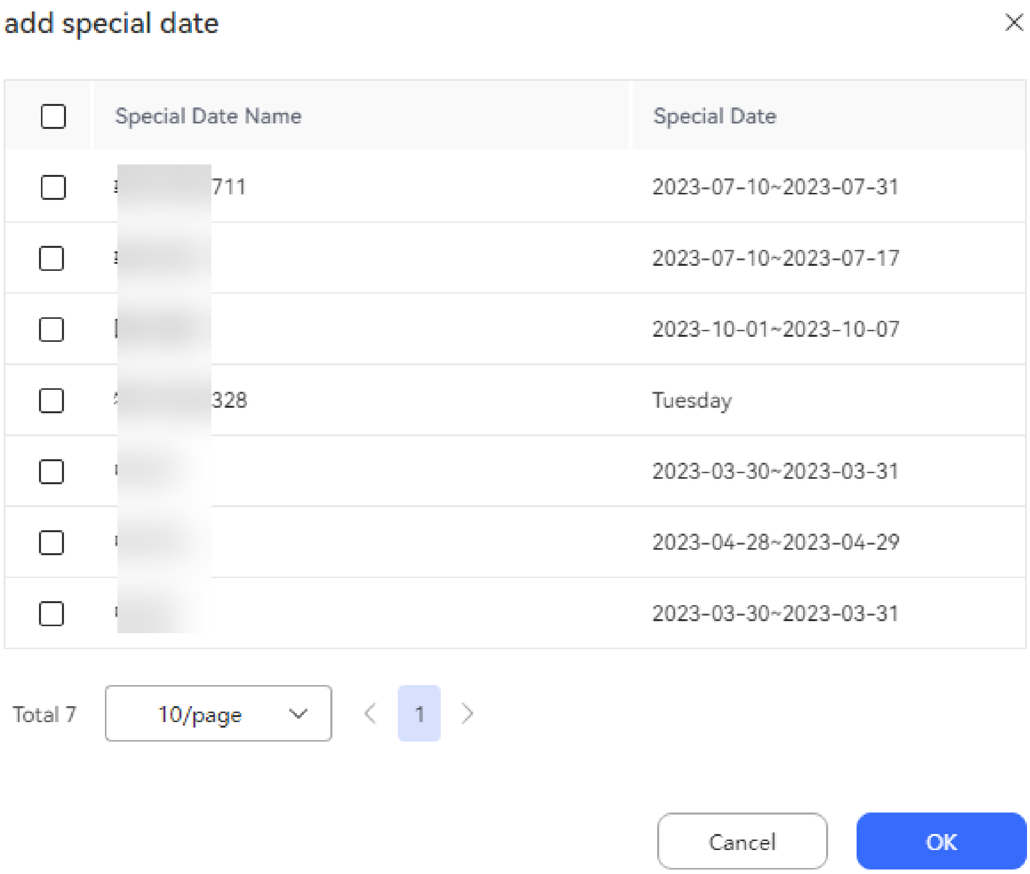
Step 4 Configure the outbound call period.

Figure 2-567 Outbound Call Duration



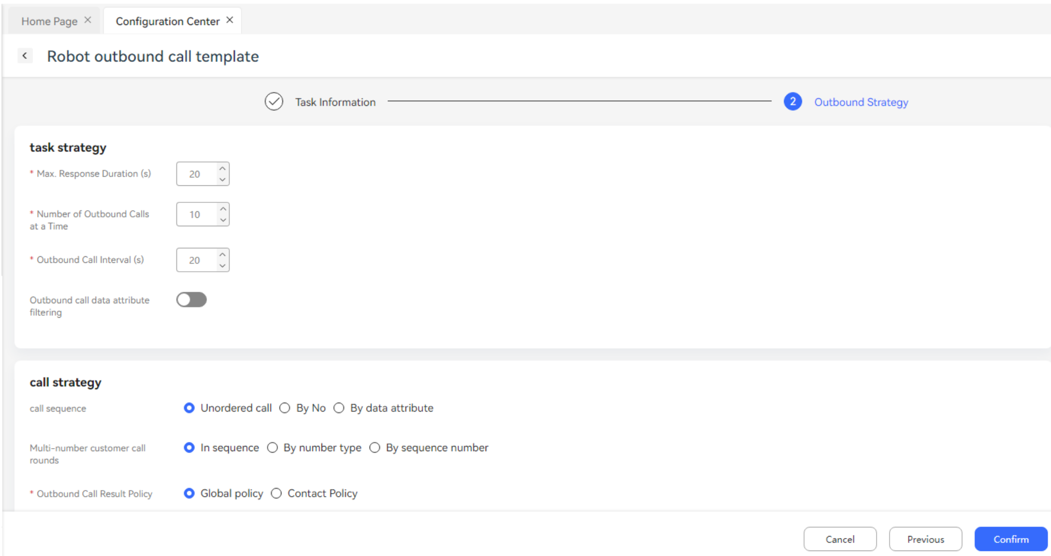
- **Regular Date Time Period** (mandatory): Set at least one outbound call time period.
- **Special Time Period** (Optional): If special dates are configured, set at least one outbound call time period for the special dates.
- **Special Date** (Optional): Click add special date, select special dates in the **add special date** dialog box, and click **OK**. For details about how to configure special dates, see **2.13.2.1 Managing Special Dates**.

Figure 2-568 add special date



Step 5 Click **Next**.

Figure 2-569 Outbound Strategy



Step 6 Click **Confirm**.

Step 7 On the **Call Template** page, click **Publish** corresponding to the new outbound call template in **Draft** state. The template changes to the **Published** state.

Step 8 (Optional) To modify a published outbound call template, click **Suspend**. After the template changes to the **Suspended** state, click **Edit** to edit the template. After the editing is complete, click **Publish** to change the template to the **Published** state. (Optional) To delete an unnecessary outbound call template, click **Delete**.

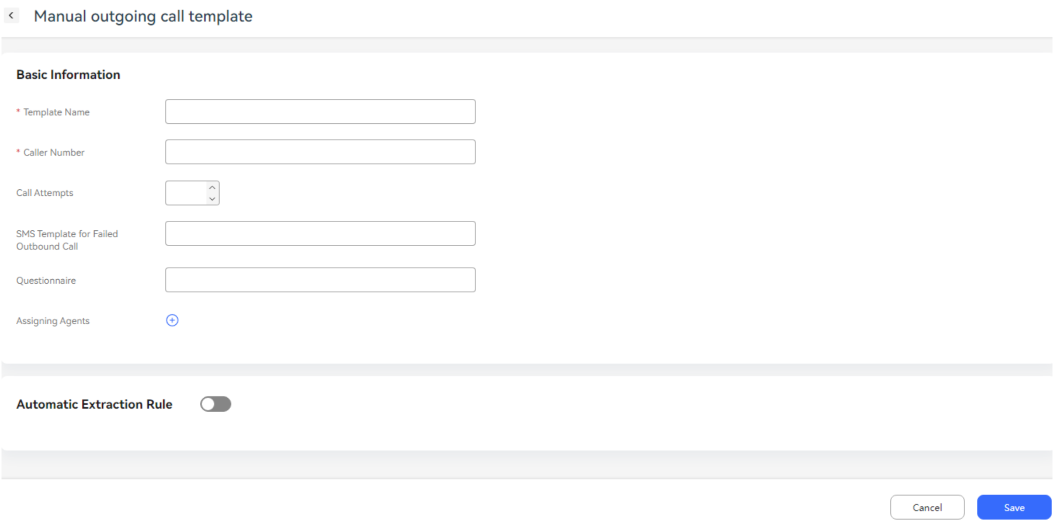
----End

Scenario 2: Create a manual outbound call template. (This scenario is not supported in independent deployment mode.)

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Call Template**.

Step 2 Choose **New** > **Manual outgoing call template**.

Figure 2-570 Create Manual Outbound Call Template



Step 3 Enter basic information as required and click **Save**.

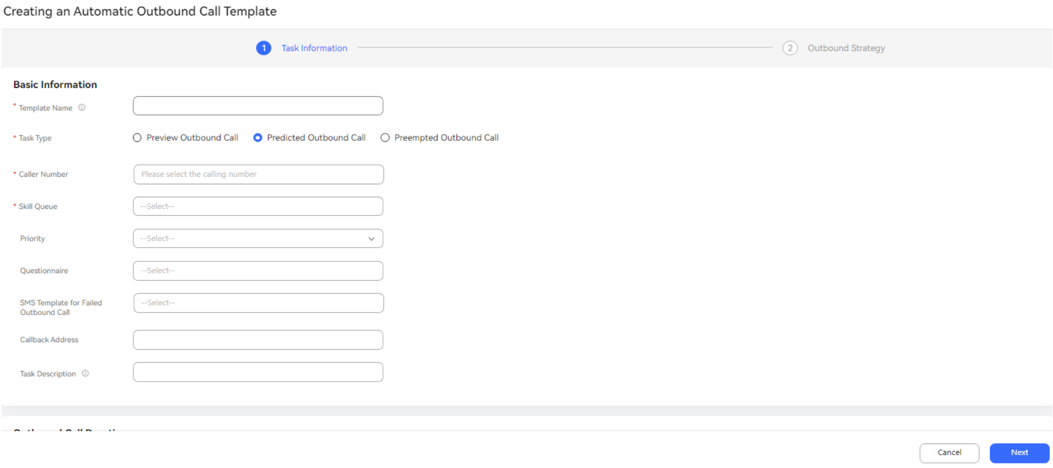
----End

Scenario 3: Create a system automatic outbound call template.

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Call Template**.

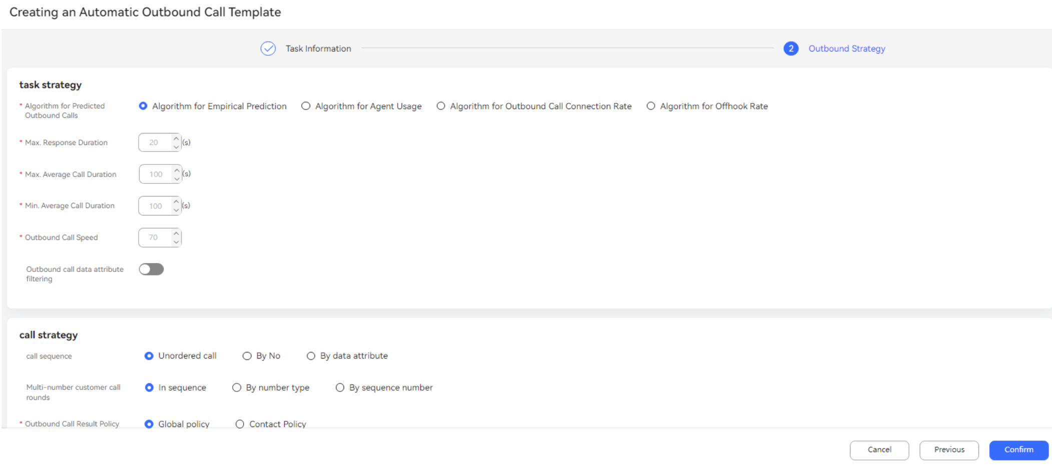
Step 2 Choose **New** > **System automatic outbound call template**.

Figure 2-571 Creating an Automatic Outbound Call Template



Step 3 Enter information on the **Task Information** and **Outbound Strategy** tab pages as required and click **Confirm**.

Figure 2-572 Outbound Strategy



----End

2.13.2.7 Managing the Special List

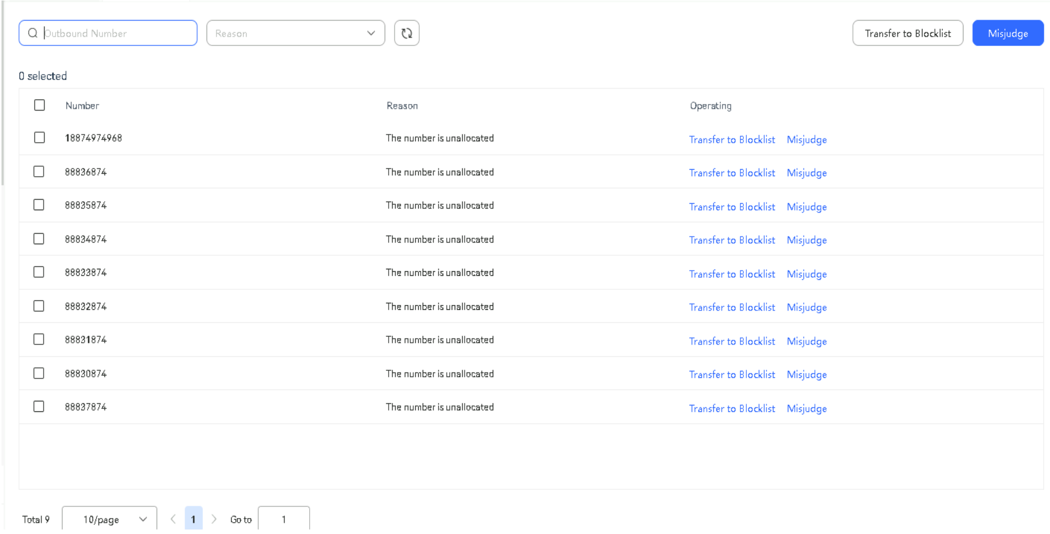
Invalid numbers can be automatically filtered. The invalid numbers or system prompt tones identified by outbound call tasks can be added to the special list. The tenant administrator determines whether to transfer these numbers to the blocklist or ignore them.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Special List**.

By default, numbers that have been added to the outbound call special list of the tenant space are displayed.

Figure 2-573 Special List page



Step 2 Perform the following operations on numbers in the special list:

- **Misjudge**
  a. Select a misjudged number and click **Misjudge**.
  b. In the **Remarks** text box, enter the reason why the number is misjudged.
  c. Click **Save**. The outbound number is removed from the special list.
- **Transfer To Blocklist**
  a. Select a number to be added to the blocklist and click **Transfer To Blocklist**.
  b. Click **OK**. The outbound number is added to the blocklist.

Step 3 Enter a number in the search criteria to query information about the number to be reviewed.

----End

2.13.2.8 Configuring an Outbound Call File Server

A tenant administrator can configure a server for storing outbound call files.

Context

When configuring outbound call data in an outbound call task, you can import data from a server. In this case, you need to configure the source SFTP server and related file information, and select a file-data mapping rule.

You can import a blocklist from a server. Upload the blocklist template to the corresponding path on the server, and enter the file name and path when importing the blocklist.

You can import multimedia marketing data from a server. Upload the multimedia marketing data template to the corresponding path on the server, and then enter the file name and path when importing multimedia marketing data. In addition, you can select a parsing mode for a mapping rule.

Prerequisites

You have contacted the system administrator to add the IP address of a file server to the trustlist.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **File Server**.

Step 2 Click **New** to add an outbound call file server.

Set **Type** to **SFTP** or **OBS** as required.

Figure 2-574 Adding an SFTP file server

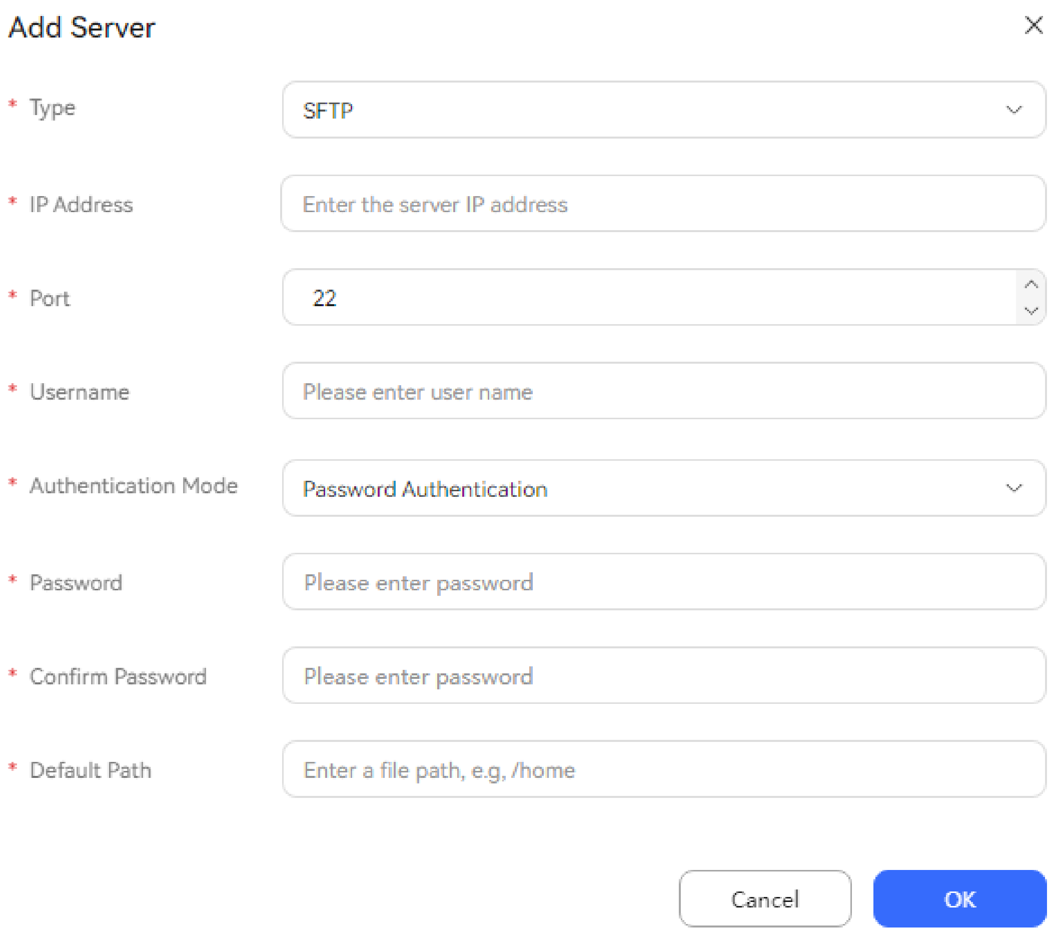
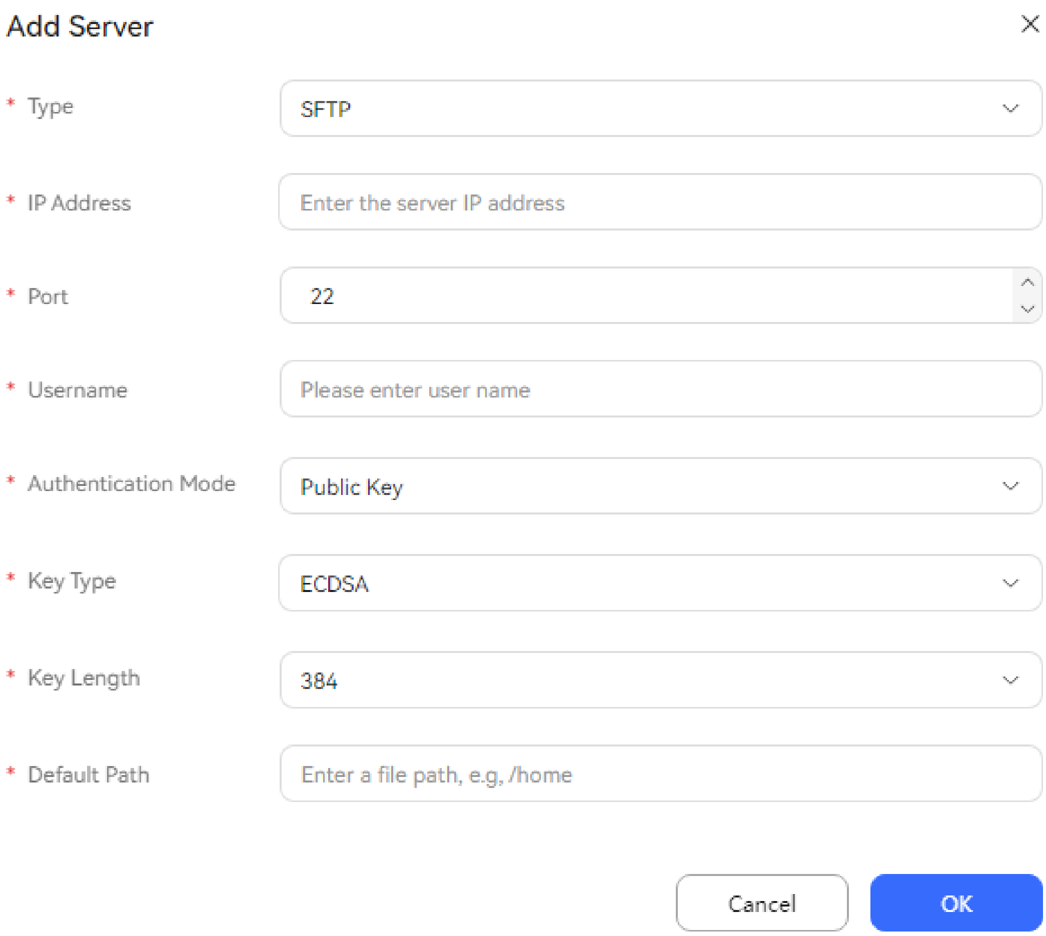
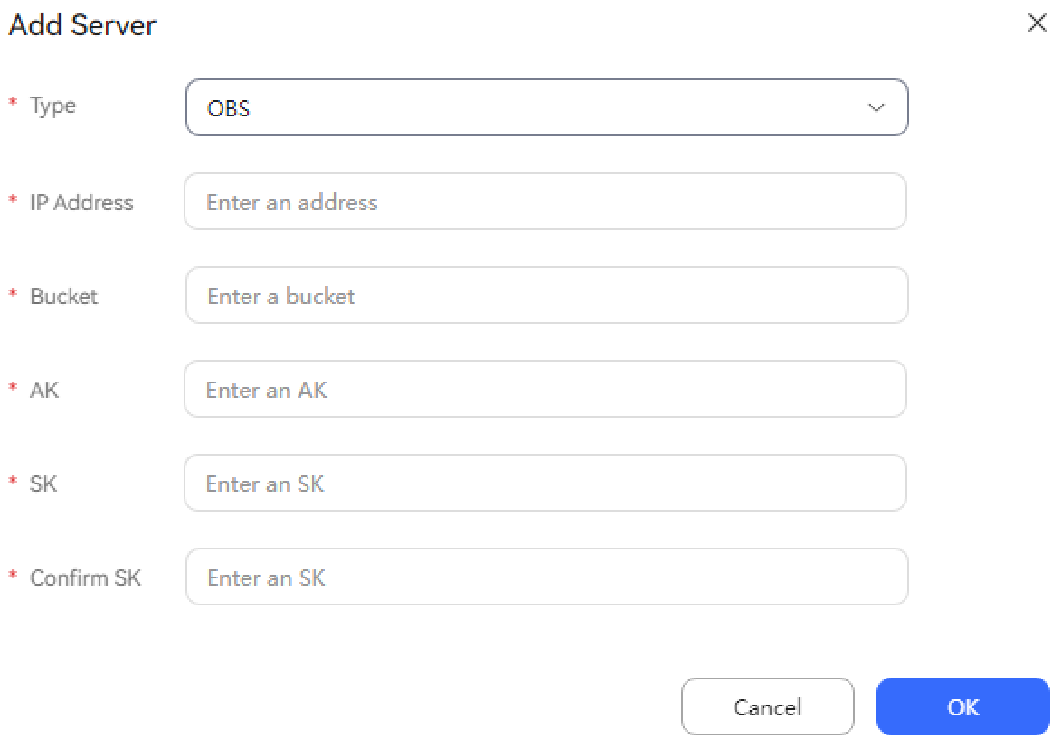


Figure 2-575 Authentication mode being Public Key



- **Type**: Set this parameter to **SFTP**.
- **IP Address**: IP address of the file server where outbound call data is stored. The IP address must be in the trustlist.
- **Port**: Port number of the server.
- **Username**: Username for logging in to the server. The value can contain a maximum of 30 characters.
- **Authentication Mode**: **Password Authentication** and **Public Key** are supported.
- **Key Type**: **RSA** and **ECDSA** are supported.
- **Key Length**: maximum length of the key; unit: character. If this field is modified, the public key is automatically updated. The public key of the server should be updated in time.
- **Password** and **Confirm Password**: Password for connecting to the server.
- **Default Path**: Path for storing outbound call data. The value must start with **/**.

Figure 2-576 Adding an OBS file server



- **Type**: Set this parameter to **OBS**. Object Storage Service (OBS) provides customers with secure, highly-reliable, and low-cost data storage of massive data without considering the capacity limit. In addition, OBS provides customers with multiple storage types to meet their requirements in various business scenarios. For details, see **OBS**.
- **IP Address**: IP address for storing outbound call data files.
- **Bucket**: Container for storing objects in OBS.
- **AK** and **SK**: Access key of the OBS server, which is used for authentication. The AK and SK are obtained after OBS is purchased.

  NOTE

  OBS file servers are supported only in the SaaS environment.

Step 3 Click **OK** to save the outbound call file server configuration.

----End

2.13.2.9 Importing Mapping Rules

A tenant administration can specify the mapping between outbound call data import files and data import rules.

Context

When configuring outbound call data in an outbound call task, you can import data from a server. In this case, you need to configure the source SFTP server and related file information, and select a file-data mapping rule.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Mapping Rule**.

Step 2 Click **New** to add a mapping rule between outbound call data fields and the column numbers of the fields in the imported file.

Figure 2-577 Add Rule

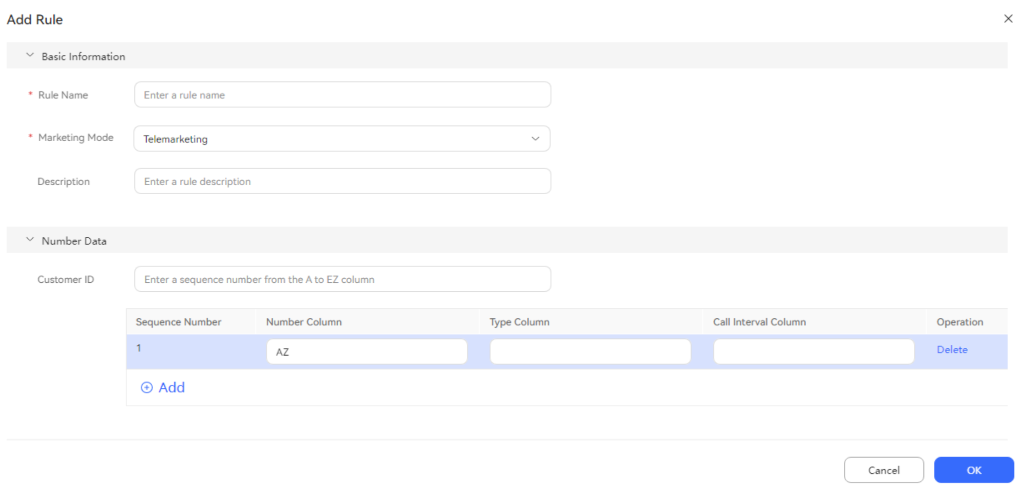


Table 2-169 GUI elements on the Add Rule page

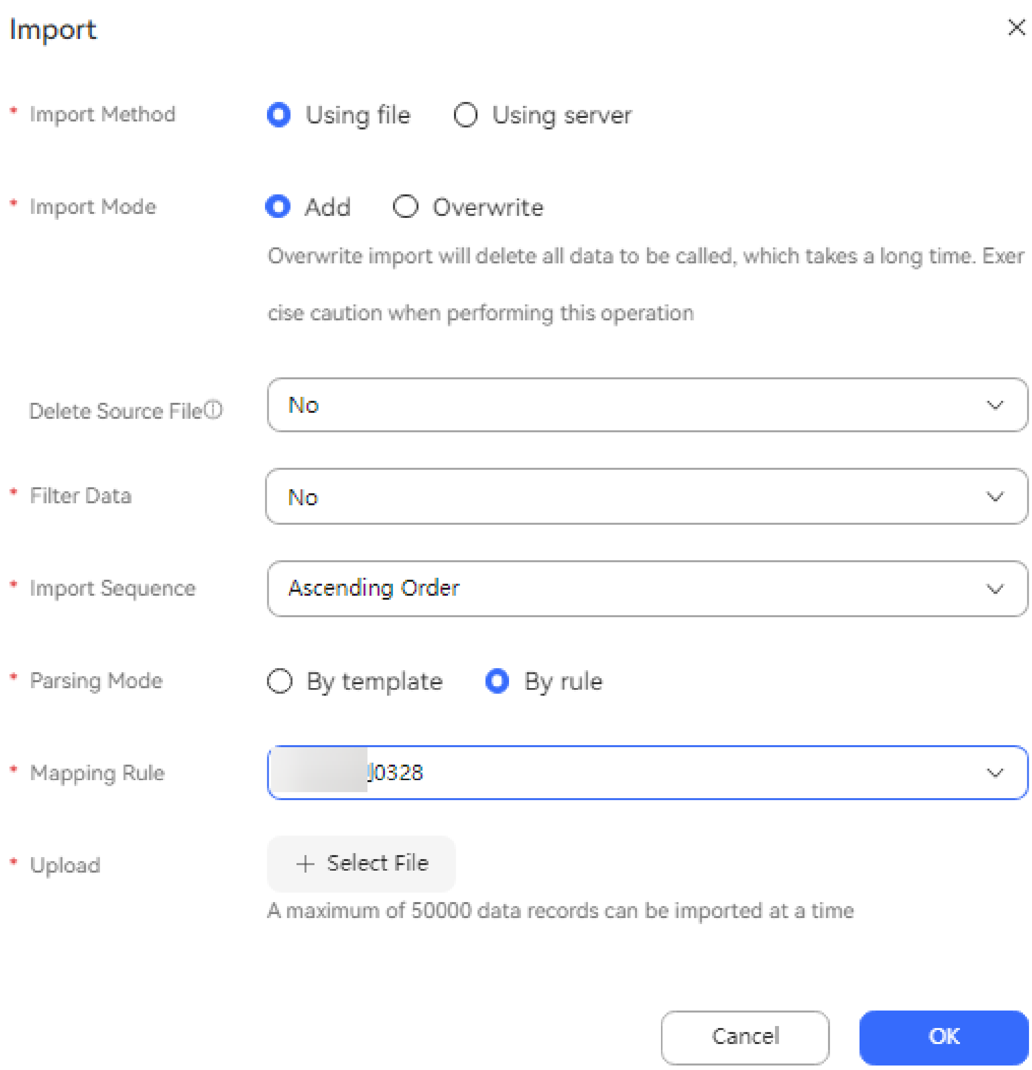
Element/ Component	Description
Basic Information: Mapping rule information.	
Rule Name	Customized rule name.
Marketing Mode	• **Telemarketing** • **Multimedia marketing**
Description	Description of a mapping rule.
Number Data: Mapping rule between outbound call data fields and the column numbers of the fields in the imported Excel file.	
Customer ID	Number of the column where the field is located in the imported file.
Number Column	Number of the column where the field is located in the imported file.
Type Column	Number of the column where the field is located in the imported file.
Call Interval Column	Number of the column where the field is located in the imported file.

Element/ Component	Description
Service Attribute: Mapping rule between outbound call data attribute fields and the column numbers of the fields in the imported file.	
Attribute Name	Configured attribute.
Attribute Column	Column number of an attribute in the imported file.
Operation	Deletion is supported.

Step 3 Click **OK**.

Step 4 (Follow-up operation) On the **Outbound Call** > **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to an outbound call task. Click **Import**, set **Parsing Mode** to **By rule**, and select the new mapping rule.

Figure 2-578 Using a mapping rule



----End

2.13.2.10 Managing Task Groups

Context

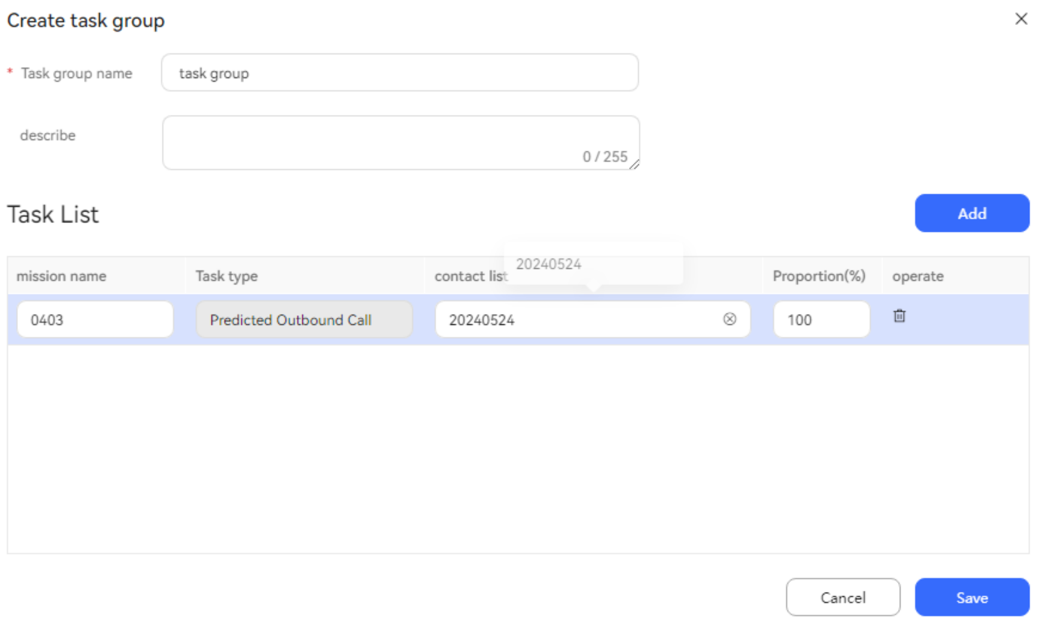
Different percentages (with a sum of 100%) can be set for tasks in a task group. During data import, data is imported to specified outbound call tasks based on the percentages.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Task Group Management**.

Step 2 Click **New**.

Figure 2-579 Create task group

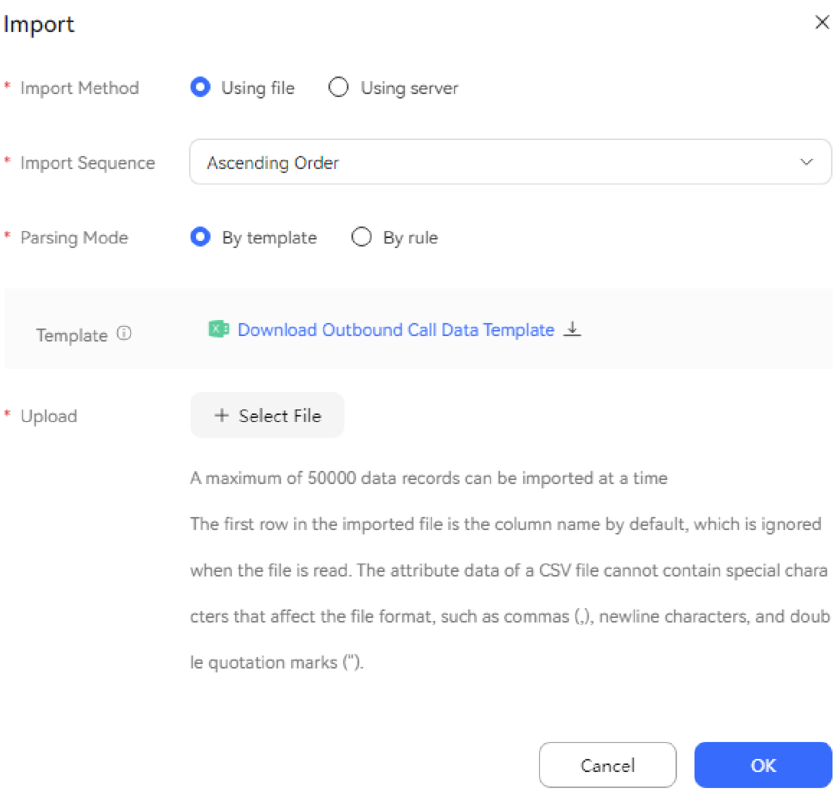


- **Task group name**: The task group name must be unique in a tenant space and cannot contain the following special characters: `~!@#$%^&*()+=|{}'":;\[]/?.¥…',
- **describe**: Enter a task group description. The description cannot exceed 255 characters.
- **mission name**: Only outbound call tasks in the **Waiting**, **Completed**, **Suspended**, **Executing**, or **Draft** state can be selected. Outbound call tasks that are already in other task groups cannot be selected.
- **contact list**: View the batch name.
- **Proportion(%)**: Enter a positive integer ranging from 1 to 100. The sum of percentages must be 100%. During data import, data is allocated based on the percentage.

Step 3 Click **Save**.

Step 4 Click **Import**. In the **Import** dialog box, download the outbound call data template, fill in the template, upload the file, and click **OK**. For details about how to import outbound call data, see **Importing Outbound Call Data**.

Figure 2-580 Import



NOTE

If the associated target task has expired or been archived, data cannot be imported again.

Step 5 Click **Import Result** to check the imported content.

Step 6 (Follow-up activity) After the outbound call data is successfully imported, access the **Outbound Call** > **Call Mgmt** page, enable , and execute the outbound call task.

----End

2.13.3 Managing Outbound Call Tasks

A tenant administrator can manage telemarketing activities for specified customer groups by creating outbound call tasks and importing customer numbers to the tasks.

2.13.3.1 Creating Common IVR Outbound Call Tasks or Intelligent Robot Outbound Call Tasks

This section describes how to create common IVR outbound call tasks or intelligent robot outbound call tasks.

Prerequisites

- To create a common IVR outbound call task, you have configured and published a main IVR flow. For details about how to configure a common IVR flow, see **2.6.1 Getting Started**. To create an intelligent outbound call task, you have configured and published a main intelligent IVR flow. For details about how to configure an intelligent IVR flow, see **2.6.2 Configuring an Intelligent Robot**.

  NOTE

  In independent deployment mode, you have configured the IVR flow on the web configuration console.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**. Set **Template Type** to **HUAWEI CLOUD SMS Messages**.
- To configure a callback URL, you have submitted an application for adding the callback URL to the address trustlist to the system administrator, and the system administrator has approved the application.

Context

In a common IVR outbound call task, the system makes an outbound call to a customer and the call is transferred to a specified IVR flow after being connected. The IVR flow then plays a voice and collects digits from the customer.

Select a configured outbound call template where certain outbound call task parameters are preset. For details, see **2.13.2.6 Creating Outbound Call Templates**.

You can modify, start, or delete a task in draft state, and configure outbound call data for the task.

Business Scenario

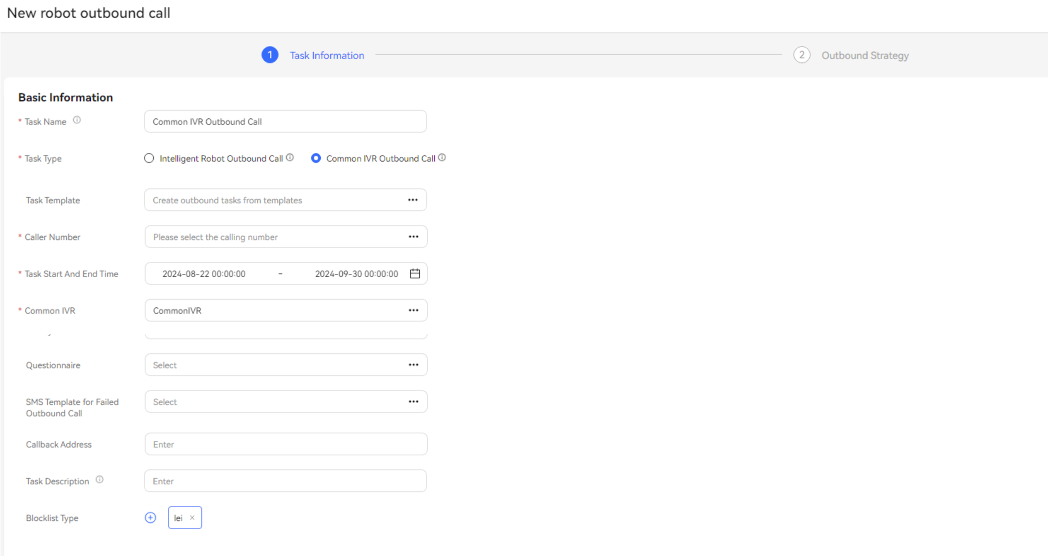
The following describes how to configure an automatic outbound call task for a call center to notify customers of major product changes by playing voices. The outbound call task is executed in working hours on workdays and also on weekends. If a customer is busy, the call is made to the customer for another two times.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and choose **Robot Outbound Call**.

Figure 2-581 Page for creating a common IVR outbound call task



Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Caller Number**: Select an existing calling number of the current tenant space. A maximum of 100 calling numbers can be added.
- **Task Start And End Time**: The start time cannot be later than the end time.
- **Task Type**: Select **Common IVR Outbound Call** or **Intelligent Robot Outbound Call**.
- **Common IVR**: Select an IVR flow that has been configured and published.
- **Smart Robot**: Only robots bound to the main flow can be selected.
- **Questionnaire**: An IVR survey needs to be used together with the **questionnaire** diagram element in an IVR flow. A manual and IVR survey can be used on the outbound call workbench or used together with the **questionnaire** diagram element in an IVR flow.
- **SMS Template for Failed Outbound Call**: Select a configured internal SMS notification template. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**. Set **Template Type** to **HUAWEI CLOUD SMS Messages**.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially.
- **Transfer to Skill Queue**: After a skill queue is selected, the **Variable assignment** diagram element in the IVR flow is used to obtain the value of **SkillQueueName** (skill queue name) in the call-associated data. The skill queue name is used to transfer a call to a skill queue when **Transfer Type** is set to **Skill Queue (Name)** for the **Call Transfer** diagram element.

  a. **Variable assignment**

     Click the **Flow Attribute** tab and create the **FLOW.chuichui** variable in the **Flow Variable** area.

Click the **Node Attribute** tab, click the **Obtaining Associated Data** tab, and create the **FLOW.chuichui=iSales.SkillQueueName** variable.

b. **Call Transfer**

Set **Transfer Type** to **Skill Queue (Name)**.

Set **Route Value** to **FLOW.chuichui**.

Set **Associated Data** to **IVRREQUEST.transin_data**.

Figure 2-582 Variable assignment

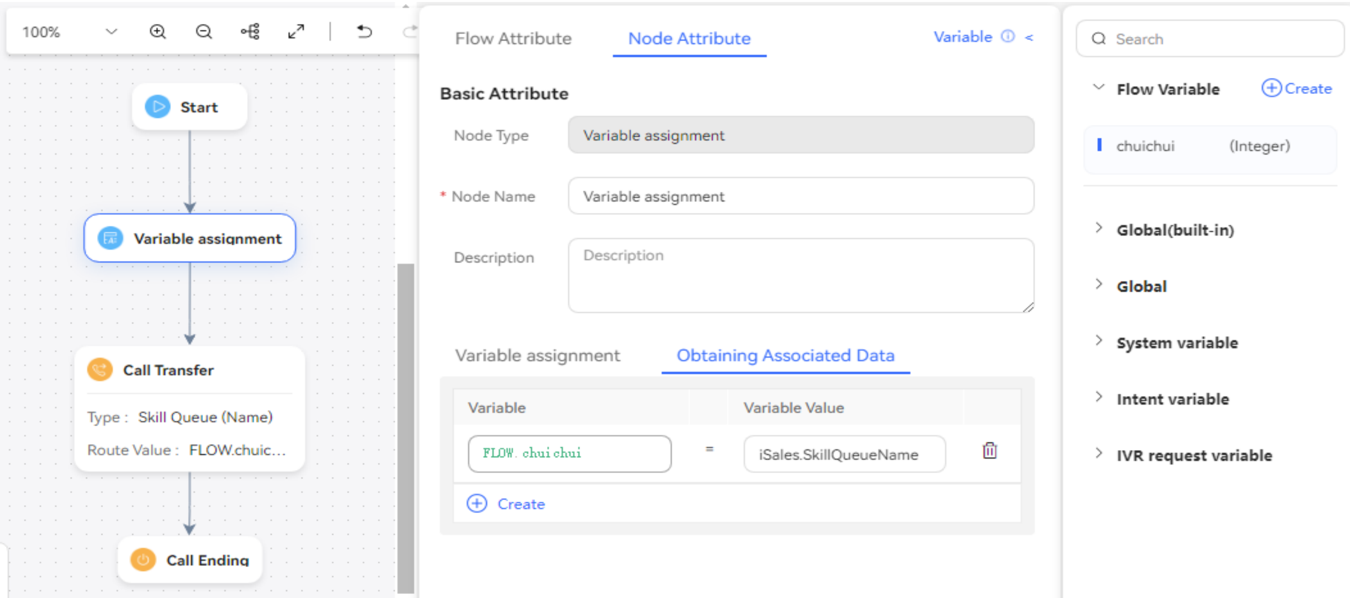
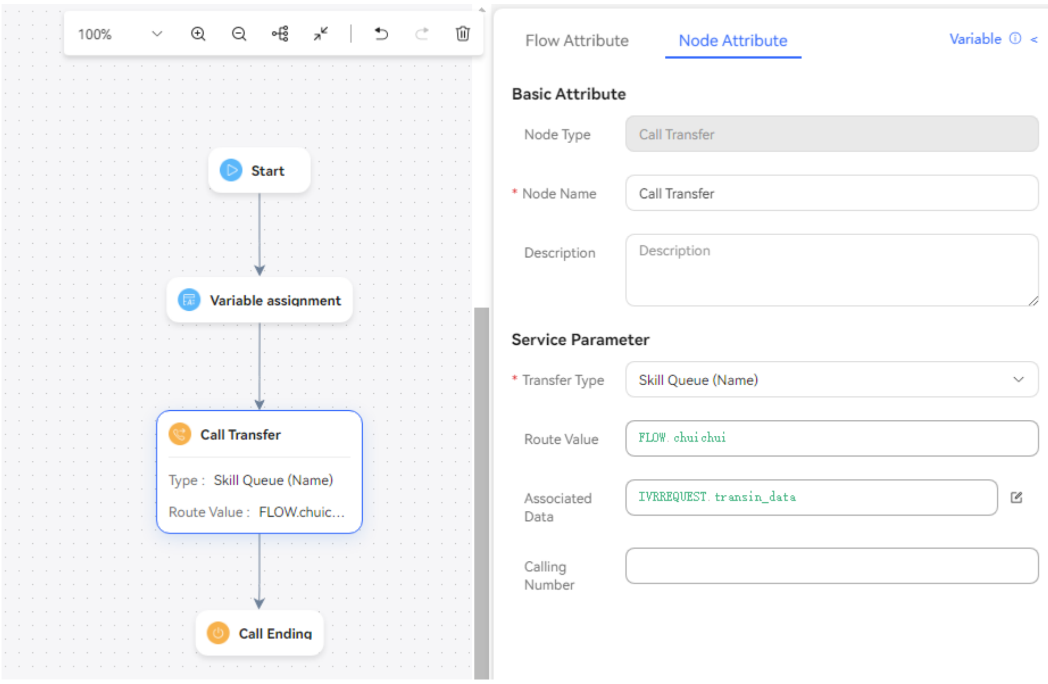


Figure 2-583 Call Transfer



- **Associate Business Result**: This field is displayed only after **Transfer to Skill Queue** is set for an intelligent robot outbound call task. If a business result is associated, only the associated business result and its sub-business results can be selected for outbound calls.

- **Manual Questionnaire**: This field is displayed only when **Transfer to Skill Queue** is set. Only manual surveys and manual and IVR surveys are available. If a manual survey is selected, the survey is displayed on the outbound call workbench. A manual and IVR survey can be used on the outbound call workbench or used together with the **questionnaire** diagram element in an IVR flow.
- **Blocklist Type**: If a blocklist category is selected, all numbers in the blocklist are not called within the specified period.
- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.

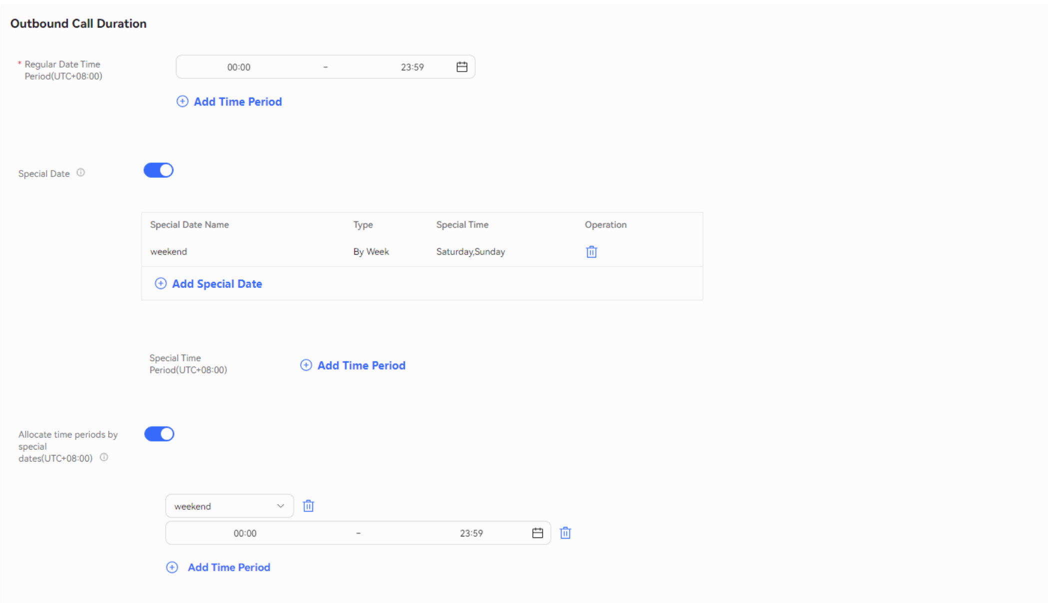
NOTE

The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

In the integrated environment, the callback URL can be configured only in the outbound call task.

Step 4 Configure the outbound call period. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

Figure 2-584 Outbound Call Duration



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

   9:00–11:30

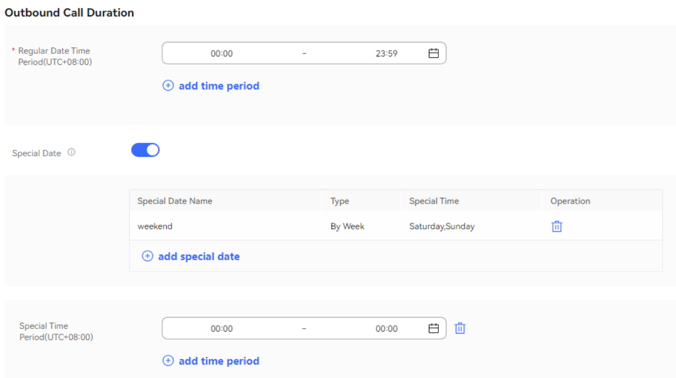
   14:00–18:00

2. In **Special Date**, click **add special date** to add days such as holidays and weekends as special dates.

3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

   NOTE

   If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Click **Next** and configure the task policy.

Figure 2-585 Task Strategy

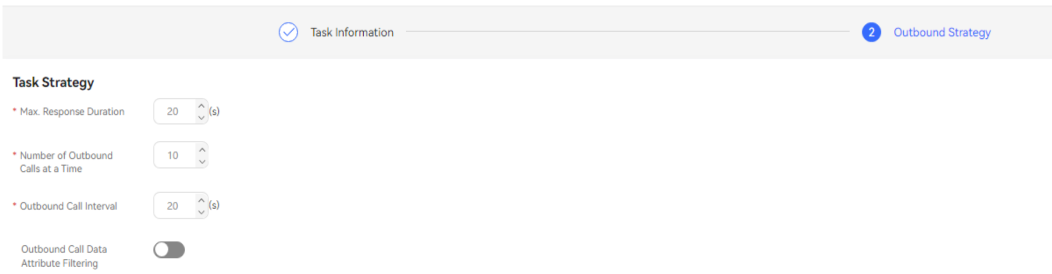
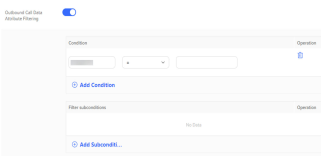


Table 2-170 Parameters in the Task Strategy area

Parameter	Description
Max. Response Duration	If the response duration exceeds this value, the current call ends and the next call is to be made. The value ranges from 5 to 120. The default value is **20**.
Outbound Call Interval	Interval for starting an outbound call. Enter an integer ranging from 1 to 9999.

Parameter	Description
Number of Outbound Calls at a Time	Number of outbound calls each time. The default value is **1**. The value cannot exceed the number of purchased IVR channels in the tenant space. If the value of **Outbound Call Interval** is greater than 3, the number of outbound calls initiated by the system is calculated as follows: Value of **Number of Outbound Calls at a Time**/Value of **Outbound Call Interval** x 3.
 Outbound Call Data Attribute Filtering	You can customize data attributes on the **Configuration Center** > **Call Config** > **Data Attr** page. Enable this parameter to customize filter criteria. The system initiates an outbound call only when the pre-called customer number meets the criteria. Encrypted attributes cannot be used as filter criteria.

NOTE

Outbound Call Interval and **Number of Outbound Calls at a Time** should be configured to make a fixed number of outbound calls on average with proper intervals rather than make all outbound calls at once.

For example, if you want to make 60 outbound calls in 1 minute, you are advised to set both **Outbound Call Interval** and **Number of Outbound Calls at a Time** to **3** instead of **60**.

For a key robot outbound call or intelligent outbound call task, the number of outbound calls is calculated as follows: (Value of **Number of Outbound Calls at a Time**/Value of **Outbound Call Interval**) x 3, rounded up. Outbound calls are made only when the result is greater than 1. If the value of **Outbound Call Interval** is greater than 3, 3 is used for calculation. If the value of **Outbound Call Interval** is less than 3, the actual value is used.

- Q1: If the value of **Outbound Call Interval** is greater than 3, 3 is used for calculation. If the value of **Outbound Call Interval** is less than 3, the actual value is used. What is the meaning?

  A1: If the outbound call interval is set to an interval greater than 3 seconds, the OBS still uses 3 seconds as the call interval. If the outbound call interval is set to an interval less than 3 seconds, the configured call interval is used.
- Q2: If I set **Outbound Call Interval** to **10** and **Number of Outbound Calls at a Time** to **100**, how many outbound calls are made every 10 seconds? 100 or 30?

  A2: The outbound call interval configured for the outbound call task is used only to calculate the number of calls made each time. When the value is greater than 3, it does not indicate the actual call interval. If you set **Outbound Call Interval** to **10**, the actual call interval is 3 seconds. In this case, the number of calls made each time is 30 based on the formula: (Value of **Number of Outbound Calls at a Time**/Value of **Outbound Call Interval**) x 3. That is, 30 outbound calls are made every 3 seconds.
- Q3: If I set **Outbound Call Interval** to **1** and **Number of Outbound Calls at a Time** to **10**, will 30 outbound calls be made every second?

  A3: In this case, 10 outbound calls are made every second.
- Q4: What will happen if the calculated number of outbound calls is less than 1?

  A4: In this case, no outbound call is made at the first interval. An outbound call is made until the decimal part of the value of **Number of Outbound Calls at a Time** accumulates to greater than 1.

Step 6 Configure the call policy.

1. In the **Call Strategy** area, customize the pre-called customer numbers. Set parameters based on **Table 2-171**.

Figure 2-586 Call Strategy

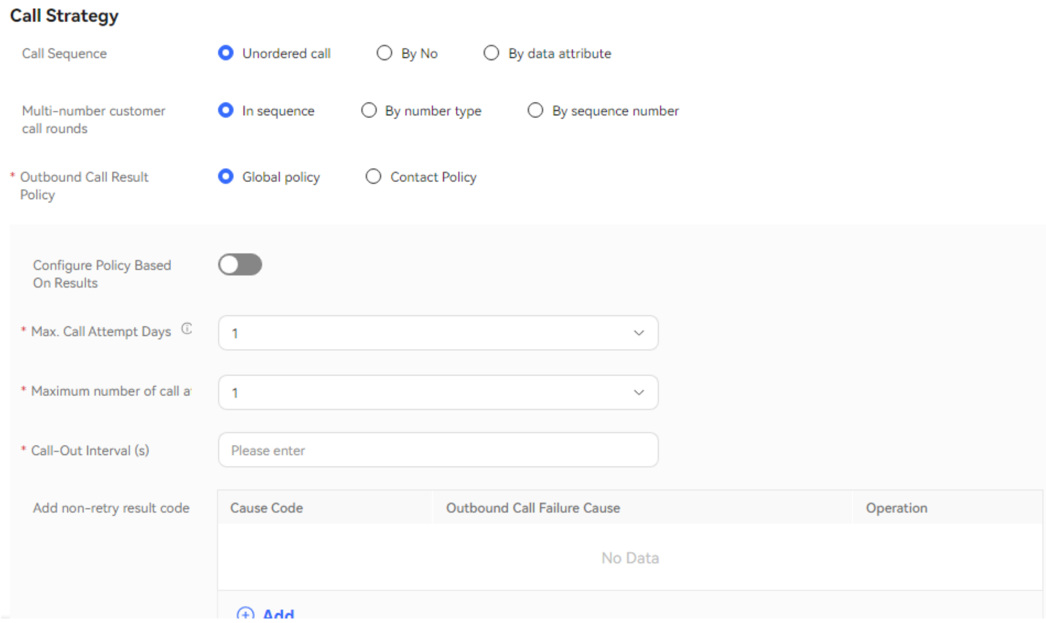
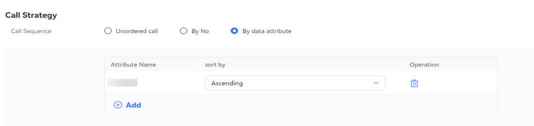
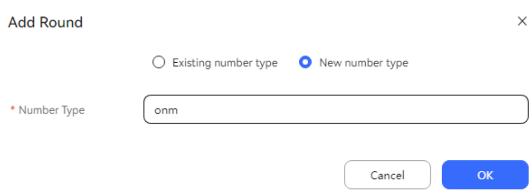
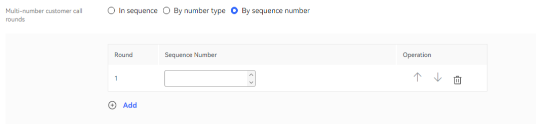


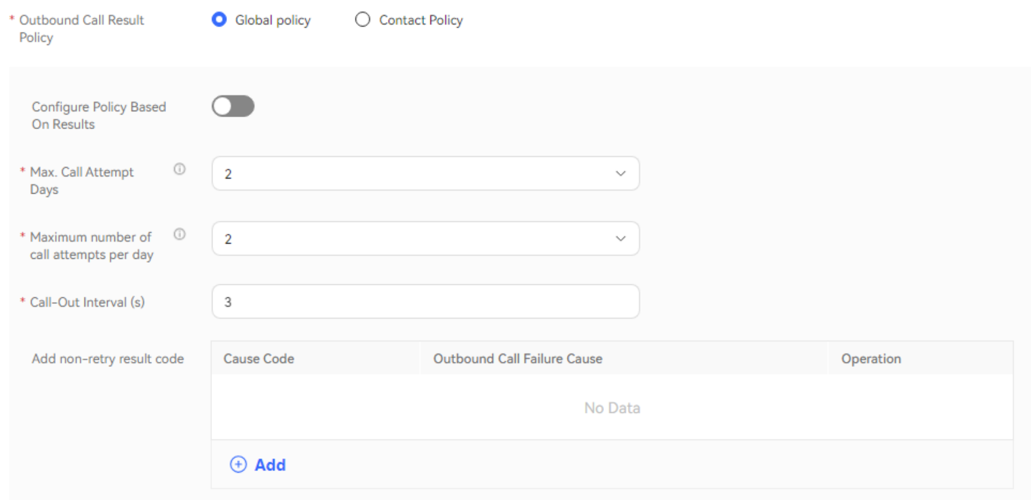
Table 2-171 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
Unordered call	-
By No	-
By data attribute	Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By number type	You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>By sequence number</td><td>You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first.

</td></tr>
</table>

2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   – **Global policy**
      - Disable **Configure Policy Based On Results**.
        Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.
        Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

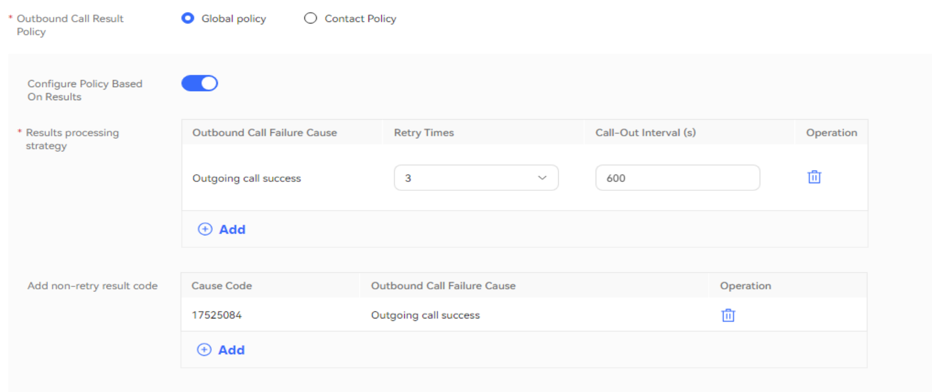
        Figure 2-587 Disabling Configure Policy Based On Results



      - Enable **Configure Policy Based On Results**.
        In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Click ⊕ **Add** and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-588 Enabling Configure Policy Based On Results



NOTE

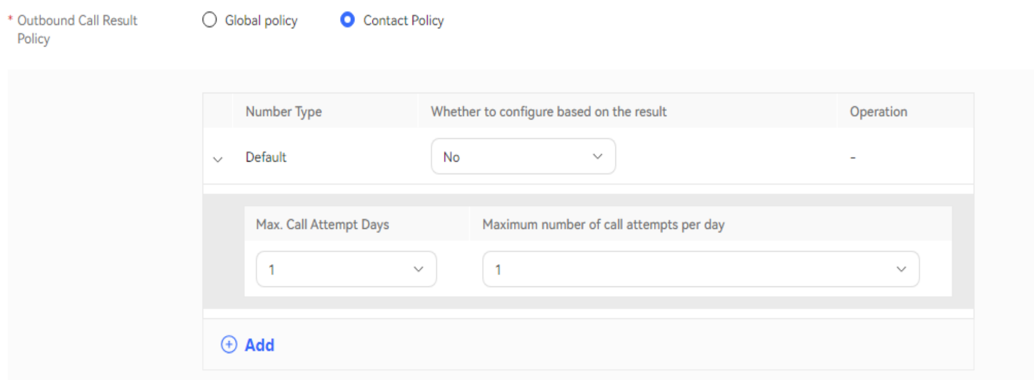
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- **Default** number type: Set **Whether to configure based on the result** to configure the policy.

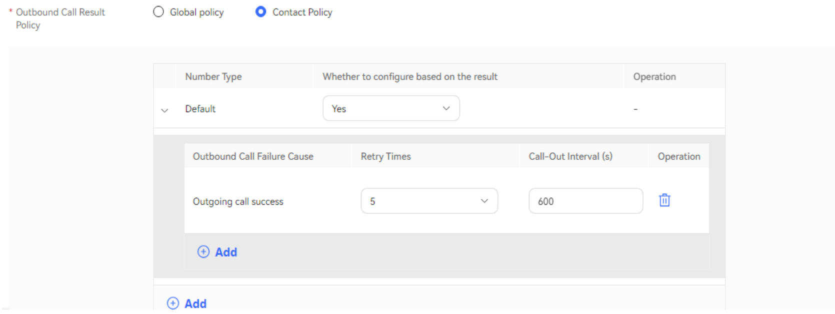
  If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

  Figure 2-589 Setting Whether to configure based on the result to No

  If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click ⊕ **Add** for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

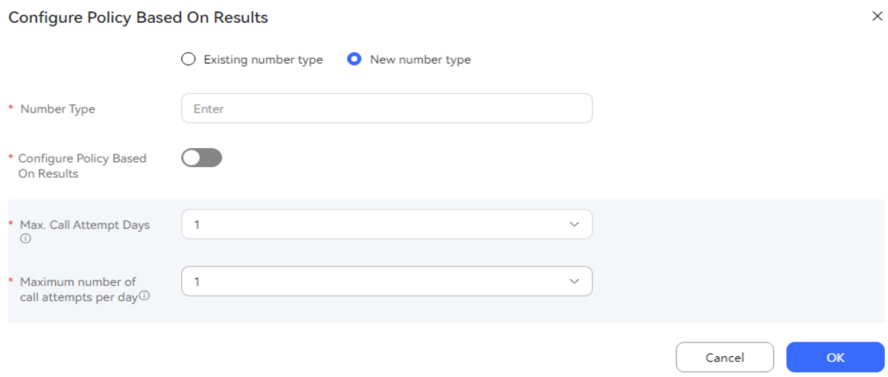
Figure 2-590 Setting Whether to configure based on the result to Yes



- Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

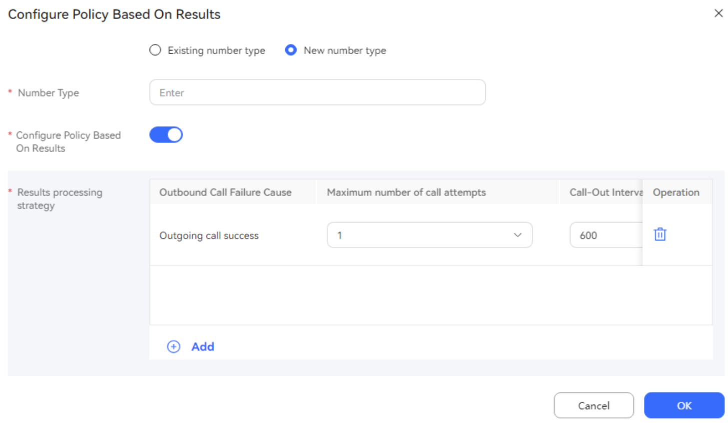
  If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

Figure 2-591 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-592 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.7.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click  corresponding to the new outbound call task.

----End

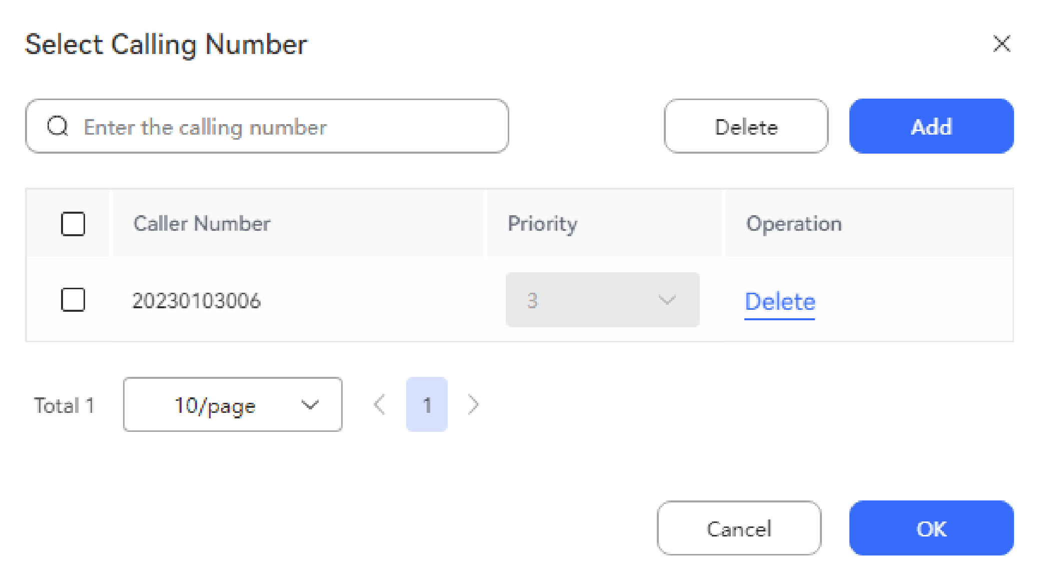
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

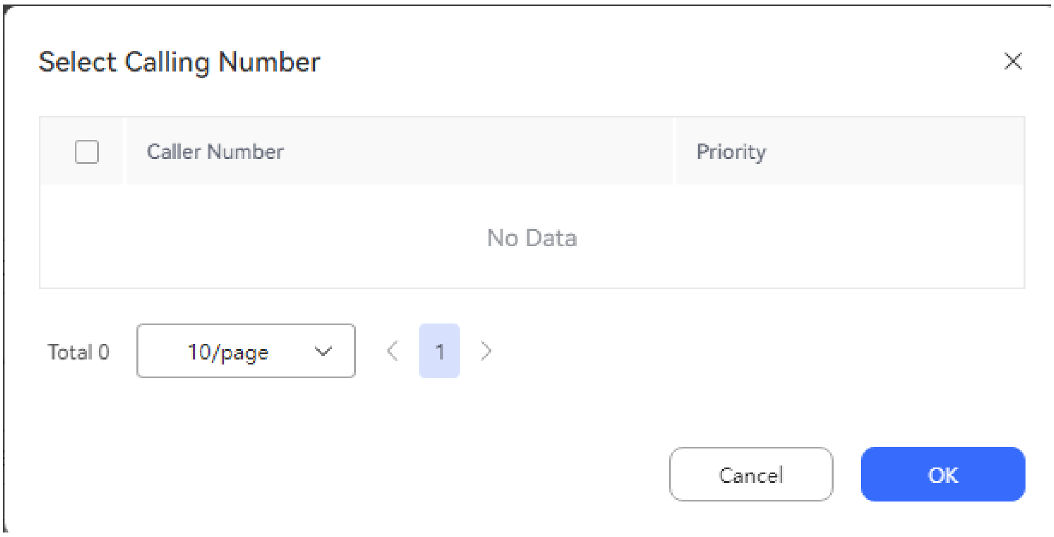
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

Figure 2-593 Select Calling Number



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

Figure 2-594 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.2 Creating Predicted Outbound Call Tasks

To ensure call efficiency and connect to as many customers as possible without annoying them, the system dynamically adjusts the number of agent outbound calls and automatically assigns the calls to agents according to multiple algorithms. This task is time-effective for the agents.

Prerequisites

- The platform role of a user account is agent.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue exists. For details about the configuration method, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Context

A predicted outbound call task depends on algorithms. The system provides the following algorithms for a call center to automatically calculate the number of calls to be assigned to each agent:

- **Algorithm for Empirical Prediction**: monitors and collects statistics on parameters such as the off-hook rate, average call duration, and number of queuing calls in real time to control the outbound call speed to indirectly reduce queuing calls. In this way, the agent usage is maximized under acceptable call loss conditions.

This algorithm applies to the scenarios with more than 15 agents, a relatively stable call process, and all factors following the normal distribution, that is, objective factors such as the off-hook rate, call duration, number of agents in working state, wrap-up state duration, and queuing duration do not change dramatically and can be collected.

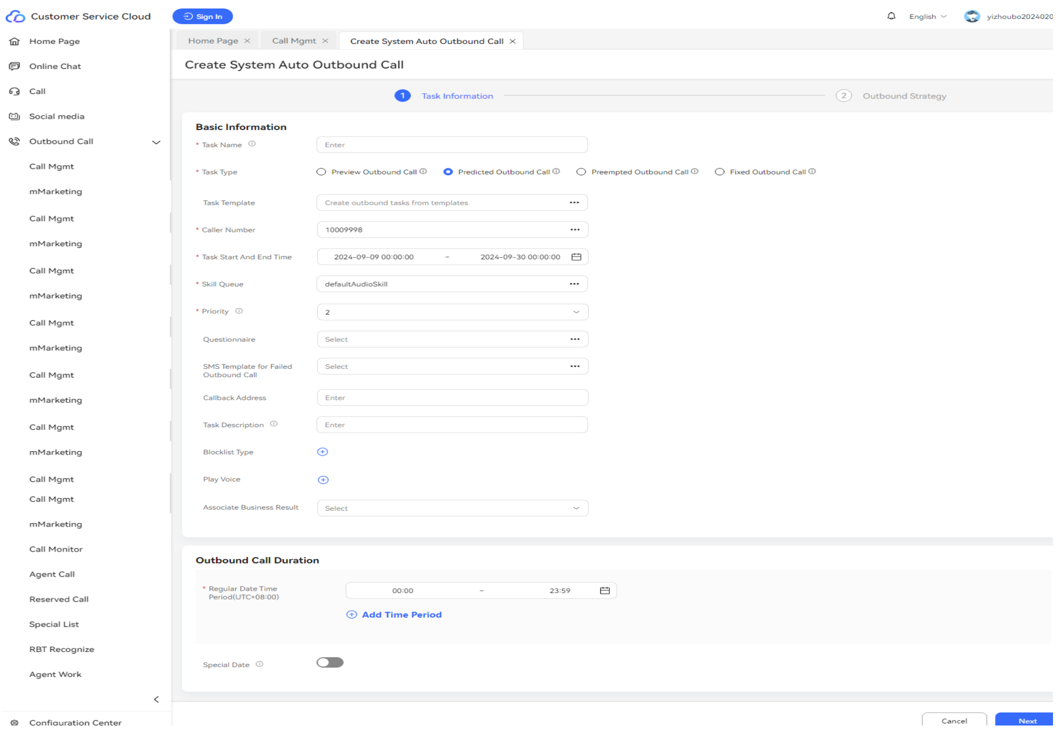
- **Algorithm for Agent Usage**: dynamically adjusts the number of calls assigned to each agent by controlling the agent usage and call loss rate.
- **Algorithm for Outbound Call Connection Rate**: dynamically adjusts the number of calls assigned to each agent by controlling the call loss rate, customer waiting time, and call connection rate.
- **Algorithm for Offhook Rate**: makes predicted outbound calls based on the current off-hook rate. This algorithm reduces the changes in the number of agents and call duration, and minimizes the call loss caused by the changes.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and choose **System Automatic Outbound Call**. On the **Create System Auto Outbound Call** page, set **Task Type** to **Predicted Outbound Call**.

Figure 2-595 Page for configuring the basic information of a predicted outbound call task

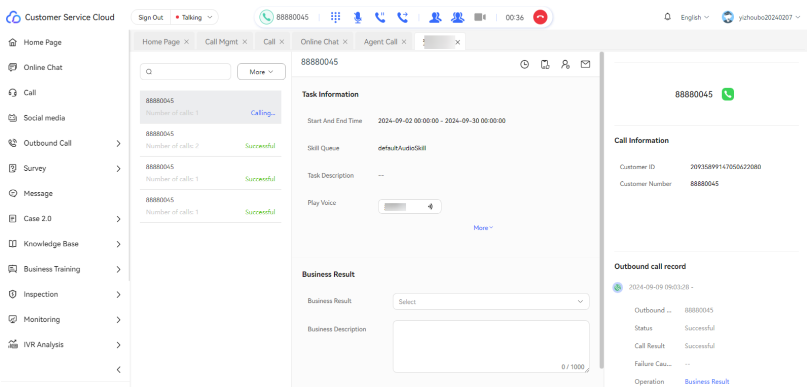


Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Caller Number**: Select an existing calling number of the current tenant space. A maximum of 100 calling numbers can be added.

- **Task Start And End Time**: Select the task start time and end time.
- **Task Type**: Select **Predicted Outbound Call**. For an outbound call task created using a template, the value of this parameter is the type configured in the template by default and cannot be changed.
- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**.
- **Questionnaire**: Only **Manual Questionnaire** and **Manual vs. IVR Questionnaire** are supported. A manual and IVR survey can be used on the outbound call workbench or used together with the **questionnaire** diagram element in an IVR flow.
- **SMS Template for Failed Outbound Call**: Select a configured internal SMS notification template. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially.
- **Play Voice**: When an agent makes an outbound call, a recording can be played to the customer. Voice resources are prompt tones with **Status** being **Approved** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. A maximum of 10 voice resources can be selected.

Figure 2-596 Playing a recording



- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed.
- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side. An example is **https://support.huaweicloud.com/productdesc-cec/cec_01_0001.html**.

NOTE

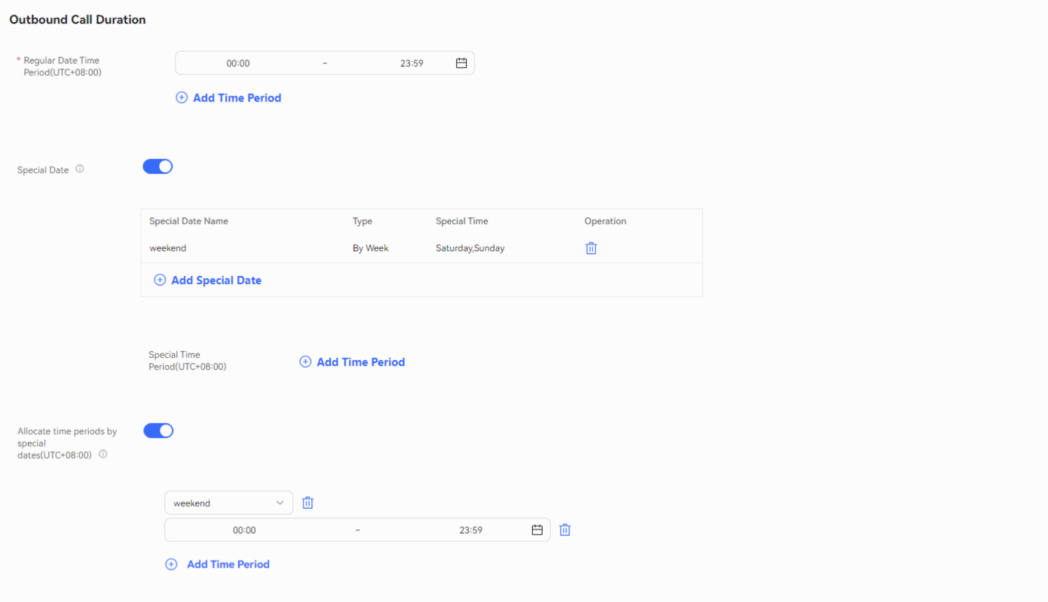
The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

In the integrated environment, the callback URL can be configured only in the outbound call task.

- **Blocklist Type**: If a blocklist category is selected, all numbers in the blocklist are not called within the specified period.

Step 4 Configure the outbound call period. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

Figure 2-597 Outbound Call Duration



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

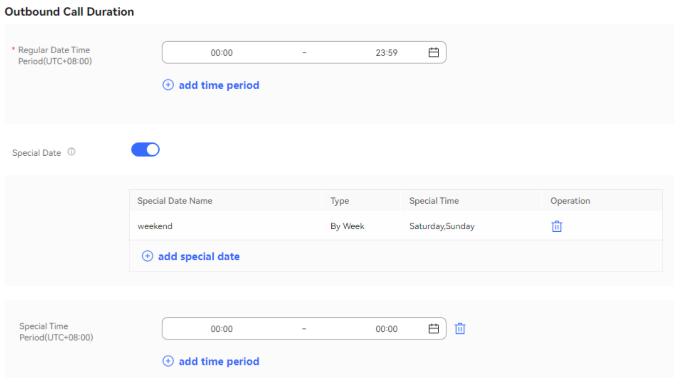
   9:00–11:30

   14:00–18:00

2. In **Special Date**, click **add special date** to add days such as holidays and weekends as special dates.
3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

NOTE

If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Configure the task policy by referring to **Table 2-172**, which describes the key parameters for each algorithm.

NOTICE

The following parameter settings must be verified and optimized for multiple times. If you are not sure about the initial settings, retain the recommended settings and adjust them later based on the outbound call effect.

Figure 2-598 Task Strategy

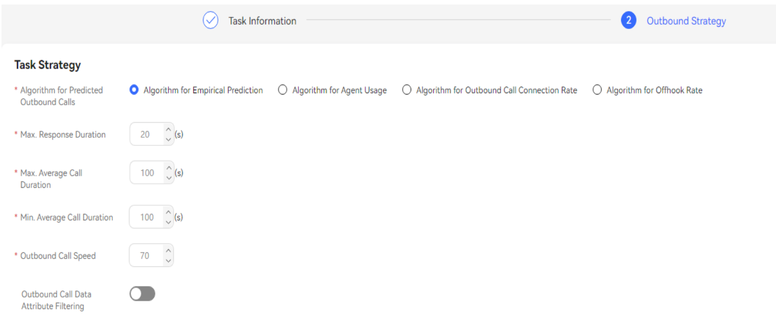


Table 2-172 Key parameters for each algorithm in the Task Strategy area

Algorithm Type	Parameter	Description
Algorithm for Empirical Prediction	Outbound Call Speed	Prediction factor of the maximum outbound call speed, which is calculated by the system based on the empirical model. You are advised to set this parameter based on the project type and dialing test result for each average call duration. Set this parameter to **70** for projects whose average call duration is less than 100 seconds, to **40** for projects whose average call duration is between 100 seconds and 140 seconds, and to **20** for projects whose average call duration is between 140 seconds and 180 seconds.
Algorithm for Agent Usage	Min. Call Loss Rate	The call loss rate is the ratio of calls that are hung up during queuing to the total off-hook calls. Set this parameter to the minimum call loss rate. When the call loss rate calculated by the system exceeds the value of this parameter, the system reduces the calls assigned to the agent to prevent the call loss rate from increasing.
	Agent Usage	Agent usage threshold. When the agent usage calculated by the system exceeds the value of this parameter, the system reduces the calls assigned to the agent to prevent the call loss rate from increasing.
	Method for Calculating Agent Usage	Whether the numerator includes the working state duration (that is, the wrap-up state duration).
Algorithm for Outbound Call Connection Rate	Min. Call Loss Rate	The call loss rate is the ratio of calls that are hung up during queuing to the total off-hook calls. Set this parameter to the minimum call loss rate. When the call loss rate calculated by the system exceeds the value of this parameter, the system reduces the calls assigned to the agent to prevent the call loss rate from increasing.
	Outbound Call Connection Rate	Ratio of connected calls to the total calls. Set this parameter to the maximum connection rate. When the call connection rate is less than the value of this parameter, the system reduces the calls assigned to the agent.

Algorithm Type	Parameter	Description
	Called Party's Waiting Time	Maximum customer waiting time, in seconds. If the waiting time exceeds the value of this parameter, the system reduces the calls assigned to the agent to prevent customers from waiting for a long time.
Algorithm for Offhook Rate	Calculation Factor	Off-hook rate calculation factor. If multiple agents meet the routing rules, the system preferentially assigns calls to the agent with a high off-hook rate.

Step 6 Configure the call policy.

1. In the **Call Strategy** area, customize the pre-called customer numbers. Set parameters based on **Table 2-173**.

Figure 2-599 Call Strategy

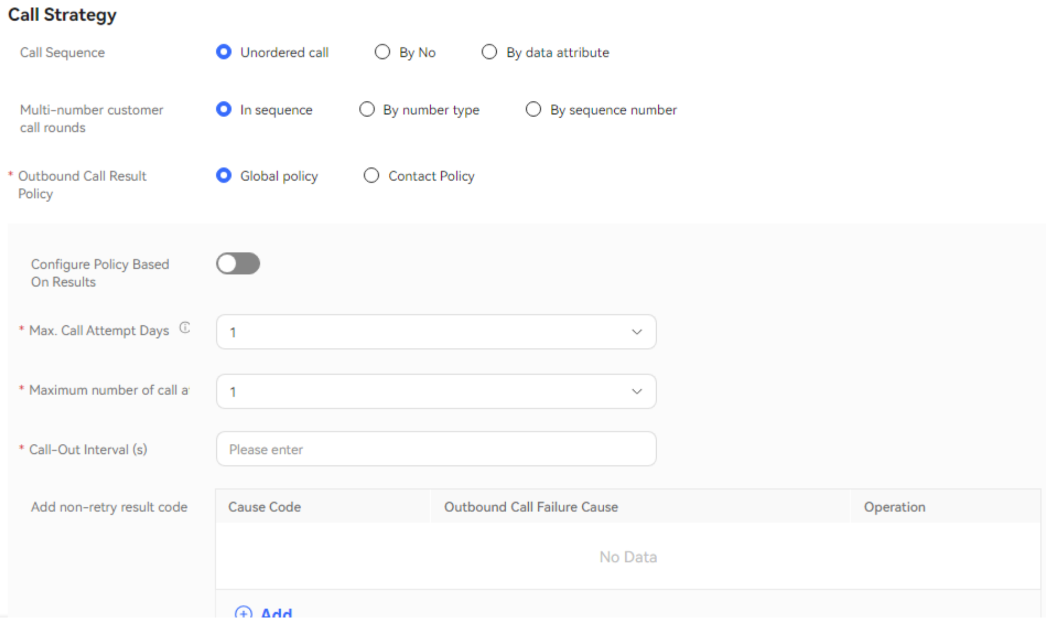
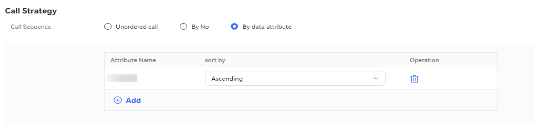
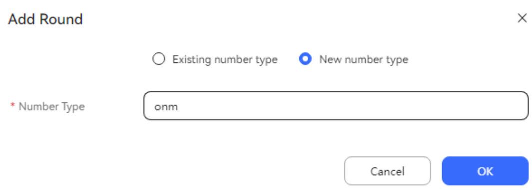
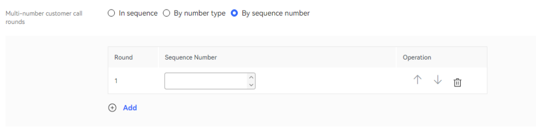


Table 2-173 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
Unordered call	-
By No	-

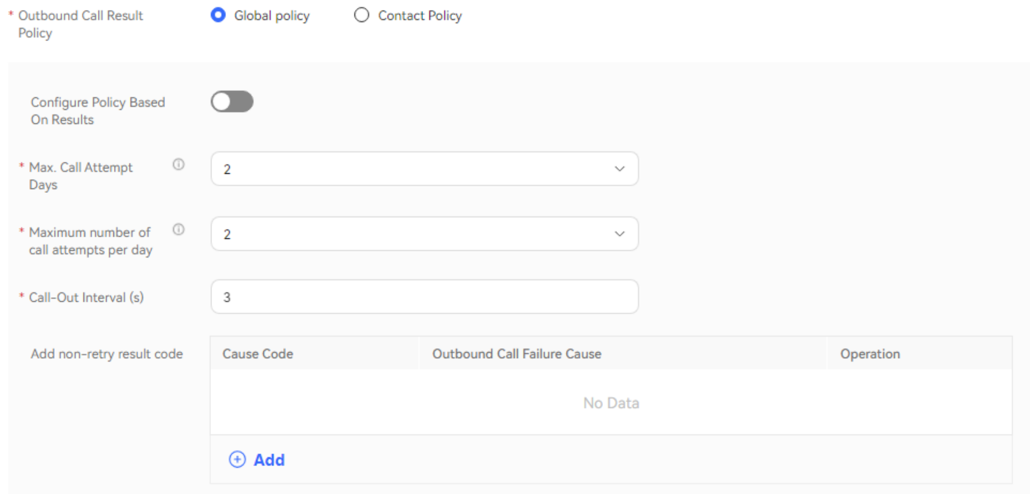
Parameter	Description
By data attribute	Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By number type	You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   - **Global policy**
     - Disable **Configure Policy Based On Results**.

       Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

       Click ⊕ Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-600 Disabling Configure Policy Based On Results

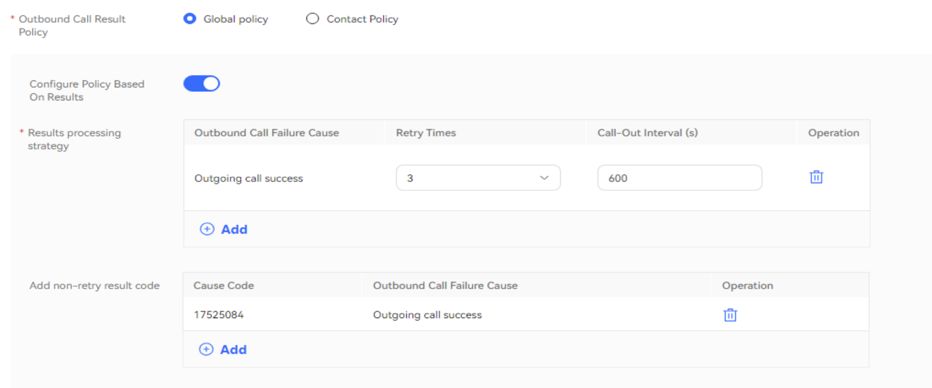


- Enable **Configure Policy Based On Results**.

  In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

  Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-601 Enabling Configure Policy Based On Results



NOTE

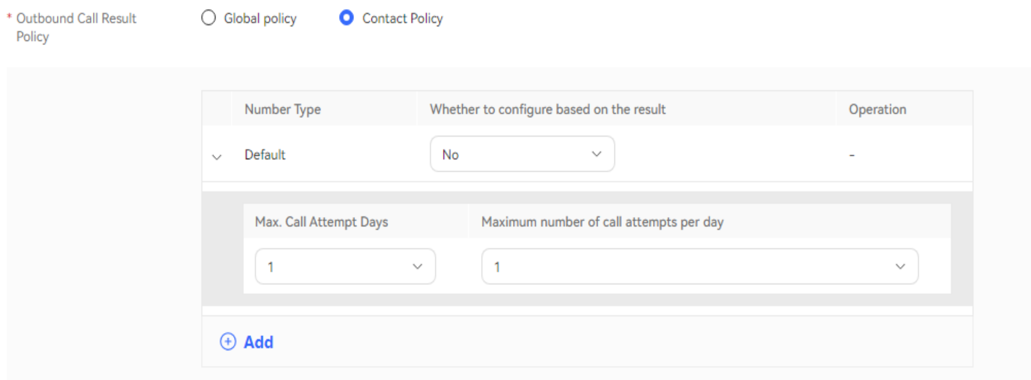
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- **Default** number type: Set **Whether to configure based on the result** to configure the policy.

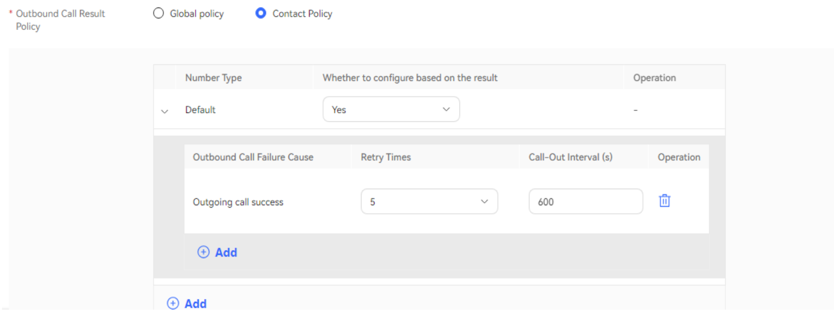
  If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

  Figure 2-602 Setting Whether to configure based on the result to No

  If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click ⊕ Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

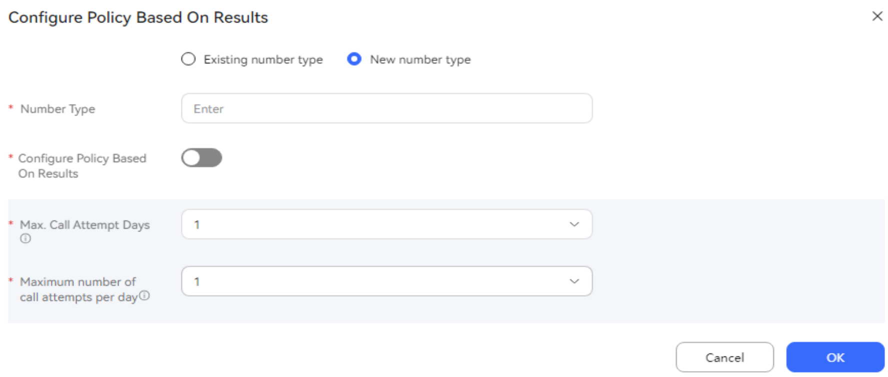
  Figure 2-603 Setting Whether to configure based on the result to Yes

- Added number type: Click ⊕ Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

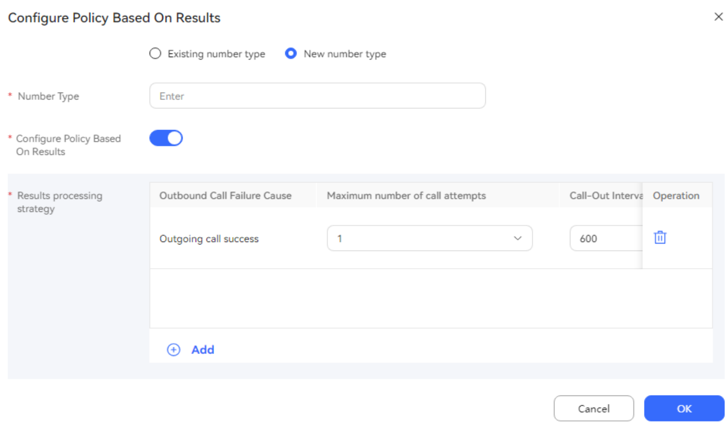
  If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

Figure 2-604 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-605 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.7.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click corresponding to the new outbound call task.

----End

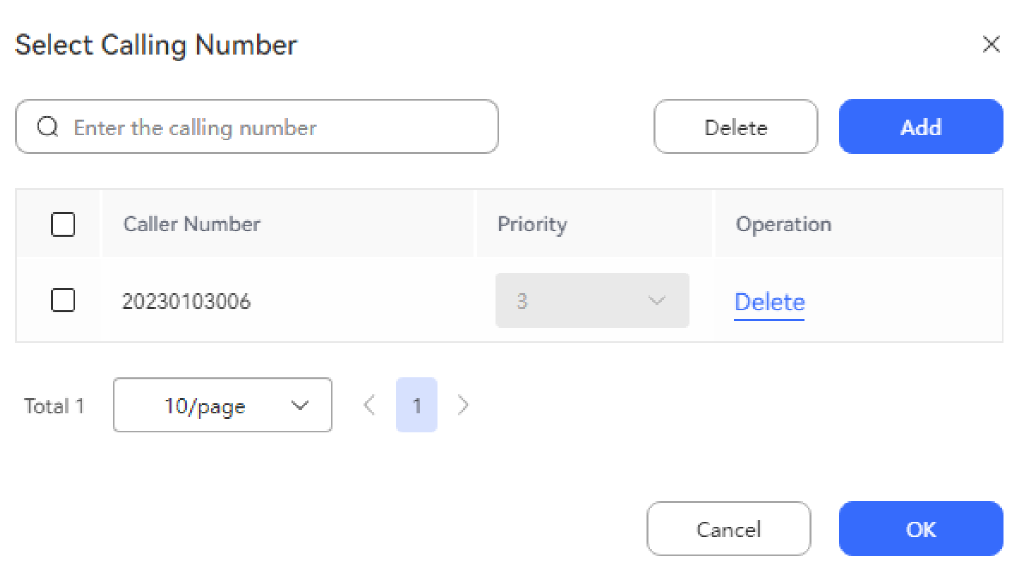
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

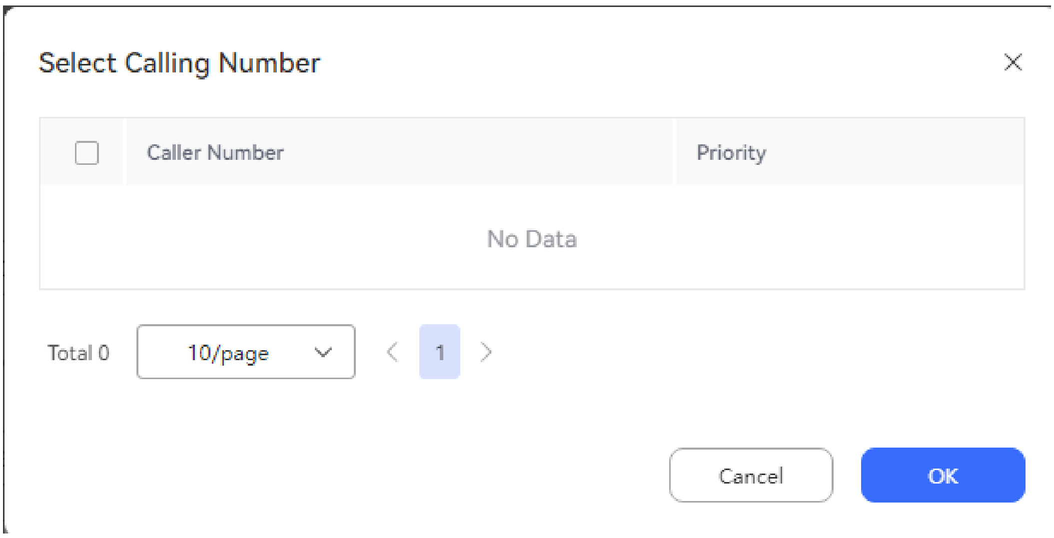
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

   Figure 2-606 Select Calling Number

2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

   Figure 2-607 Adding a calling number

3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.3 Creating Previewed Outbound Call Tasks

In a previewed outbound call task, the system pushes a customer to an agent (not to call the agent). After previewing the customer information, the agent manually executes calls.

Prerequisites

- The platform role of a user account is agent.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue exists. For details about the configuration method, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Context

In the predicted outbound call scenario, a call is made to a customer and then to an agent. When the call reaches the agent, the customer is already online and waiting. Therefore, the agent does not have enough time to understand the customer's background information.

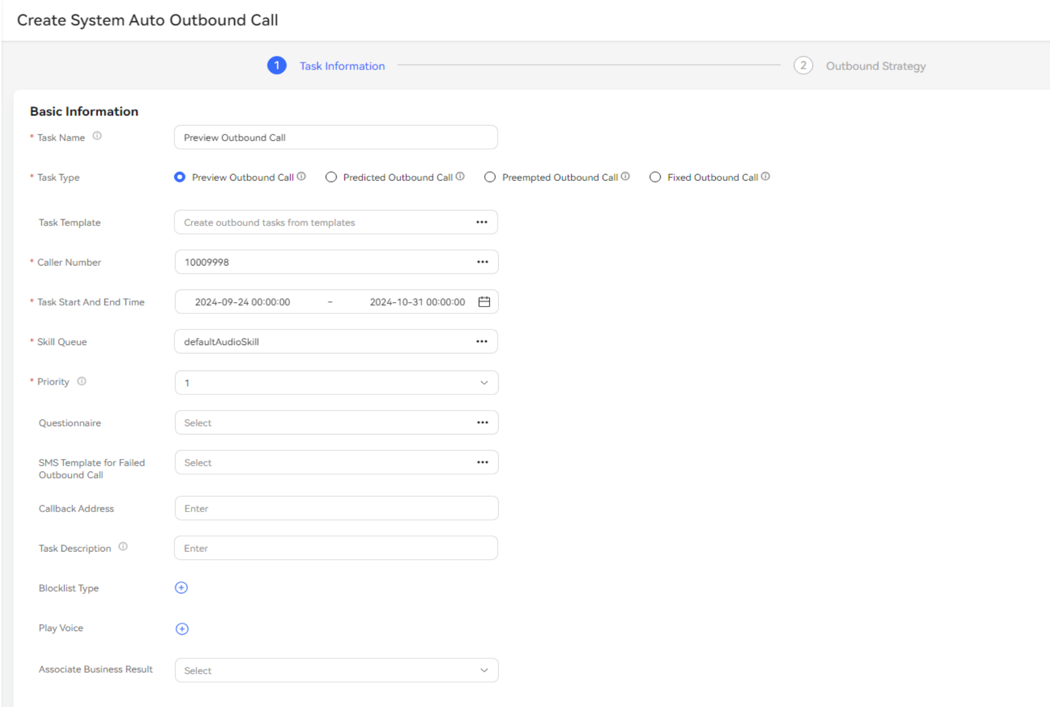
In a previewed outbound call task, the system pushes a customer to an agent (not to call the agent). After previewing the customer information, the agent manually makes a call.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and choose **System Automatic Outbound Call**. On the **Create System Auto Outbound Call** page, set **Task Type** to **Preview Outbound Call**.

Figure 2-608 Page for configuring the basic information of a previewed outbound call task

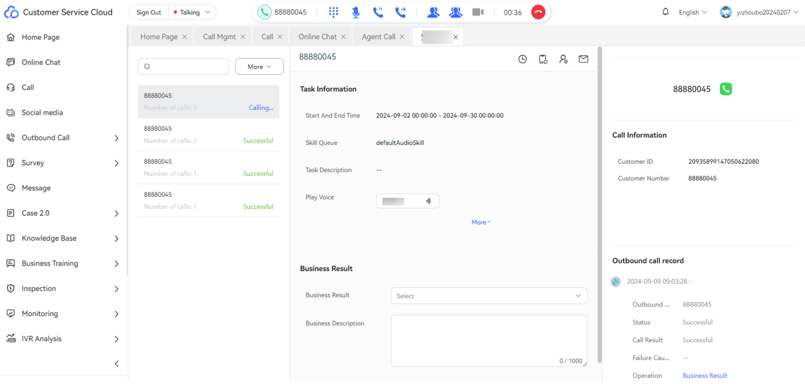


Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Caller Number**: Select an existing calling number of the current tenant space. A maximum of 100 calling numbers can be added.
- **Start Time**: Set this parameter to a value not earlier than the current time.
- **End Time**: Set this parameter to a value not earlier than the start time.
- **Task Type**: Select **Preview Outbound Call**. For an outbound call task created using a template, the value of this parameter is the type configured in the template by default and cannot be changed.

- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**.
- **Questionnaire**: Only **Manual Questionnaire** and **Manual vs. IVR Questionnaire** are supported. A manual and IVR survey can be used on the outbound call workbench or used together with the **questionnaire** diagram element in an IVR flow.
- **SMS Template for Failed Outbound Call**: Select a configured internal SMS notification template. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially.
- **Play Voice**: When an agent makes an outbound call, a recording can be played to the customer. Voice resources are prompt tones with **Status** being **Approved** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. A maximum of 10 voice resources can be selected.

Figure 2-609 Playing a recording



- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed.
- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.

  NOTE

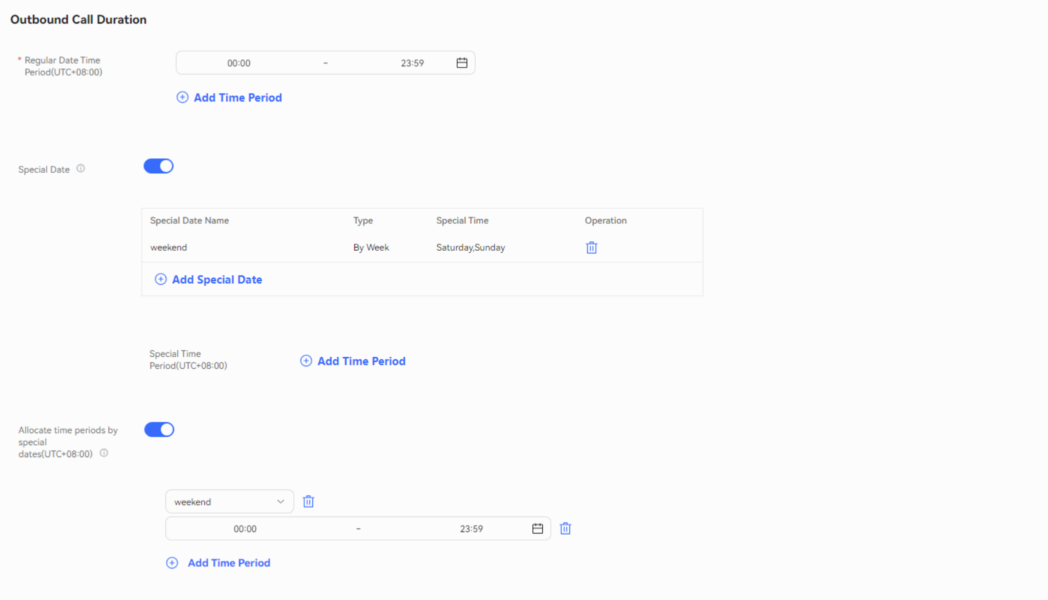
  The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

  In the integrated environment, the callback URL can be configured only in the outbound call task.
- **Blocklist Type**: If a blocklist category is selected, all numbers in the blocklist are not called within the specified period.

After the configuration is complete, click **Next**.

Step 4 Configure the outbound call period. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

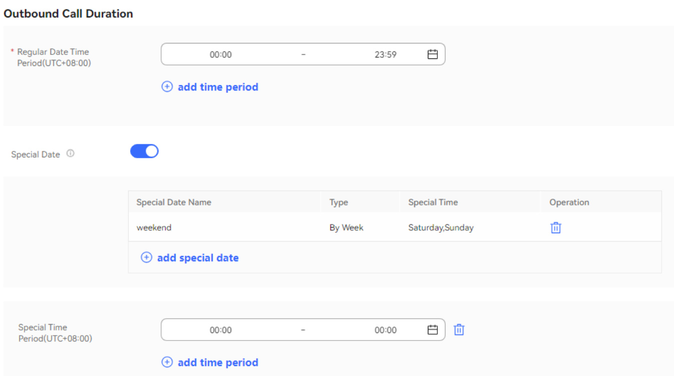
Figure 2-610 Outbound Call Duration



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:
   9:00–11:30
   14:00–18:00
2. In **Special Date**, click **add special date** to add days such as holidays and weekends as special dates.
3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

   NOTE

   If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Configure the task policy. Set **Preview Timeout Interval (s)** and **Previewed Outbound Call Duration**.

Step 6 Configure the call policy.

1. In the **Call Strategy** area, customize the pre-called customer numbers. Set parameters based on **Table 2-174**.

Figure 2-611 Call Strategy

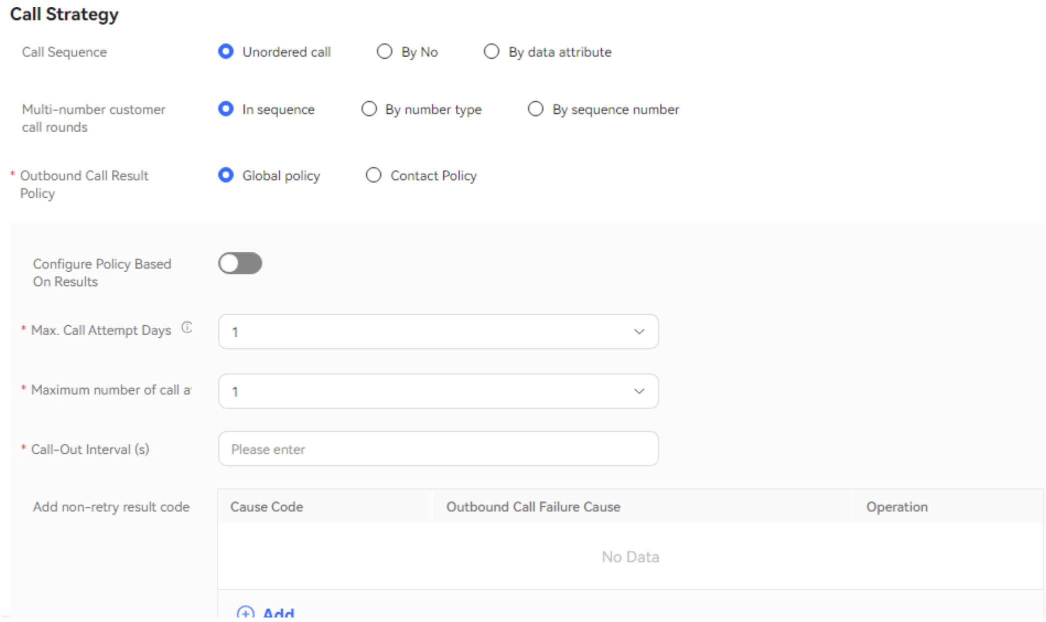
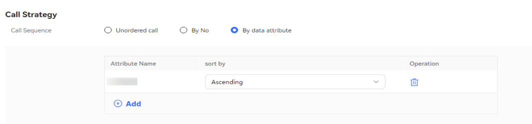
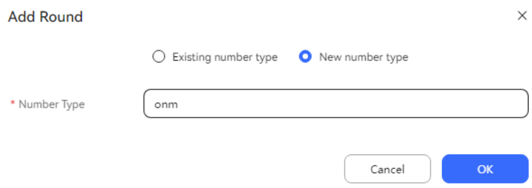
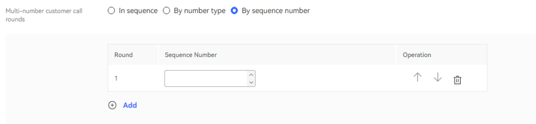


Table 2-174 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
Unordered call	-
By No	-
By data attribute	Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.

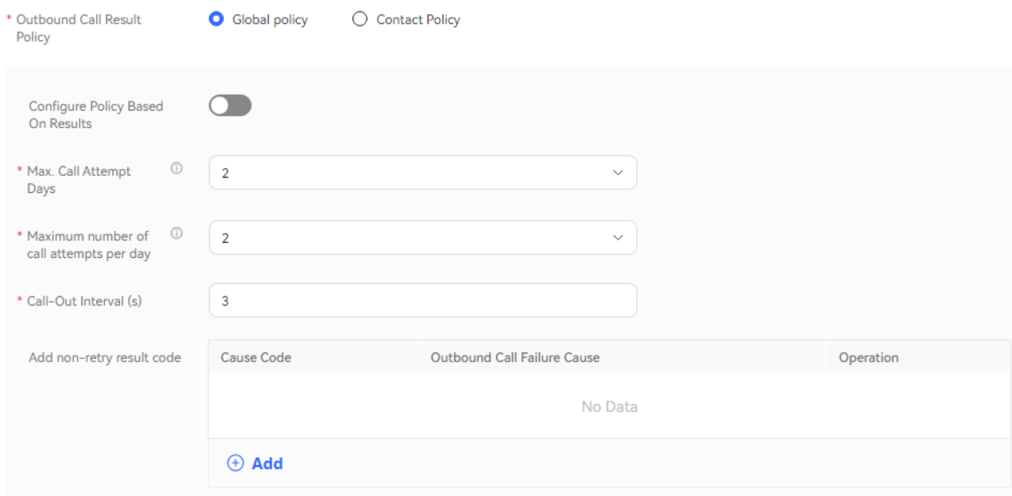
Parameter	Description
By number type	You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   – **Global policy**
     - Disable **Configure Policy Based On Results**.

       Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

       Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

       Figure 2-612 Disabling Configure Policy Based On Results

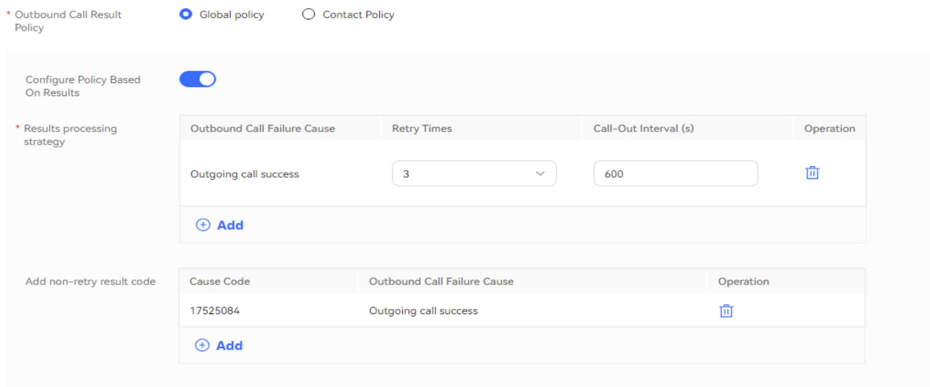


- Enable **Configure Policy Based On Results**.

  In **Results processing strategy**, click ⊕ Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click ⊕ Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

  Click ⊕ Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

  Figure 2-613 Enabling Configure Policy Based On Results



NOTE

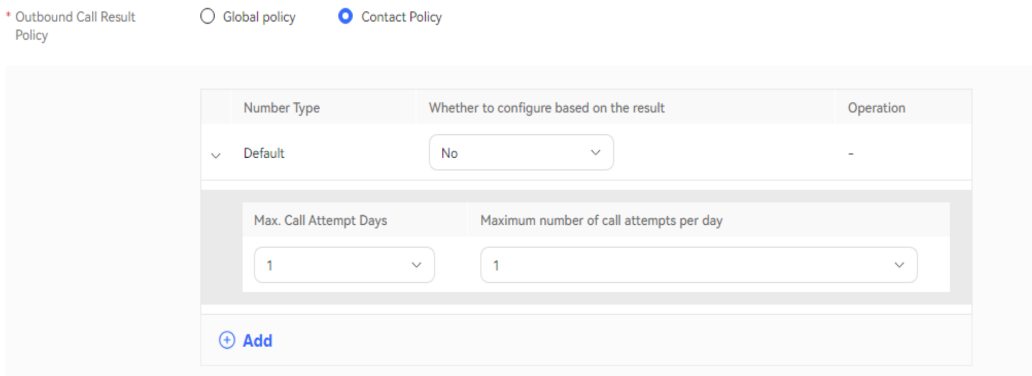
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- **Default** number type: Set **Whether to configure based on the result** to configure the policy.

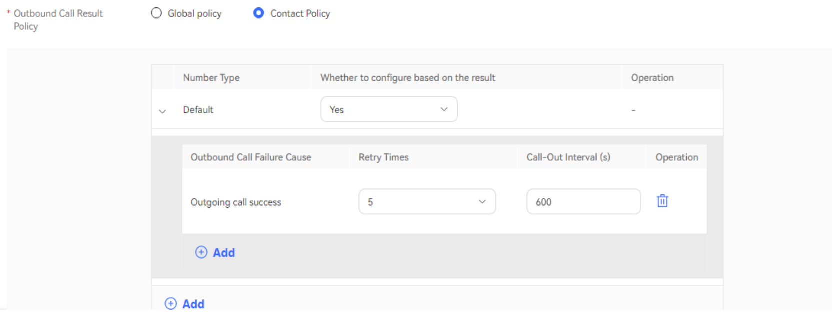
  If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

  Figure 2-614 Setting Whether to configure based on the result to No



If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

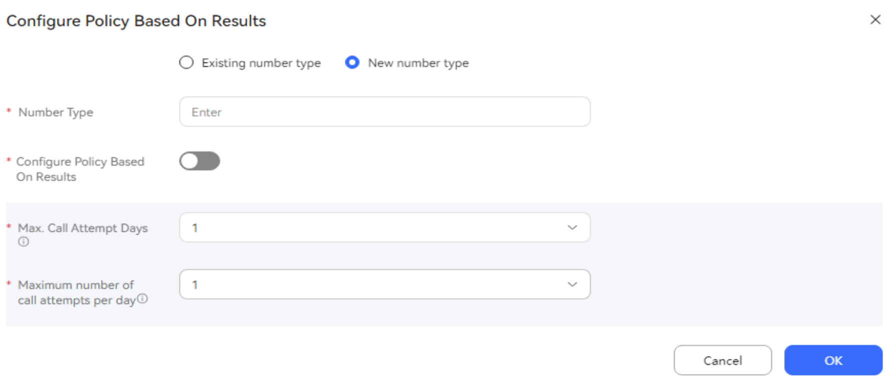
Figure 2-615 Setting Whether to configure based on the result to Yes



- Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

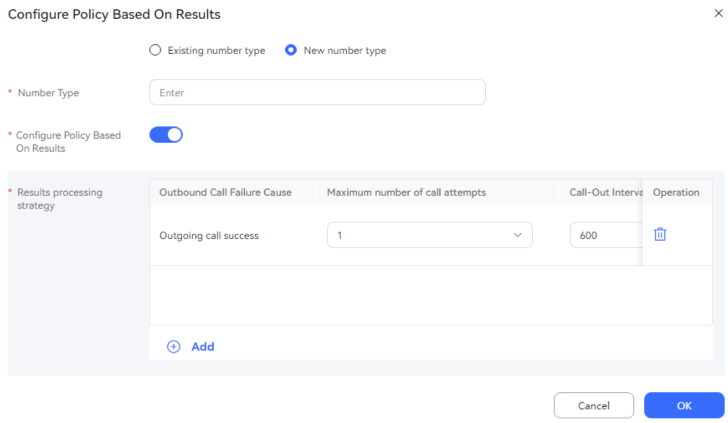
  If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

Figure 2-616 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-617 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.7.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click  corresponding to the new outbound call task.

----End

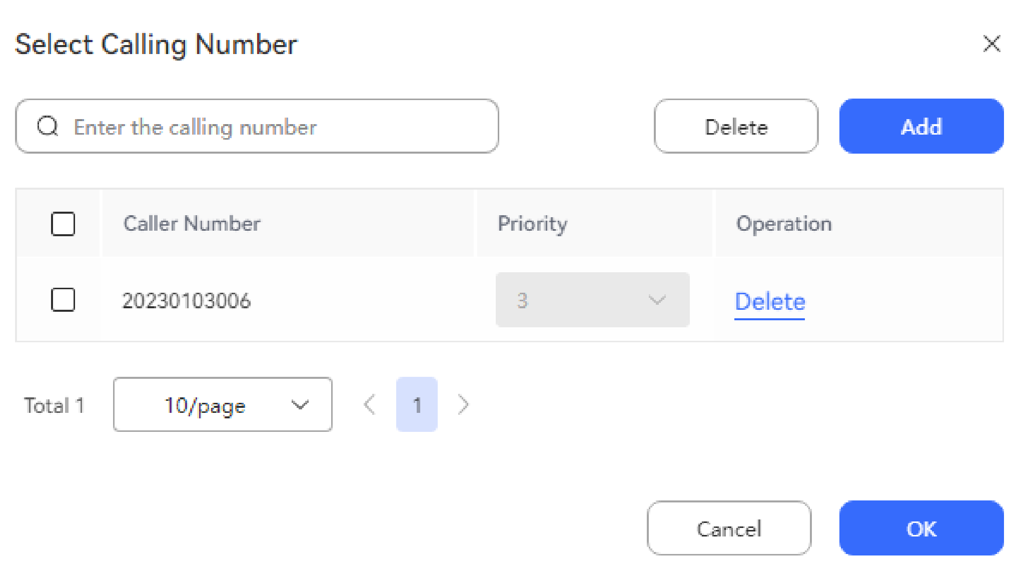
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

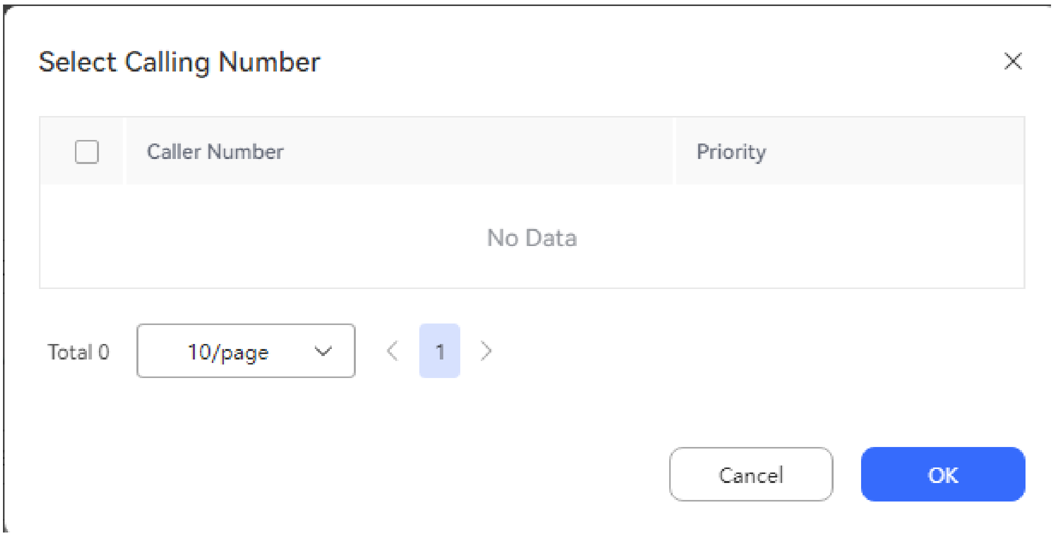
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

Figure 2-618 Select Calling Number



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

Figure 2-619 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.4 Creating Preempted Outbound Call Tasks

In a preempted outbound call, an agent is preempted. After the agent answers the call, the agent and customer are connected.

Prerequisites

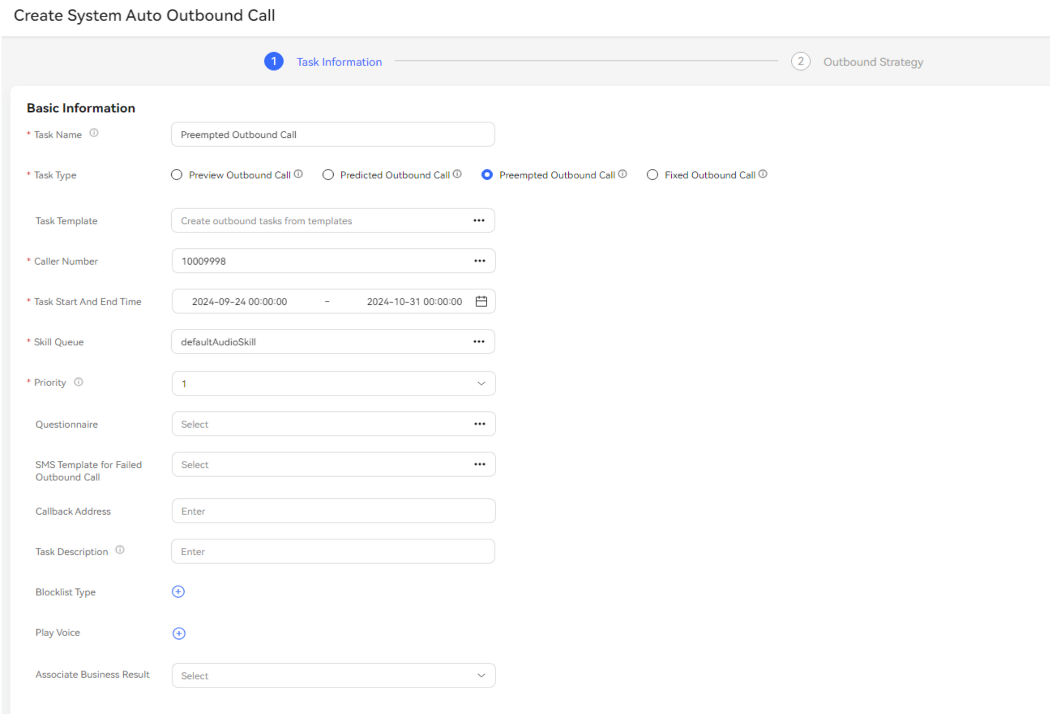
- The platform role of a user account is agent.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue exists. For details about the configuration method, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and choose **System Automatic Outbound Call**. On the **Create System Auto Outbound Call** page, set **Task Type** to **Preempted Outbound Call**.

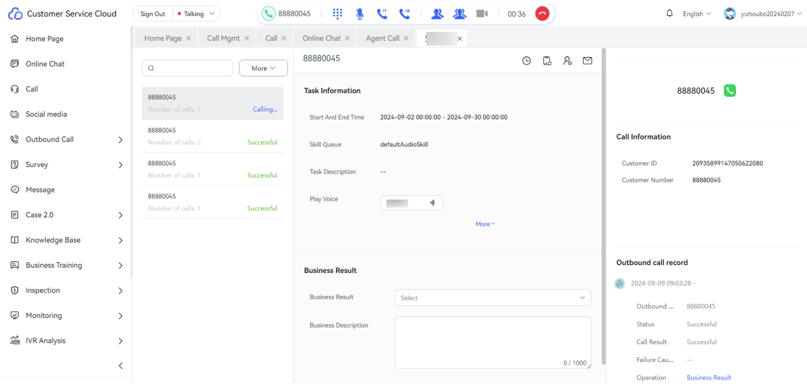
Figure 2-620 Page for configuring the basic information of a preempted outbound call task



Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Caller Number**: Select an existing calling number of the current tenant space.
- **Task Start And End Time**: Select the task start time and end time.
- **Task Type**: Select **Preempted Outbound Call**. For an outbound call task created using a template, the value of this parameter is the type configured in the template by default and cannot be changed.
- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**.
- **Questionnaire**: Only **Manual Questionnaire** and **Manual vs. IVR Questionnaire** are supported. A manual and IVR survey can be used on the outbound call workbench or used together with the **questionnaire** diagram element in an IVR flow.
- **SMS Template for Failed Outbound Call**: Select a configured internal SMS notification template. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially.
- **Play Voice**: When an agent makes an outbound call, a recording can be played to the customer. Voice resources are prompt tones with **Status** being **Approved** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. A maximum of 10 voice resources can be selected.

Figure 2-621 Playing a recording



- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed.
- **Blocklist Type**: If a blocklist category is selected, all numbers in the blocklist are not called within the specified period.
- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.

NOTE

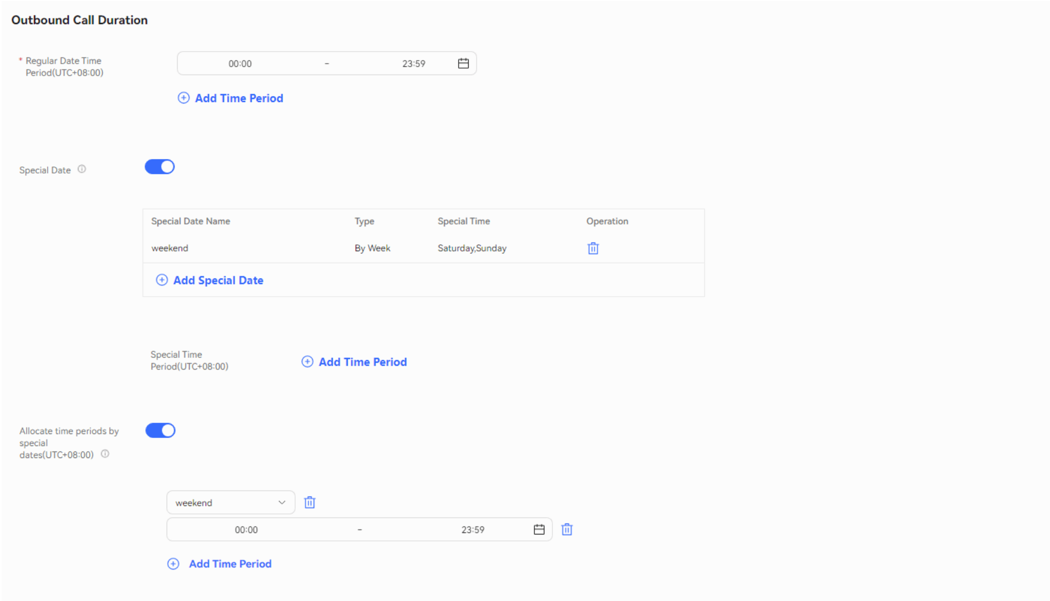
The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

In the integrated environment, the callback URL can be configured only in the outbound call task.

After the configuration is complete, click **Next**.

Step 4 Configure the outbound call period. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

Figure 2-622 Outbound Call Duration



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

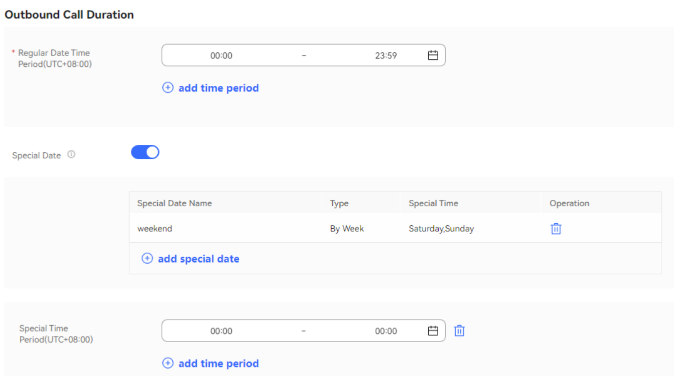
   9:00–11:30

   14:00–18:00

2. In **Special Date**, click **add special date** to add days such as holidays and weekends as special dates.
3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

   NOTE

   If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Configure the task policy. Set **Max. Response Duration**, enable **Outbound Call Data Attribute Filtering**, and select attributes.

Figure 2-623 Task Strategy

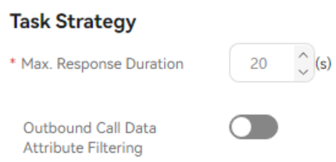
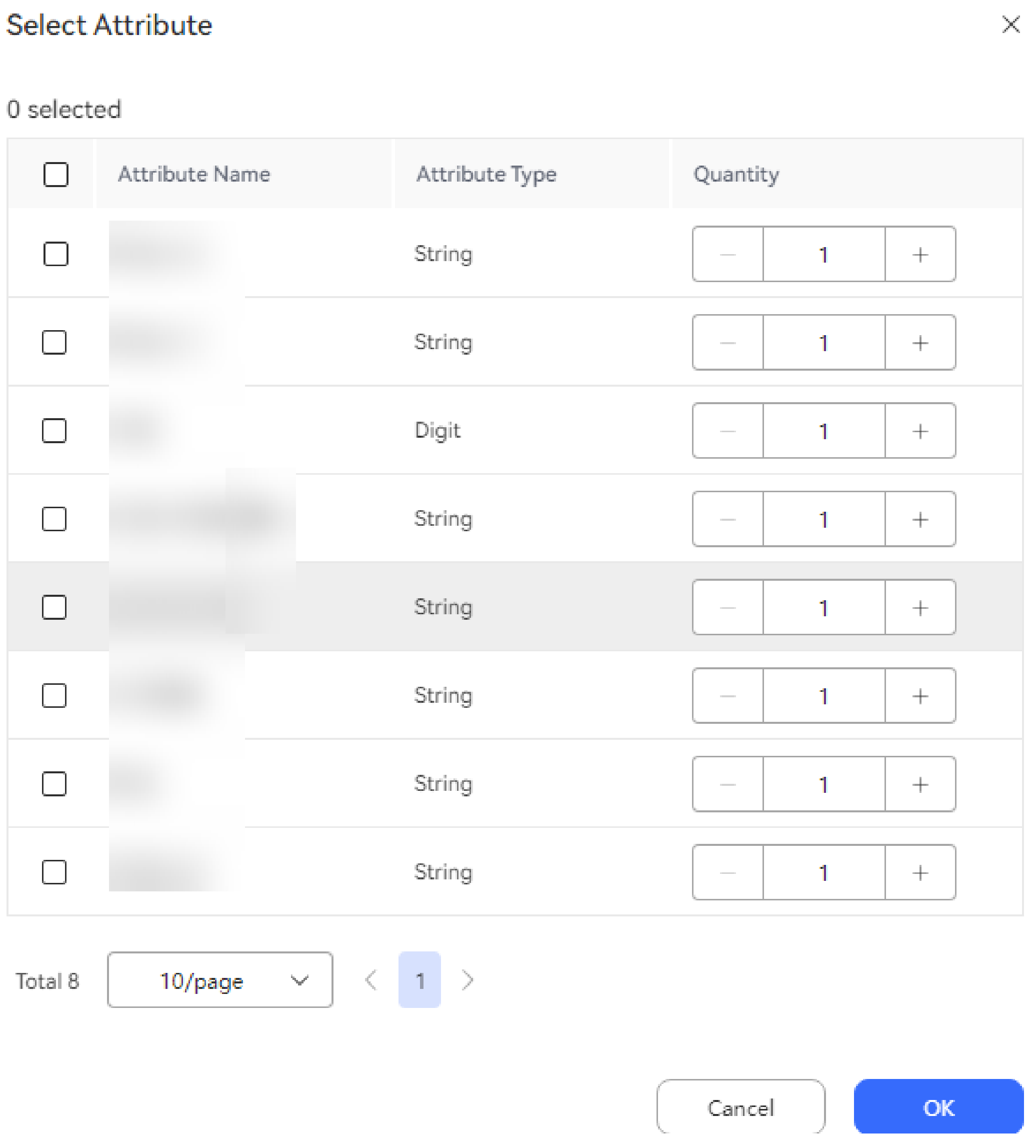


Figure 2-624 Select Attribute



Step 6 Configure the call policy.

1. In the **Call Strategy** area, customize the pre-called customer numbers. Set parameters based on **Table 2-175**.

Figure 2-625 Call Strategy

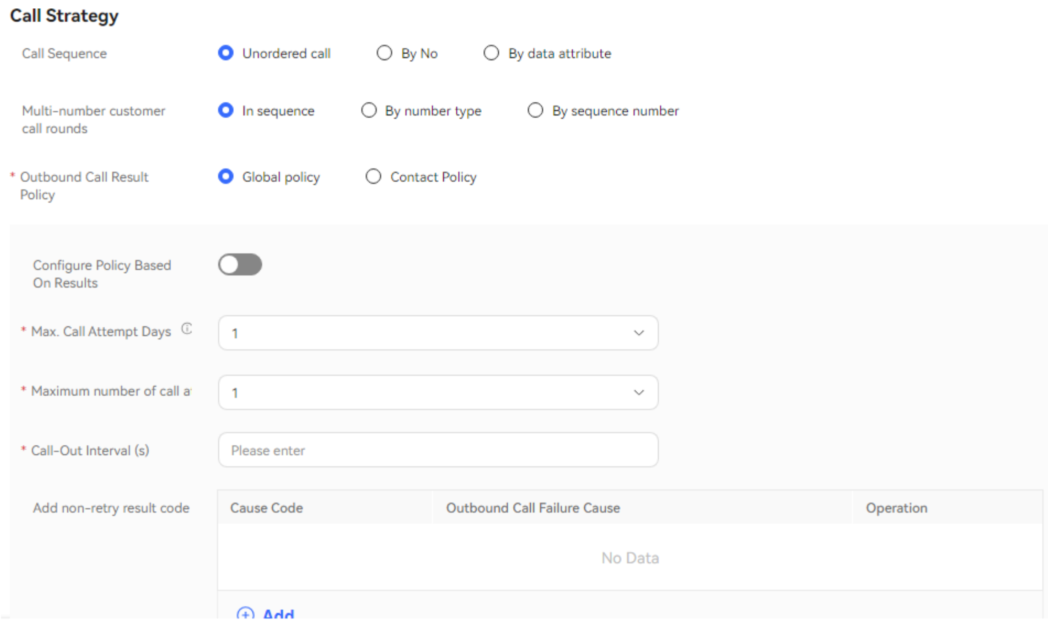
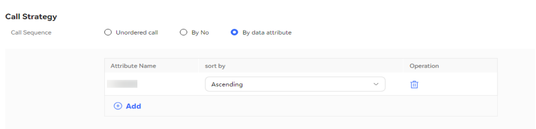
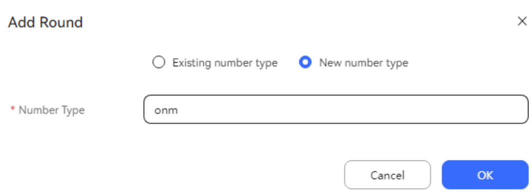
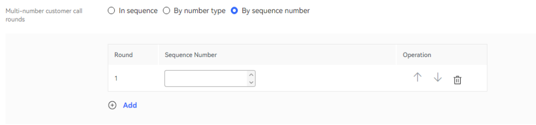


Table 2-175 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
Unordered call	-
By No	-
By data attribute	Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By number type	You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 

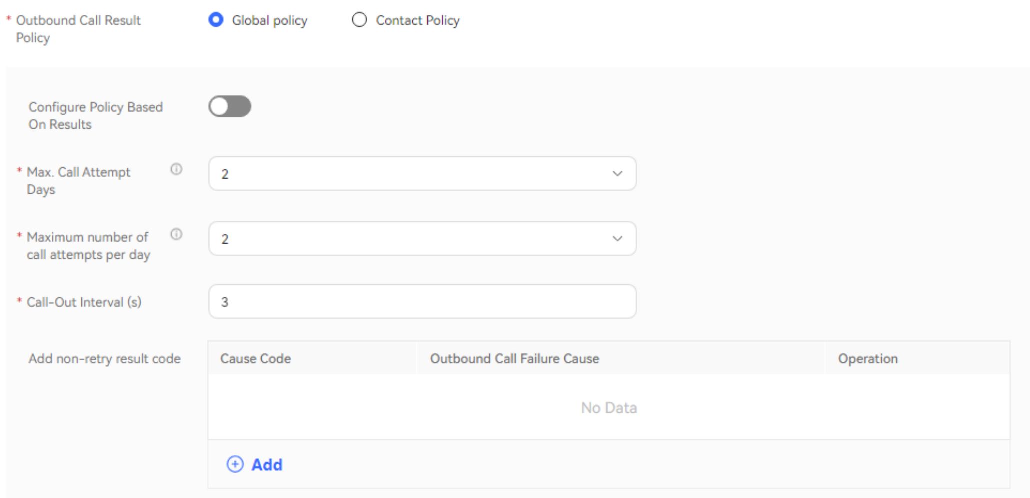
Parameter	Description
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   - **Global policy**
     - Disable **Configure Policy Based On Results**.

       Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

       Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

       Figure 2-626 Disabling Configure Policy Based On Results

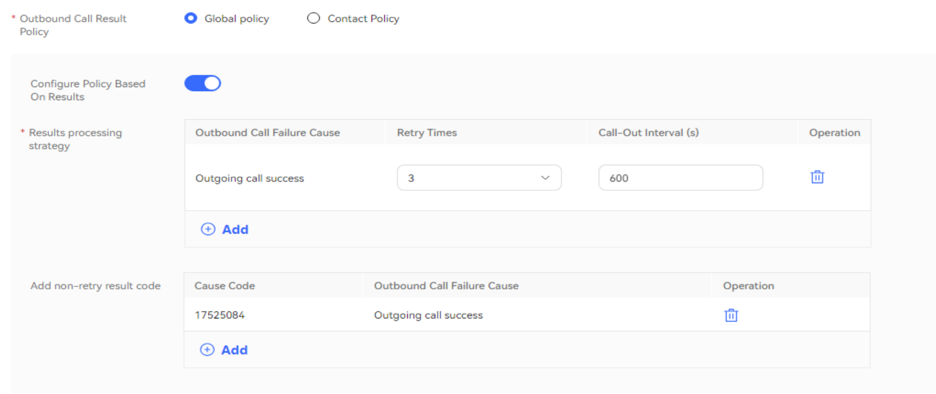
       

     - Enable **Configure Policy Based On Results**.

       In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-627 Enabling Configure Policy Based On Results



NOTE

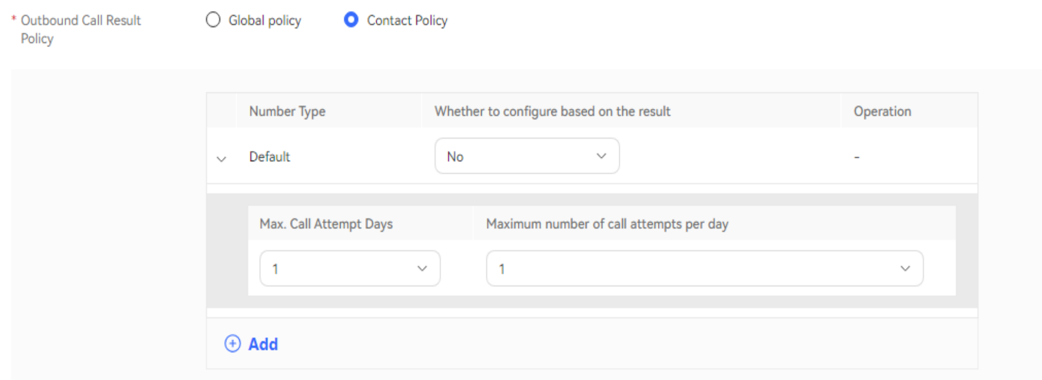
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- **Default** number type: Set **Whether to configure based on the result** to configure the policy.

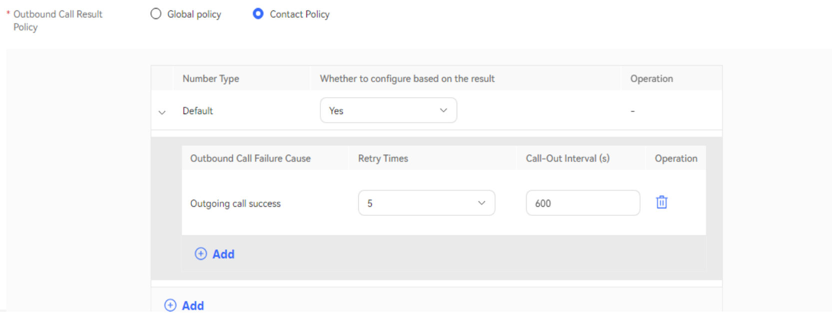
  If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

  Figure 2-628 Setting Whether to configure based on the result to No



  If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

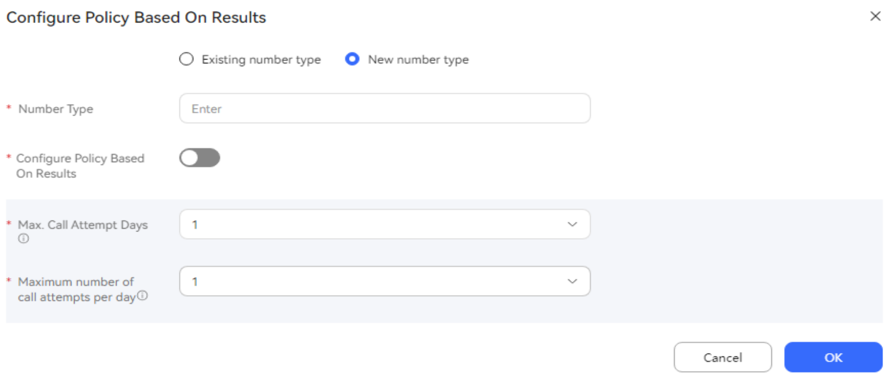
Figure 2-629 Setting Whether to configure based on the result to Yes



- Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

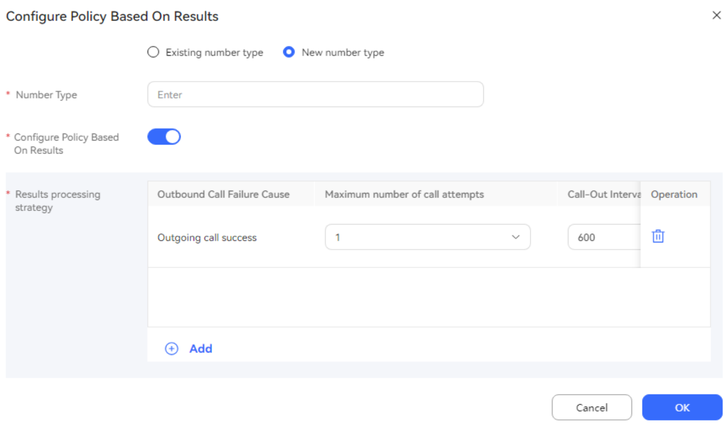
  If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

  Figure 2-630 Disabling Configure Policy Based On Results

  If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-631 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.7.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click  corresponding to the new outbound call task.

----End

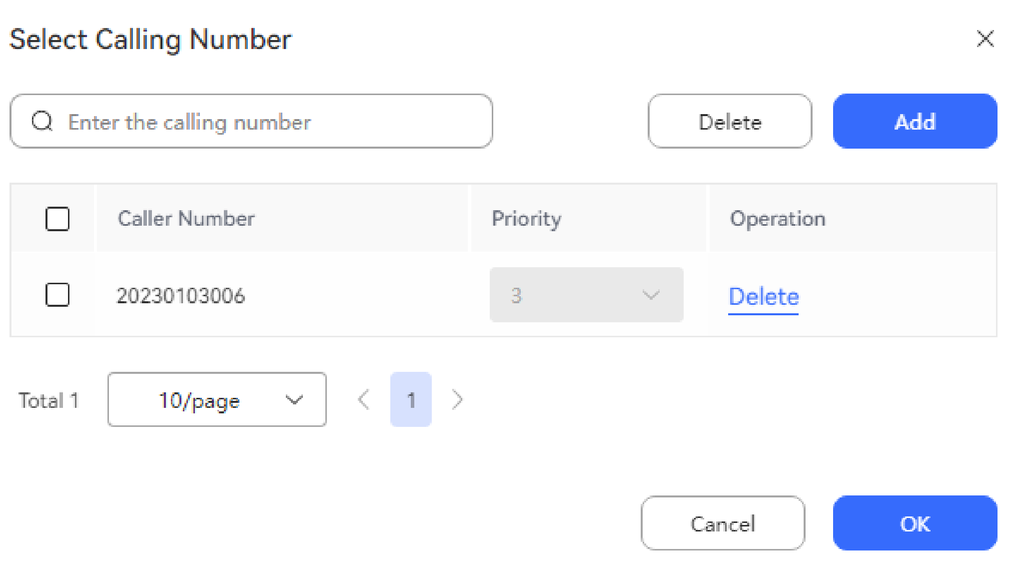
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

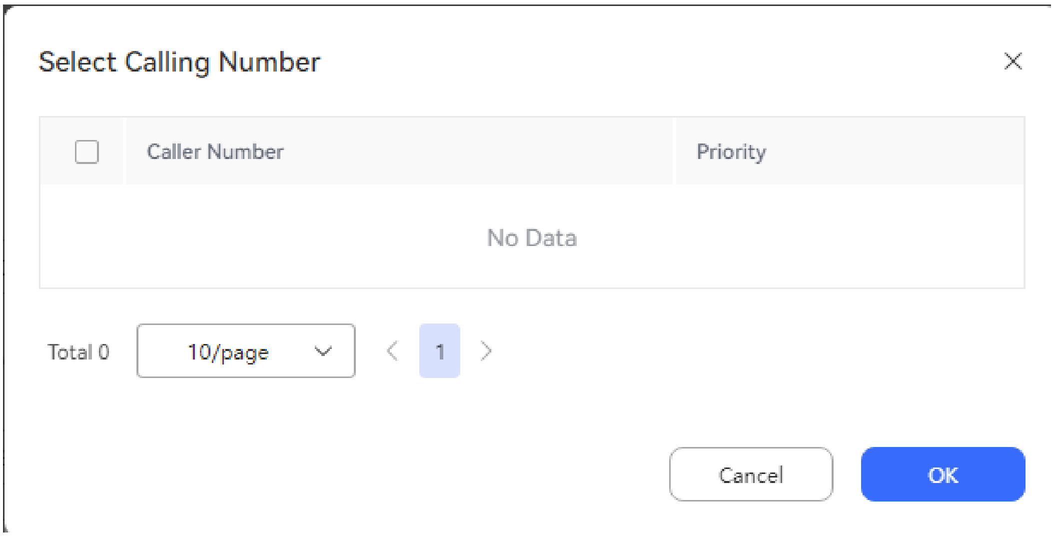
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

Figure 2-632 Select Calling Number



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

Figure 2-633 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.5 Creating Fixed Outbound Call Tasks

In a fixed outbound call task, outbound calls are assigned to idle agents by ratio to improve call efficiency. The ratio can be adjusted based on the business target and the number of idle agents. Fixed outbound call tasks can be used to quickly contact with potential customers. When there are a large number of customer numbers to be called, fixed outbound call tasks have significant advantages over other types of outbound call tasks.

Prerequisites

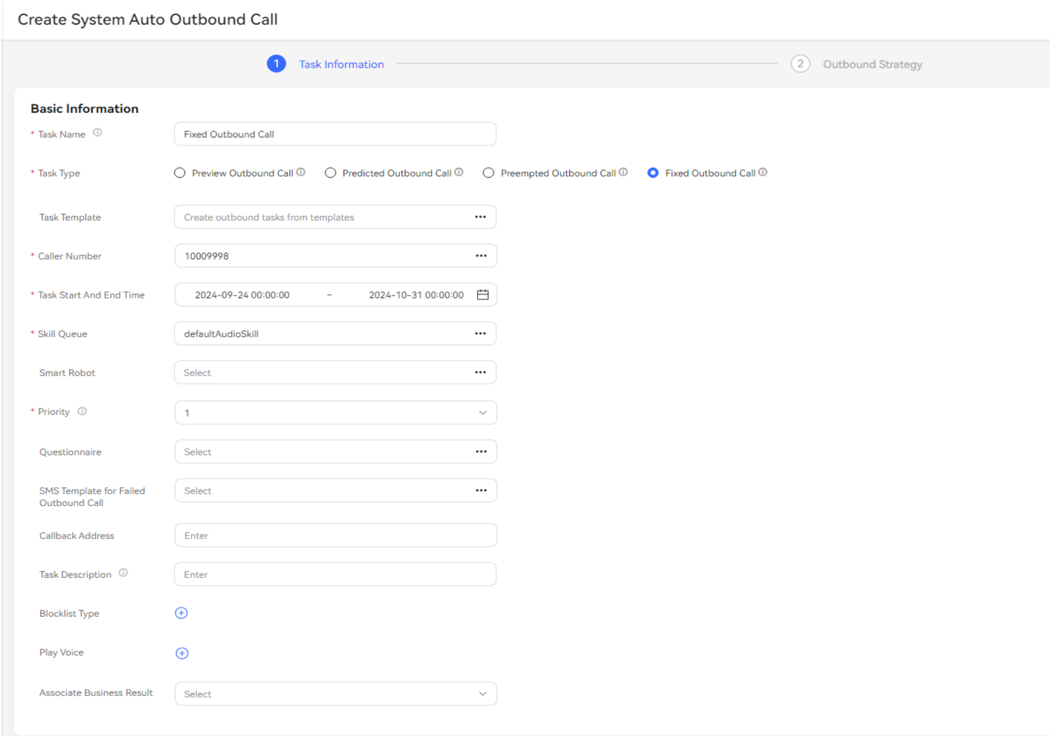
- The platform role of a user account is agent.
- You have contacted the system administrator to enable the system parameter **Display Fixed Proportion of Outgoing Calls** under **System Parameter** > **Intelligent Outbound Call** > **Managing Configurations**.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue exists. For details about the configuration method, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and choose **System Automatic Outbound Call**.

Figure 2-634 Page for creating a fixed outbound call task



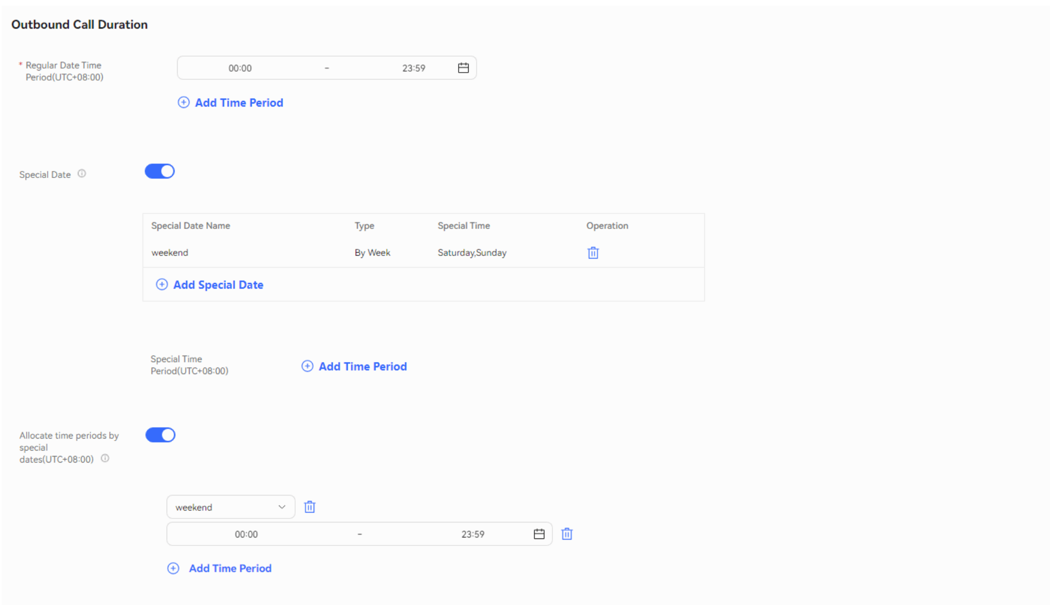
Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Caller Number**: Select an existing calling number of the current tenant space. A maximum of 100 calling numbers can be added.
- **Task Type**: Select **Fixed Outbound Call**.
- **Task Template**: Select a fixed outbound call template whose **Status** is **Published** on the **Configuration Center** > **Call Config** > **Call Template** page.
- **Task Start And End Time**: Select the task start time and end time.
- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**.
- **Smart Robot**: Select an intelligent robot. During the execution of a fixed outbound call task, the value of **Call Result** is **Successful** for a call only when the call is routed from an intelligent robot to an agent, and a contact record is generated for the call with the agent.
- **Questionnaire**: Only **Manual Questionnaire** and **Manual vs. IVR Questionnaire** are supported. A manual and IVR survey can be used on the outbound call workbench or used together with the **questionnaire** diagram element in an IVR flow.
- **Play questionnaire process**: Select a survey flow. This parameter is displayed when the selected survey is a manual and IVR survey.
- **SMS Template for Failed Outbound Call**: Select a configured internal SMS notification template. For details about how to configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.

- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially.
- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.
- **Blocklist Type**: If a blocklist category is selected, all numbers in the blocklist are not called within the specified period.
- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed.

Step 4 Configure the outbound call period. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

Figure 2-635 Outbound Call Duration



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

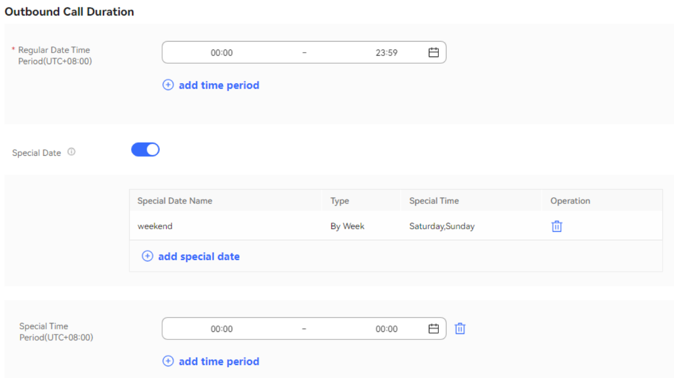
   9:00–11:30

   14:00–18:00

2. In **Special Date**, click **add special date** to add days such as holidays and weekends as special dates.
3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

NOTE

If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Configure the task policy. Set **Fixed Outbound Call** to a value ranging from 1 to 20 and set **Max. Response Duration**.

Figure 2-636 Task Strategy

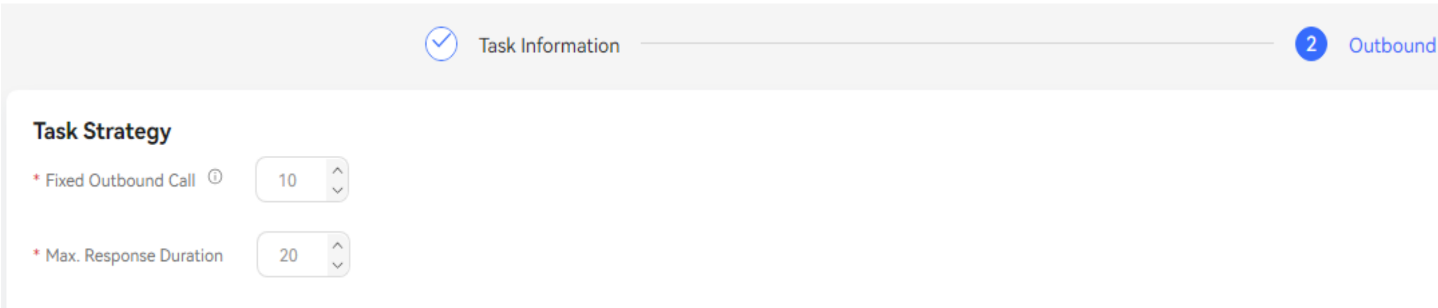


Table 2-176 Parameters for configuring the policy of a fixed outbound call task

Parameter	Value Range	Description
Fixed Outbound Call	The value ranges from 1 to 20. The default value is **10**.	• Fixed outbound call ratio = Number of outbound calls/ Number of idle agents • The number of outbound calls indicates the number of calls obtained from the business side during execution of a fixed outbound call task. • Number of outbound calls = Number of idle agents x Fixed outbound call ratio • The maximum number of outbound calls is 900.
Max. Response Duration	The value ranges from 5 to 120. The default value is **20**.	If the response duration exceeds this value, the current call ends and the next call is to be made. The value ranges from 5 to 120. The default value is **20**.

Step 6 Configure the call policy.

1. In the **Call Strategy** area, customize the call policy for customer numbers to be called. Set parameters based on **Table 2-177**.

Figure 2-637 Call Strategy

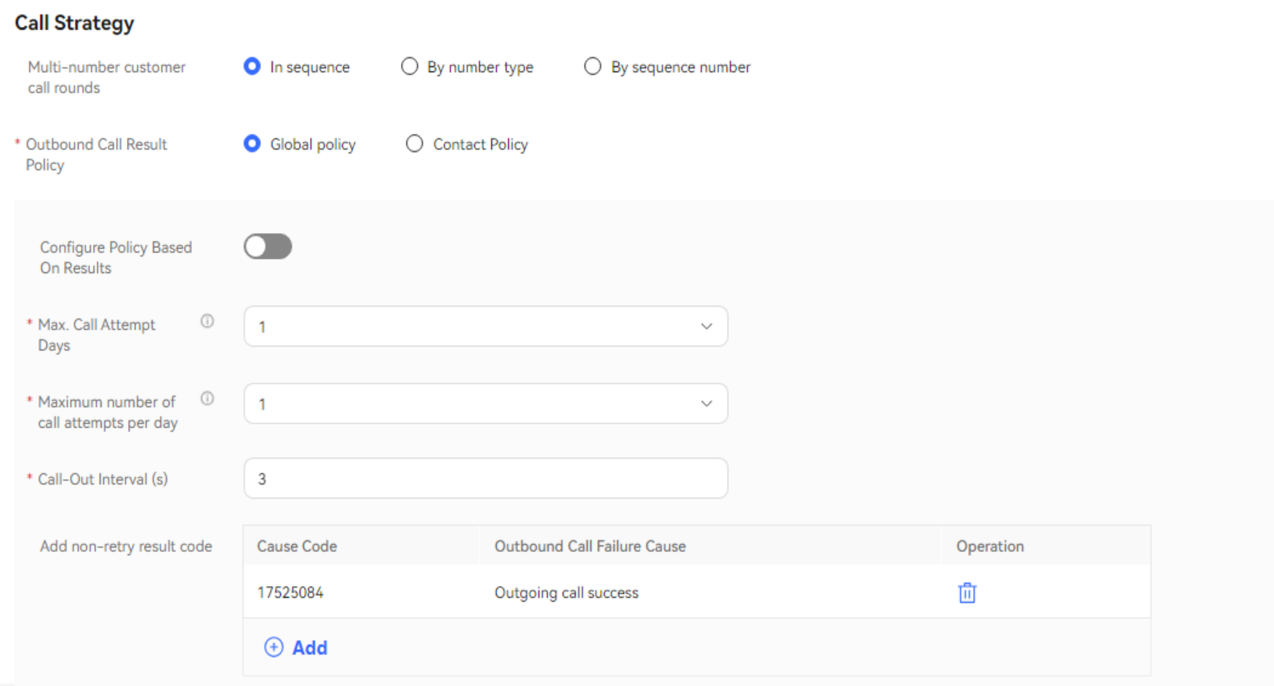
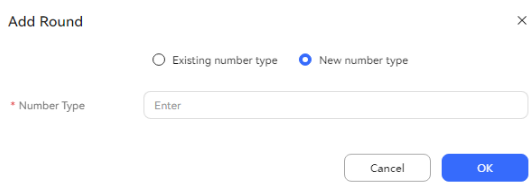
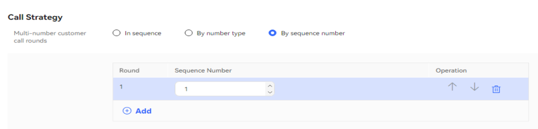


Table 2-177 Parameters in the Call Strategy area

Parameter	Description
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By number type	You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated

number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.

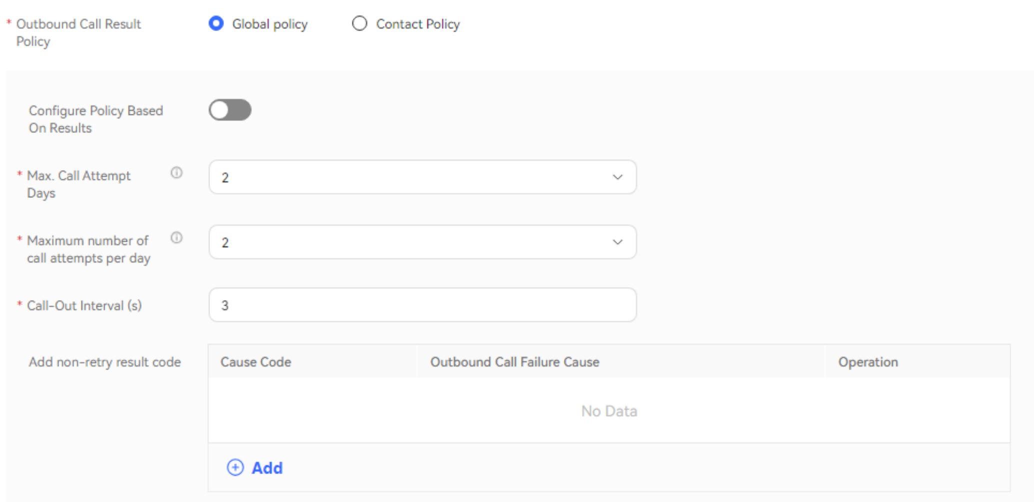
– **Global policy**

  - Disable **Configure Policy Based On Results**.

    Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

    Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

    Figure 2-638 Disabling Configure Policy Based On Results

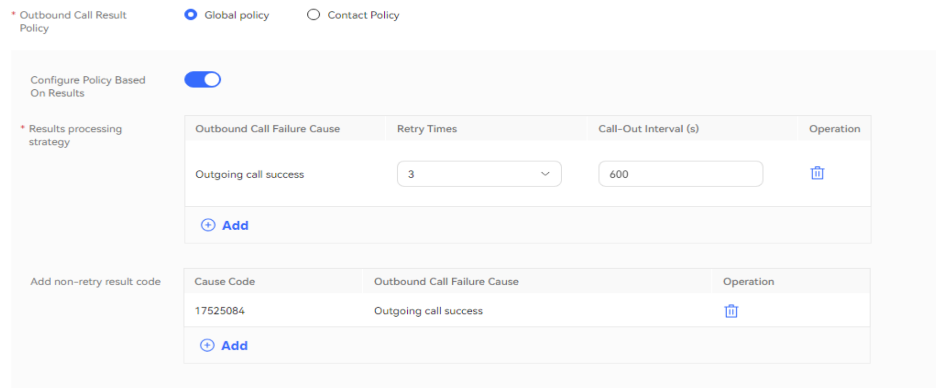


  - Enable **Configure Policy Based On Results**.

    In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

    Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-639 Enabling Configure Policy Based On Results



NOTE

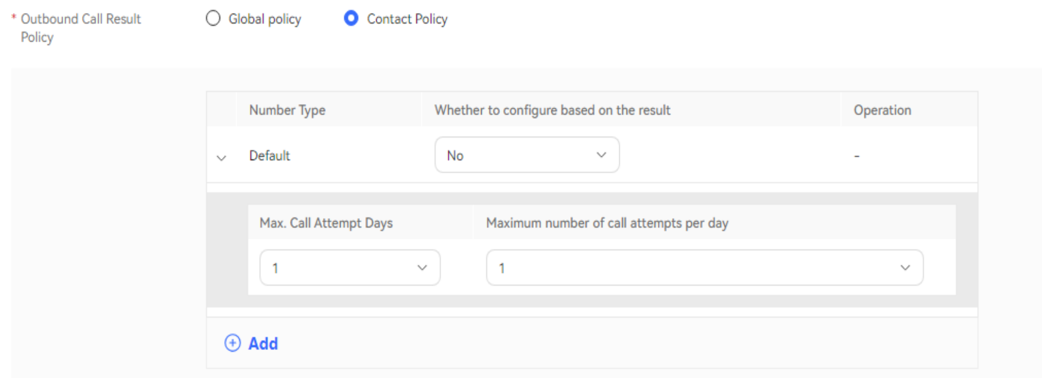
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- **Default** number type: Set **Whether to configure based on the result** to configure the policy.

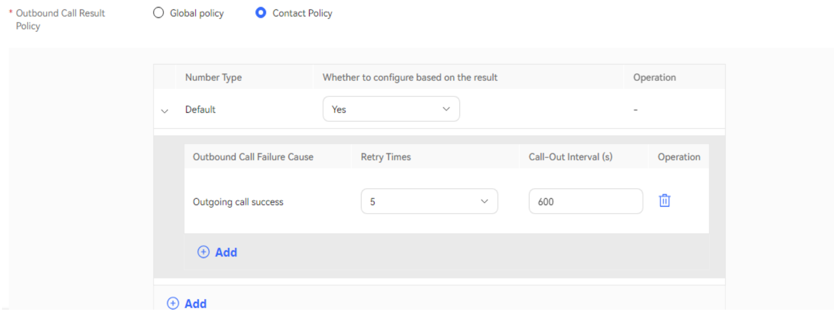
  If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

Figure 2-640 Setting Whether to configure based on the result to No



If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

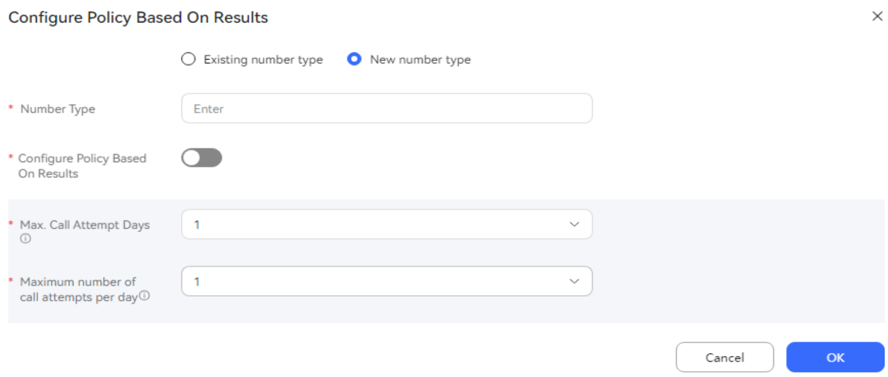
Figure 2-641 Setting Whether to configure based on the result to Yes



- Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

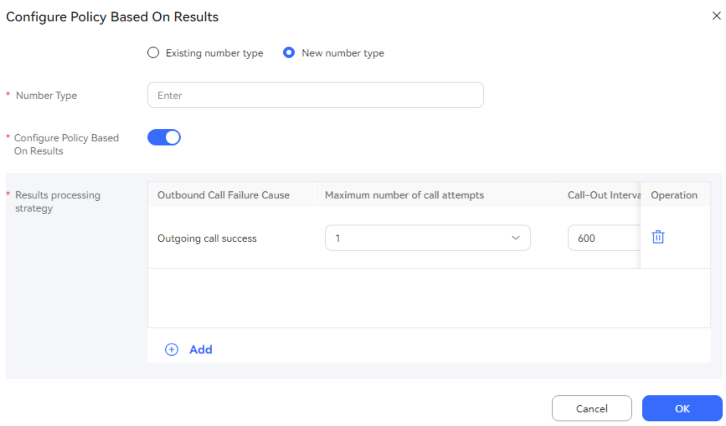
  If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

Figure 2-642 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-643 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.7.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click  corresponding to the new outbound call task.

----End

2.13.3.6 Creating Manual Outbound Call Tasks

In a manual outbound call task, an agent in a specified skill queue manually locks an outbound call task and executes the outbound call. This task applies to the scenarios with flexible scripts and agent service time.

Prerequisites

- The platform role of a user account is agent.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue exists. For details about the configuration method, see **2.3.1.1 Maintaining a Tenant Space Skill Queue**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to

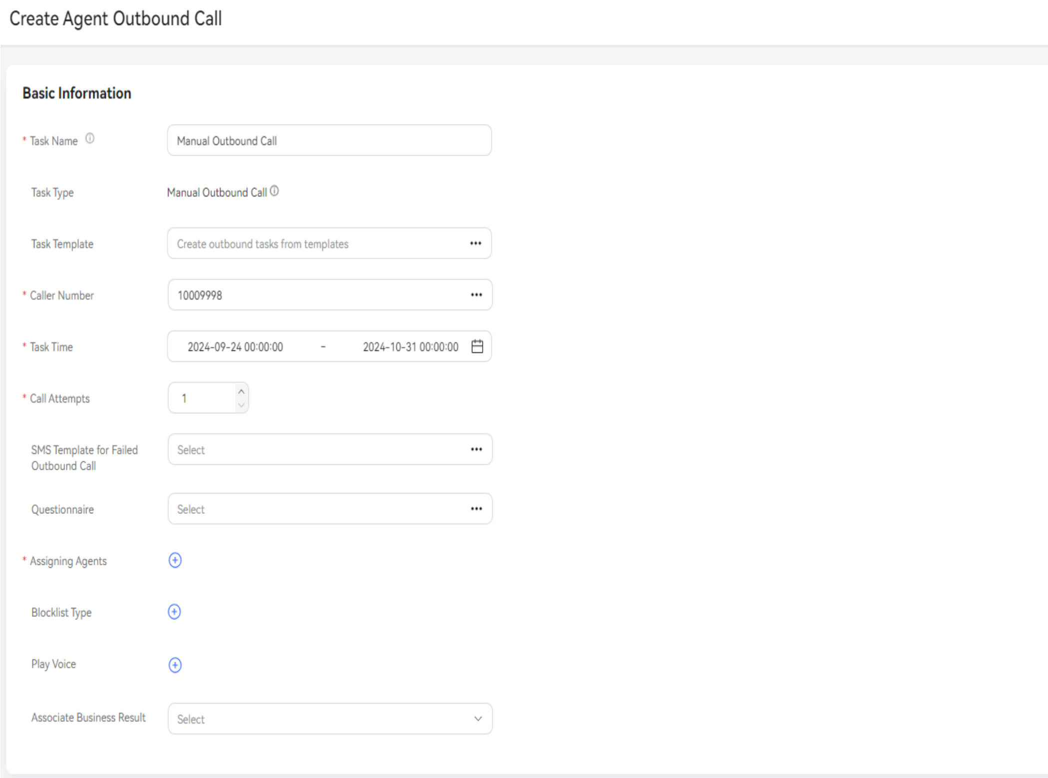
configure an SMS notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and choose **Manual Outbound Call**.

Figure 2-644 Create Agent Outbound Call



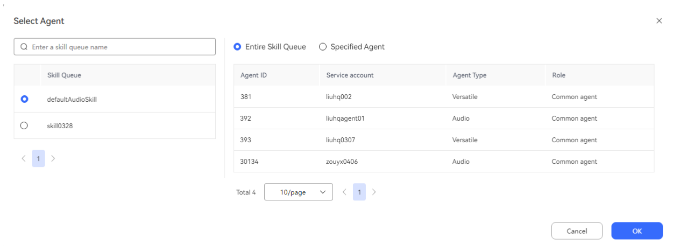
NOTE

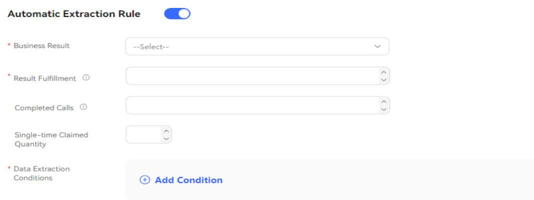
- You can select a survey based on the version number.
- For an outbound call task created using a template, the task type cannot be changed. Determine the outbound call task template type before creating an outbound call task.

Step 3 Configure manual outbound call task information.

Table 2-178 Manual outbound call task parameters

Parameter	Description
Basic Information	
Task Name	Task name, which is customized. This parameter is mandatory. The value can contain a maximum of 100 characters.

Parameter	Description
Caller Number	Calling number of the outbound call task. This parameter is mandatory. Multiple calling numbers can be selected. The options are all access codes of the tenant space.
Call Attempts	Maximum number of call attempts. This parameter is mandatory. A failed call can be manually initiated again. When the number of call attempts reaches the maximum, unless the call is successful, the call cannot be initiated again. The value ranges from 1 to 6.
SMS Template for Failed Outbound Call	Content of the SMS notification sent when the outbound call task fails. This parameter is optional.
Assigning Agents	Click to select agents in an associated voice skill queue to execute the outbound call task. If you select **Specified Agent**, you can specify one or more agents. Otherwise, all agents in the skill queue are selected. 
Blocklist Type	If a blocklist category is selected, all numbers in this type are not called within the specified period.
Play Voice	Select the corresponding voice resources to relieve the user's waiting anxiety during a call. **Play Voice**: The options are prompt tones configured on the **Configuration Center** > **Resource Management** > **Audio and Video Resource Management** page. A maximum of 10 prompt tones can be selected.
Associate Business Result	After you associate a task with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed.
Automatic Extraction Rule	

Parameter	Description
	Whether to enable the automatic extraction rule. After the automatic extraction rule is enabled, a specified agent can click the extraction button during a manual outbound call. 10 outbound call records that meet criteria are automatically extracted each time. 
Restrictions	
Business Result	Select a configured business result.
Result Fulfillment	Number of calls marked with the selected business result in the current task. The value is a positive integer.
Completed Calls	Number of calls that need to be made before the outbound call task is complete. The value ranges from 1 to 100000.
Single-time Claimed Quantity	Number of outbound call records extracted each time before the outbound call task is complete. The value is a positive integer.
Data Extraction Conditions	
Add Condition	Select **And** or **Or**. ● **And**: All conditions must be met. ● **Or**: Any one of the conditions is met.
Add Subcondition	Add a subcondition as an additional condition.

Step 4 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 5 Click **Save**.

Step 6 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.7.1 Configuring Outbound Call Data**.

Step 7 Return to the **Call Mgmt** page and click  corresponding to the new outbound call task.

----End

Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, you can perform the following operations:

- Click **Edit** to modify an outbound call task.

To view the task result, you can click a task to access the outbound call task details page and view the outbound call result of each customer.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Play** to play the recording of a completed call.
- Click  to export the task result.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

2.13.3.7 Configuring an Outbound Call Task

After an outbound call task is created, you need to configure outbound call data for the task so that the task can be executed properly. Manual outbound call tasks support the configuration of reserved outbound calls.

2.13.3.7.1 Configuring Outbound Call Data

Outbound call data is customer numbers to be called in outbound call tasks. You can configure customer numbers one by one or import them in batches based on the number of customers.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 If batch information is not configured for an outbound call task, click 

to create a batch. Enter a batch name and click 

.

Step 3 Click **Pending Calls**.

Table 2-179 Batch data parameters

Parameter	Description
Customer ID	Unique ID of a customer. If multiple available numbers are configured for a customer ID, the system considers the call complete as long as any number is called successfully, and will not call other numbers.
Customer Number	Customer number, whose format is restricted by the tenant parameters **Minimum length of outbound customer number**, **Maximum length of outbound customer number**, **The begin digits of the customer number**, **International Crown Code**, and **International area code**. These tenant parameters are set under **Configuration Center** > **System Management** > **Tenant Parameter**.
Available Calls	Number of available numbers of a customer ID.
Operation	Operations that can be performed. ● **Edit** ● **Delete**

Step 4 (Optional) Click **Set Attributes** and configure attributes by referring to **Configuring Outbound Call Data Attributes**.

Step 5 Configure outbound call data.

Select a data configuration method and configure outbound call data as required by referring to **Adding Outbound Call Data Records One by One**, **Importing Outbound Call Data**, **Adding Outbound Call Data Through Scheduled Import**, or **Importing Outbound Call Data to Multiple Tasks Through a Task Group**.

Step 6 (Optional) Click **Details** corresponding to the configured outbound call data record to view details about the outbound call data. Click **Modify** to modify configuration items other than **Customer ID**. Click **Delete** to delete the configured outbound call data record. Select multiple outbound call data records and click **Delete** on the top to delete them in batches.

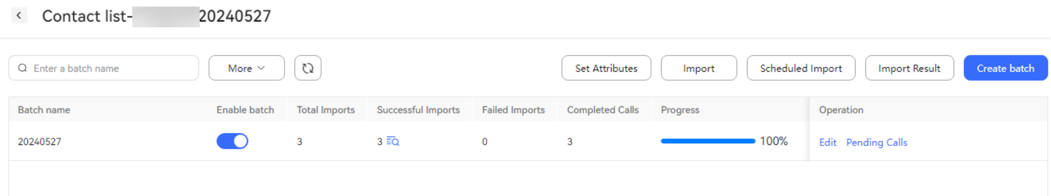
----End

Configuring Outbound Call Data Attributes

Step 1 Choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Contact list** corresponding to an outbound call task in the **Draft** state.

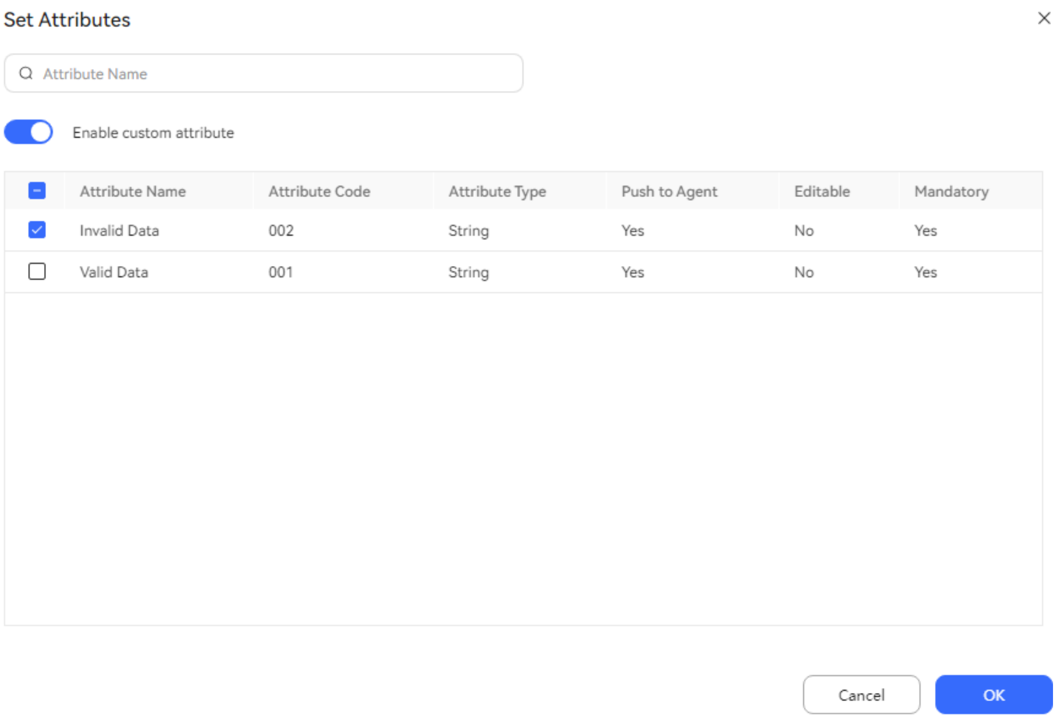
Figure 2-645 Batch management



Step 3 Click **Set Attributes**.

1. By default, all defined outbound call data attributes are displayed. For details about how to configure customized attributes, see **2.13.2.4 Defining Outbound Call Data Attributes**.
2. Click to enable **Enable custom attribute**.
3. Select the attributes to be configured as required.

Figure 2-646 Set Attributes



NOTE

- If **Enable custom attribute** is disabled, attributes do not need to be configured for the outbound call data.
- If **Enable custom attribute** is enabled but no attribute is selected, attributes whose **Mandatory** is **Yes** need to be configured for the outbound call data.
- If **Enable custom attribute** is enabled and attributes are selected, the selected attributes need to be configured for the outbound call data.
- It is recommended that the value of an attribute contain only digits and letters. If other formats need to be supported, configure the connection string by referring to "Commissioning the Intelligent Outbound Call Business > Configuring an ApLogic Data Source" in the commissioning guide.

Step 4 Click **OK**.

NOTE

The outbound call data attributes configured here can be displayed on the outbound call result page.

----End

NOTE

If you choose to import outbound call data by using a template, you need to disable **Enable custom attribute** first. In this mode, customized attributes cannot be configured for outbound call data.

Importing Outbound Call Data

Step 1 Choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Contact list** corresponding to an outbound call task in the **Draft** state.

Step 3 Click **Import** and set import parameters.

Figure 2-647 Import

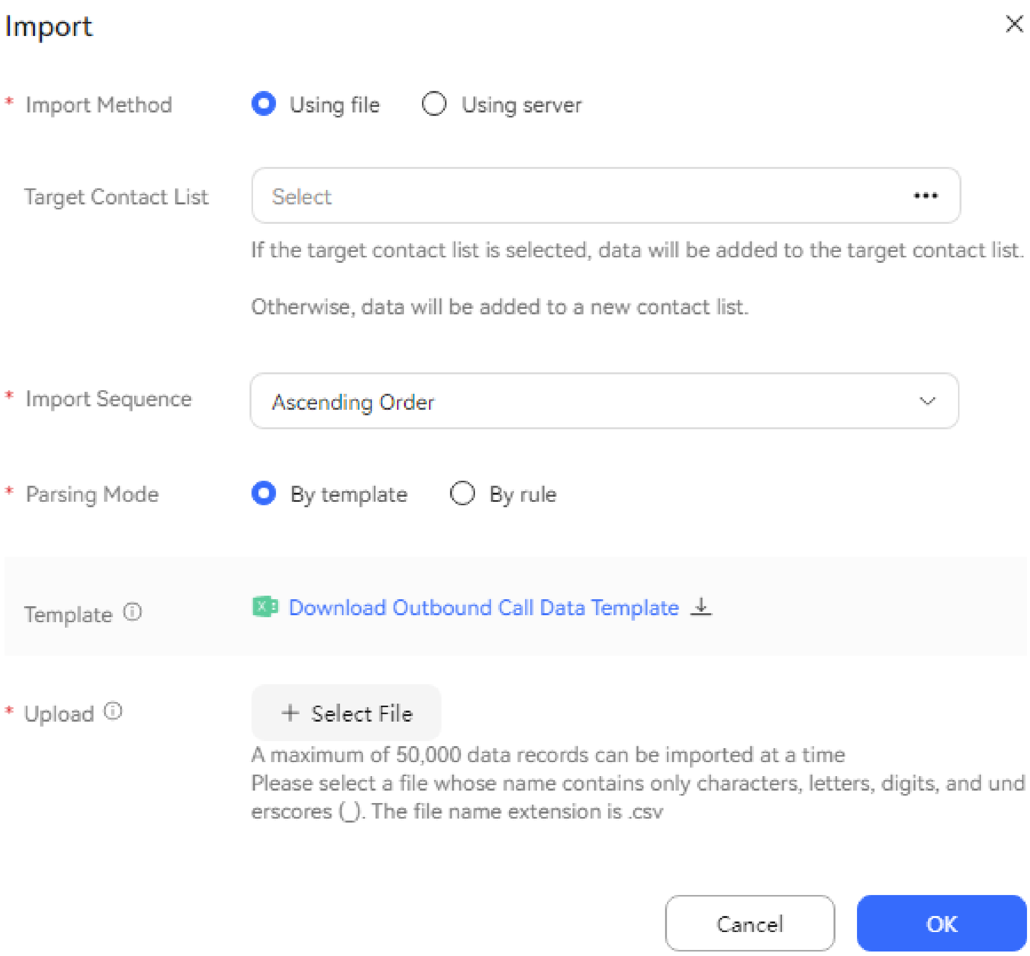


Table 2-180 Parameters for importing outbound call data

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Import Method</td><td>File import mode.
The options are as follows:
● Using file: Upload an outbound call data file from the local PC.
● Using server: Upload an outbound call data file from a remote server.</td></tr>
<tr><td>Target Contact List</td><td>Import batch. Data of an outbound call task may need to be imported for multiple times. Since different batches of data have different execution logic, batch management is required.</td></tr>
<tr><td>Import Sequence</td><td>The options are as follows:
● Ascending Order
● Descending Order</td></tr>
<tr><td>Parsing Mode</td><td>Data parsing mode.
The options are as follows:
● By template
● By rule</td></tr>
<tr><td>Download Outbound Call Data Template</td><td>Download the template when Parsing Mode is set to By template.
The outbound call data template varies depending on Outbound Call Result Policy configured for the outbound call task. The following figures show the template content.

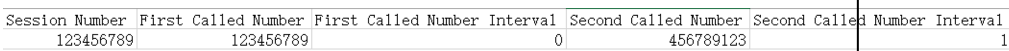
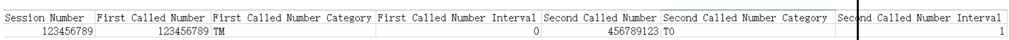
Figure 2-648 Import template for the global policy

<table><tr><th>Session Number</th><th>First Called Number</th><th>First Called Number Interval</th><th>Second Called Number</th><th>Second Called Number Interval</th></tr><tr><td>123456789</td><td>123456789</td><td>0</td><td>456789123</td><td>1</td></tr></table>

Figure 2-649 Import template for the contact policy

<table><tr><th>Session Number</th><th>First Called Number</th><th>First Called Number Category</th><th>First Called Number Interval</th><th>Second Called Number</th><th>Second Called Number Category</th><th>Second Called Number Interval</th></tr><tr><td>123456789</td><td>123456789</td><td>TM</td><td>0</td><td>456789123</td><td>TO</td><td>1</td></tr></table>
</td></tr>
<tr><td>Mapping Rule</td><td>Select a configured mapping rule when Parsing Mode is set to By rule. For details about how to configure rules, see 2.13.2.9 Importing Mapping Rules.</td></tr>
<tr><td>Upload</td><td>Click 

and select a local file. The file storage period is seven days.</td></tr>
<tr><td>Server</td><td>IP address of the server where the outbound call data file is stored when Import Method is set to Using server. For details about how to configure a server, see 2.13.2.8 Configuring an Outbound Call File Server.</td></tr>
</table>

Parameter	Description
File Address	Path of the outbound call data file on the server when **Import Method** is set to **Using server**.
File Name	Name of the outbound call data file when **Import Method** is set to **Using server**. The file name contains the file name extension.

NOTE

Set the cell format of the file to be imported to text. If you import data using a file, a maximum of 50,000 records can be imported at a time. If you import data using a server, a maximum of 500,000 records can be imported at a time. It is recommended that a maximum of 50,000 records be imported at a time. Otherwise, the outbound call rate may be affected.

The format of **Called Number** is restricted by the tenant parameters **Minimum length of outbound customer number**, **Maximum length of outbound customer number**, **The begin digits of the customer number**, **International Crown Code**, and **International area code**.

Step 4 In the **Import** dialog box, set the required parameters, select the file prepared in the previous step, and click **OK**.

Step 5 Click **Import Result** to view the import result, that is, the number of records that are successfully imported and that of records that fail to be imported. Click the value in the **Number of Failed Records** column to download and view failed outbound call data, and click the value in the **Number of Duplicate Records** column to download and view duplicate outbound call data.

Possible causes of import failures: number of numbers exceeding the maximum, incorrect separator, empty called number, empty interval, interval exceeding the range, empty number type, nonexistent number type, and blocklisted number.

NOTE

When files are imported using a server, after the import is complete (successful or failed), the original files are moved to a new directory. The directory is created by date (the date directory is created in the default path of the outbound call file server), for example, **20230714**.

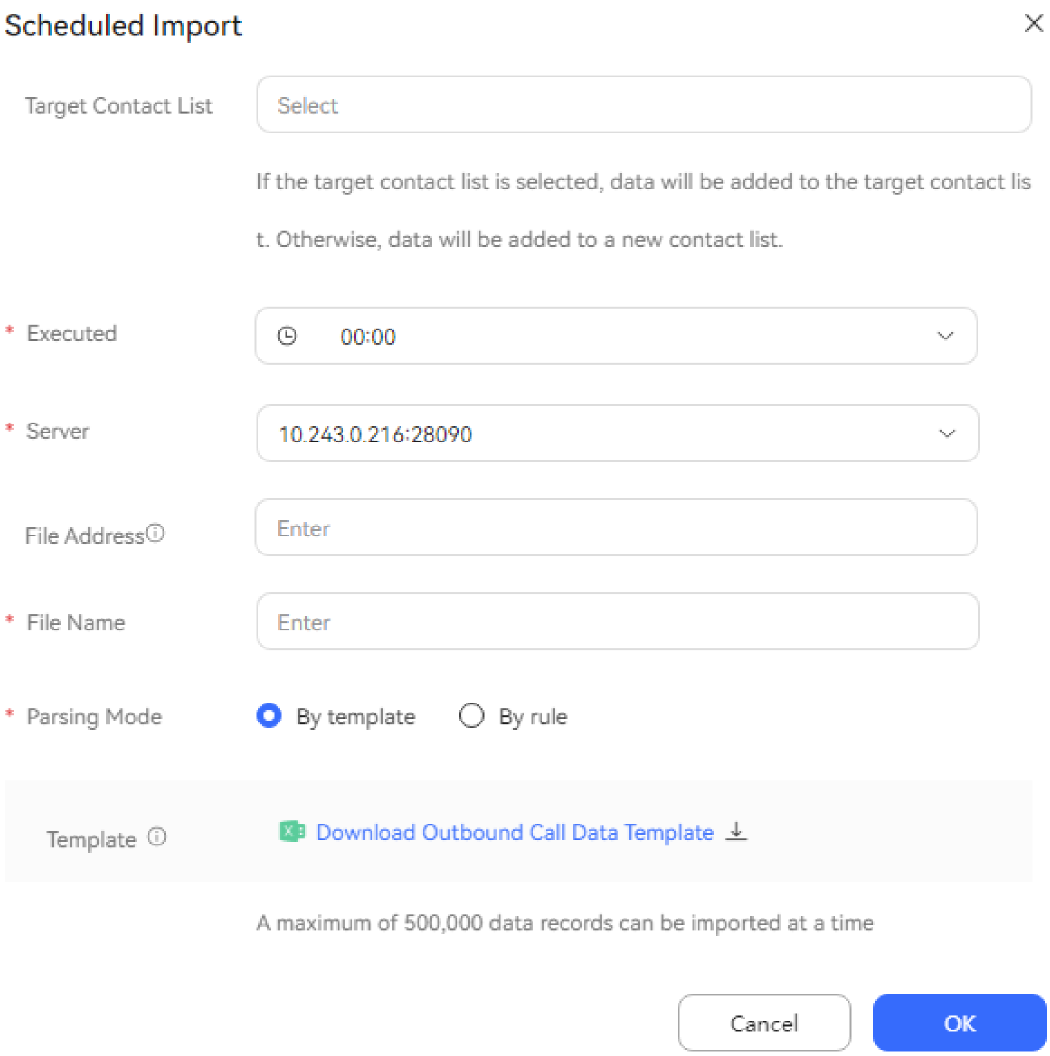
Pay attention to the disk space of the server to prevent import failures caused by full disk space.

----End

Adding Outbound Call Data Through Scheduled Import

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Contact list**. Click **Scheduled Import**.

Figure 2-650 Scheduled Import



Step 2 Click **OK**.

NOTE

When scheduled import is configured, after the import is complete (successful or failed), the original files are moved to a new directory. The directory is created by date (the date directory is created in the default path of the outbound call file server), for example, **20230714**.

Pay attention to the disk space of the server to prevent import failures caused by full disk space.

----End

Adding Outbound Call Data Records One by One

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Contact list** in the **Operation** column.

Step 2 If batch information is not configured for an outbound call task, click 

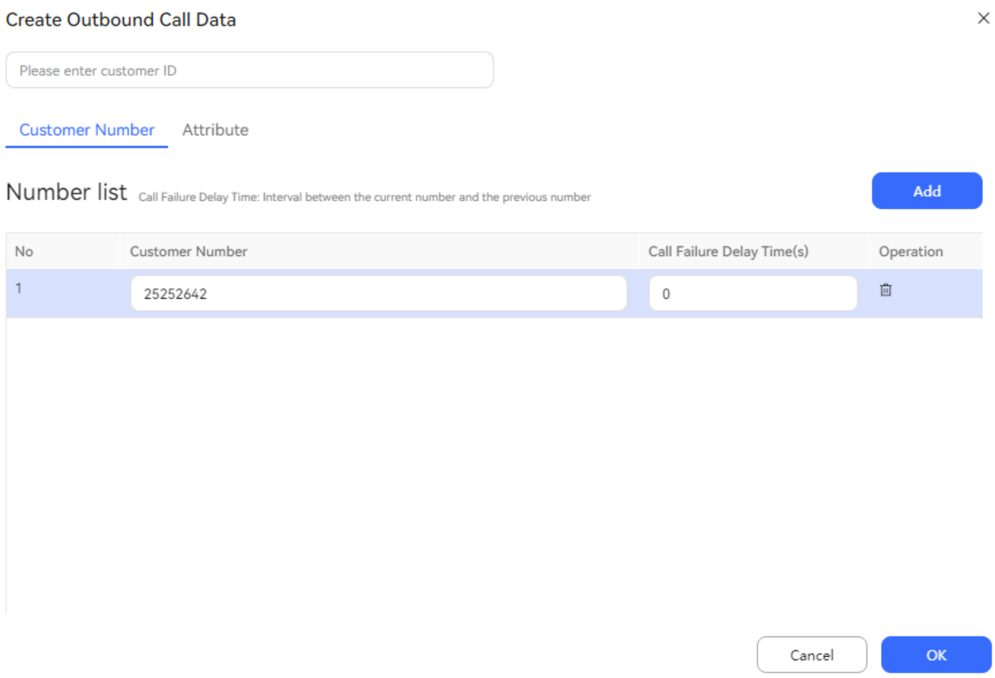
to create a batch. Enter a batch name and click 

.

Step 3 Click **Pending Calls** in the **Operation** column corresponding to the batch.

Step 4 On the batch data page, click **New**. The outbound call data configuration list is displayed, as shown in the following figure.

Figure 2-651 Create Outbound Call Data



For details about how to configure the attribute content, see **2.13.2.4 Defining Outbound Call Data Attributes**.

Step 5 Click **OK**. The message "The current number sequence is the call sequence. Please check the data again" is displayed. Click **Yes**.

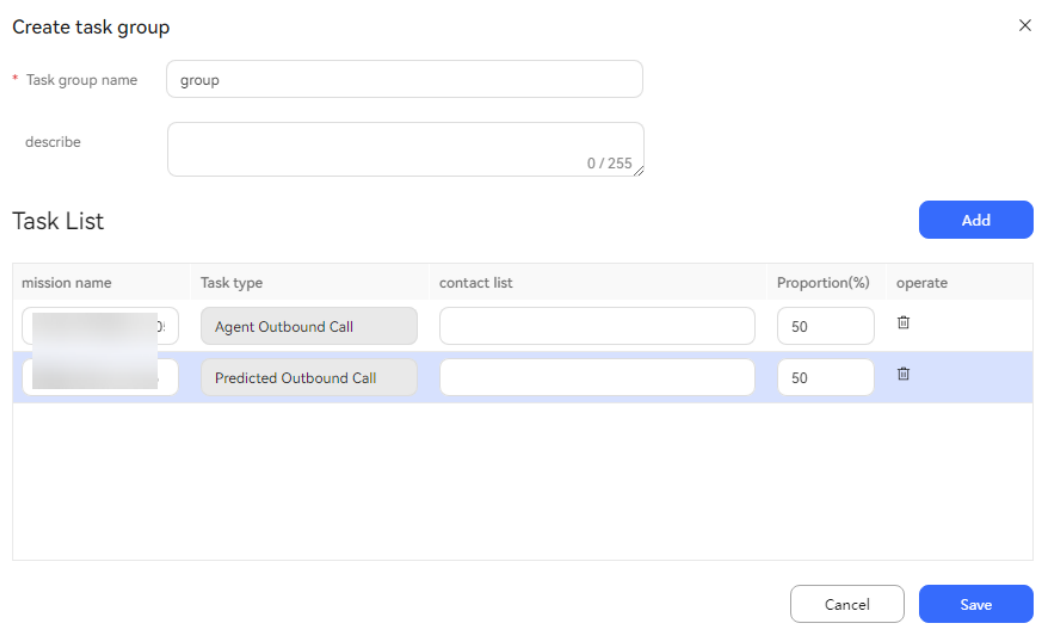
----End

Importing Outbound Call Data to Multiple Tasks Through a Task Group

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Task Group Management**.

Step 2 Click **New**.

Figure 2-652 Create task group



Step 3 Set parameters and click **Save**.

Step 4 Click **Import**. In the **Import** dialog box, download the outbound call data template, fill in the template, upload the file, and click **OK**.

----End

(Optional) Adding Watermarks

Step 1 Choose **Configuration Center** > **System Management** > **Tenant Parameter**.

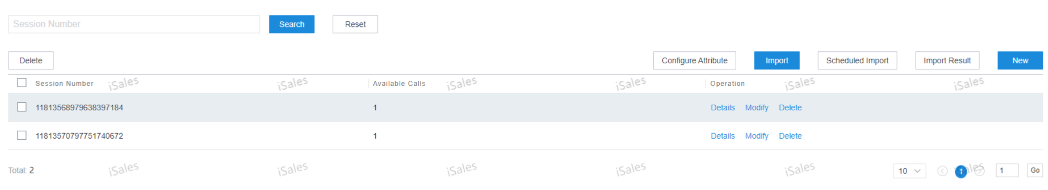
Step 2 Choose **Tenant parameters** > **Unified Public Configuration**.

Step 3 Set watermark parameters.

- **Whether to enable page watermarking**: Click **Edit**, set **Parameter Value** to **Yes**, and click **Save**.
- **Page Watermark Character**: Click **Edit**, set **Parameter Value** to the watermark to be displayed, and click **Save**.

Step 4 Choose **Outbound Call** > **Call Mgmt** and click **Contact list** corresponding to an outbound call task to go to the outbound call data management page to view the watermark effect.

Figure 2-653 Outbound call data



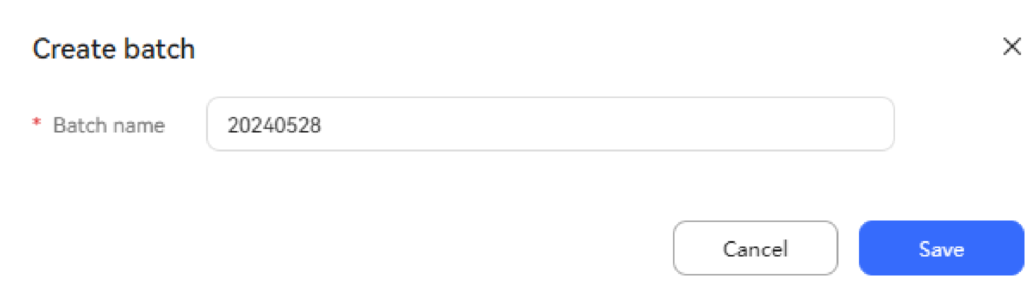
----End

Batch Management

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Contact list** in the **Operation** column.

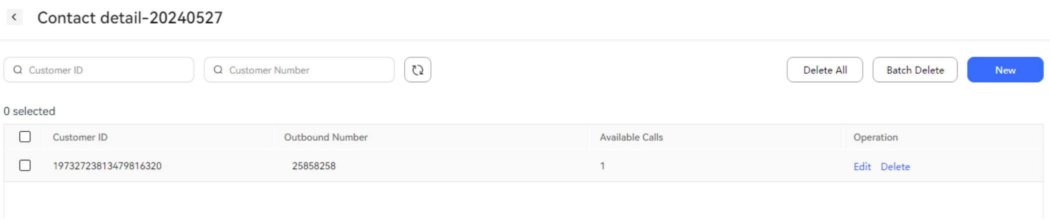
Step 2 Click **Create batch**. In the **Create batch** dialog box, enter a batch name and click **Save**.

Figure 2-654 Create batch



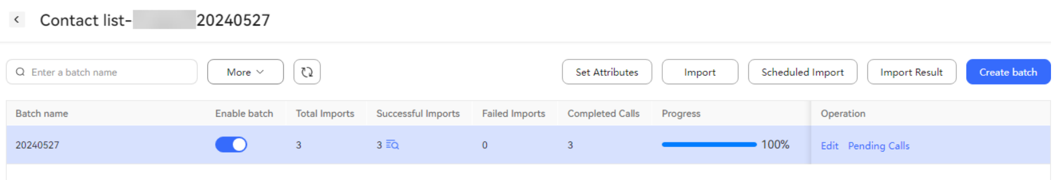
Step 3 Click **Pending Calls** corresponding to the new batch on the right. On the batch data page, you can add batch data.

Figure 2-655 Batch data



Step 4 Return to the batch management page and click  to enable the batch.

Figure 2-656 Batch management



----End

2.13.3.7.2 Viewing Reservation Details of an Outbound Call Task

A tenant administrator can view the reservation status of all outbound call tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Reservation**. View the list of reserved outbound calls associated with the current outbound call task. The following table describes the parameters in the list.

Table 2-181 Parameters in the reserved outbound call list

Parameter	Description
Customer Number	Number used for a reserved call.
Reserved Call Time	Reserved call time. If a call is not processed after the reserved time, the value of this parameter is displayed in red. If the reservation is about to expire in the next 5 minutes, it is displayed in yellow.
Initiated by	Account of the agent who makes the reserved outbound call.
Call Time Segment	Call time segment.
Status	Status of a call. ● **Pending** ● **Executing** ● **Completed**
Result	Call result. ● **Failed** ● **Successful** ● **Reject**
Failure Cause	Cause of a call failure.
Reservation Status	● **Reserved** ● **Callback** ● **Expired** ● **Completed** ● **Ready to call back**
Remarks	Remarks.
Business Result Path	Business result of a call.
Business Description	Description of a business result.
Reserved call type	● **Reservation for manual outbound calls** ● **Reserve automatic outbound calls**
Created On	Creation time.

Parameter	Description
Operation	• **Modify** • **Adjustment Record** • **Play** • **Business Result** • **Survey Result**

Step 3 Click **Query** to query desired outbound calls.

Table 2-182 Search criteria for querying reserved outbound calls

Parameter	Description
Customer Number	Customer number. Fuzzy search by suffix is supported.
Call Result	Call result. • **Failed** • **Successful** • **Reject**
Start time of a reserved call – End time of a reserved call	Start time and end time of a reserved call.
Business Result	Business result. The source is the existing business result of the tenant.

Step 4 Select multiple reservation records and click **Adjust** in the upper right corner to adjust agents in batches.

----End

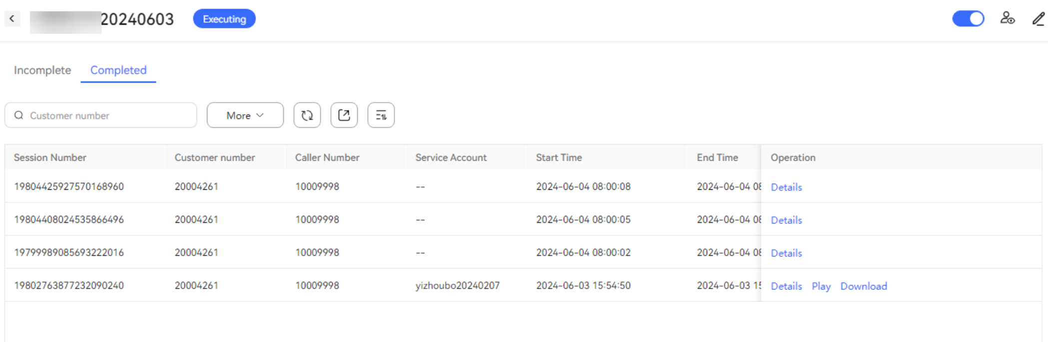
2.13.3.7.3 Viewing Outbound Call Results

Tenant administrators can view the execution results of all outbound call tasks.

Procedure

Step 1 Choose **Outbound Call** > **Call Mgmt**, click a task, and view the outbound call result of each customer on the outbound call task details page.

Figure 2-657 Outbound call results



Step 2 Click **Details** to view the call details of a called number.

Figure 2-658 Call Result Details

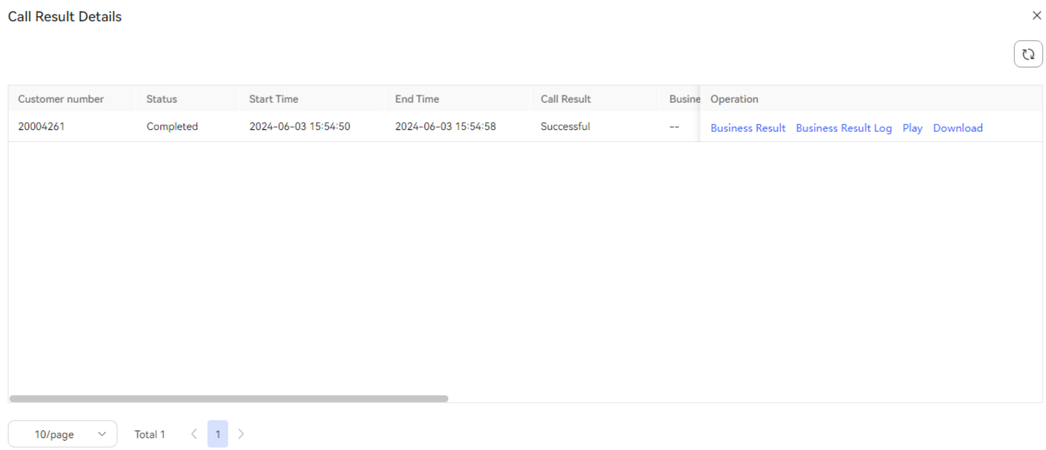


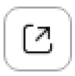
Table 2-183 Parameters in the outbound call result details list

Parameter	Description
Customer ID	Customer ID, which is created when outbound call data is created.
Customer number	Customer number.
Status	Status of a call. ● **Executing** ● **Completed**
Start Time	Time when a call starts.
End Time	Time when a call ends.
Call Attempts	Number of times that a customer number is called.

Parameter	Description
Call Result	Call result. ● **Failed** ● **Successful** ● **Reject**
Cause	Call failure cause.
Business Result Path	Business result of a call.
Business Description	Business result description.
Call ring duration	Ringing duration.
Manual call duration	Manual call duration.
IVR call duration	IVR call duration.
ACW	Wrap-up duration after a call ends.
Total call duration	Outbound call end time minus outbound call start time.
Operation	Operations that can be performed on an outbound call result. ● **Business Result** ● **Business Result Log** ● **Play** ● **Download**

NOTE

- The outbound call data attributes configured in **Configuring Outbound Call Data Attributes** are displayed next to the **Operation** column.
- **Call ring duration**, **Manual call duration**, **IVR call duration**, and **ACW** on the **Completed** tab page depend on the CC-CMS's function of importing CDRs to the database using the CCDIS. Therefore, you need to commission this function first. Otherwise, the values of these parameters are 0.

Step 3 Click a task, click the **Completed** tab, and click  to export task results.

----End

Follow-up Procedure

Watermarks can be displayed on the outbound call task result page.

Step 1 Choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 2 Choose **Tenant parameters** > **Unified Public Configuration**.

Step 3 Set watermark parameters.

- **Whether to enable page watermarking**: Click **Edit**, set **Parameter Value** to **Yes**, and click **Save**.
- **Page Watermark Character**: Click **Edit**, set **Parameter Value** to the watermark to be displayed, and click **Save**.

Step 4 Choose **Outbound Call** > **Call Mgmt** and view the watermark effect.

----End

2.13.3.7.4 Viewing Survey Statistics

Tenant administrators can view survey answer statistics.

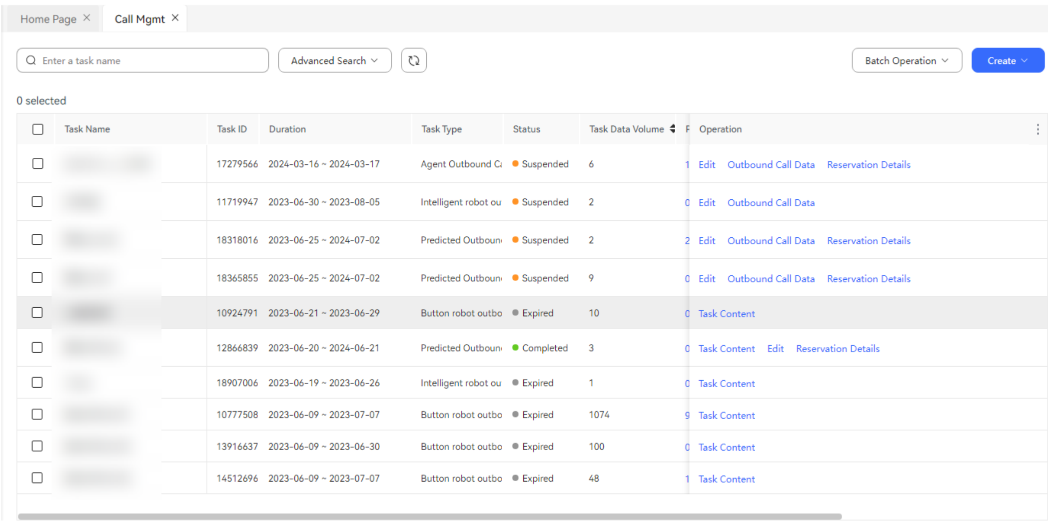
Prerequisites

- A survey has been configured for an outbound call task.
- An outbound call task is not in the draft state.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Figure 2-659 Task management page



Step 2 Select an outbound call task that is being executed or has been completed, and click **Respondent Statistics**.

----End

2.13.3.8 Managing Outbound Call Tasks in Batches

When there are a large number of outbound call tasks, a tenant administrator can handle outbound call tasks in batches.

The following batch operations can be performed on outbound call tasks:

- **Batch Start**

  Only outbound call tasks in **Draft** or **Suspended** state can be started in batches.
- **Batch Suspend**

  Only outbound call tasks in the **Executing** or **Completed** state can be suspended in batches.
- **Batch Modify Basic Information**

  This operation will change the basic information of the selected tasks to the same content. Exercise caution when performing this operation. The following information can be modified:
  – Basic information: **Caller Number**, **Start Time**, **End Time**, and **SMS Template for Failed Outbound Call**
  – Automatic extraction rule: If the selected tasks contain manual outbound call tasks, the rule content can be modified.
  – Common parameters: If the selected outbound call tasks are of different types, only common parameters can be modified.

  NOTE

  The manual outbound call task and the key chatbot outbound call task cannot be modified at the same time.
- **Batch Change Outbound Call Time**

  This operation is not supported if the selected tasks contain manual outbound call tasks.
- **Batch Modify Outbound Call Policy**
  – This operation is not supported if the selected tasks contain manual outbound call tasks.
  – Only outbound call tasks of the same type can be modified in batches.
- **Batch Modify Outbound Call Logic**
  – This operation is not supported if the selected tasks contain manual outbound call tasks.
  – Only outbound call tasks of the same type can be modified in batches.
  – Business result policies cannot be configured for key chatbot outbound call tasks and intelligent chatbot outbound call task.
  – Only outbound call tasks with the same outbound call mode in **CALL POLICY** can be modified in batches.
  – Only outbound call tasks with the same policy type in **OUTBOUND CALL RESULT POLICY** can be modified in batches.

2.13.4 Managing Multimedia Marketing

Enterprises often proactively conduct businesses, such as SMS return visits and email push, to maintain customer relationships, improve customer satisfaction, or seek business opportunities.

The AICC provides a multimedia marketing platform for enterprises and supports the following marketing modes.

Table 2-184 Multimedia marketing modes

Task Type	Agent Participation (Yes/No)	Application Scenario	Advantages
SMS marketing task	No	Activities such as SMS return visit and marketing.	This method is cost-effective, because agent participation is not required.
Email marketing task	No	Activities such as email promotion, notification, and return visit.	This method is cost-effective, because agent participation is not required.
WhatsApp marketing task	No	WhatsApp promotional activities and WhatsApp channel notifications.	This method is cost-effective, because agent participation is not required.

You can create and manage multimedia marketing tasks for target customers.

2.13.4.1 Configuring Multimedia Marketing Tasks

Multimedia marketing tasks support SMS marketing and email marketing. Tenant administrators can configure multimedia marketing tasks as required.

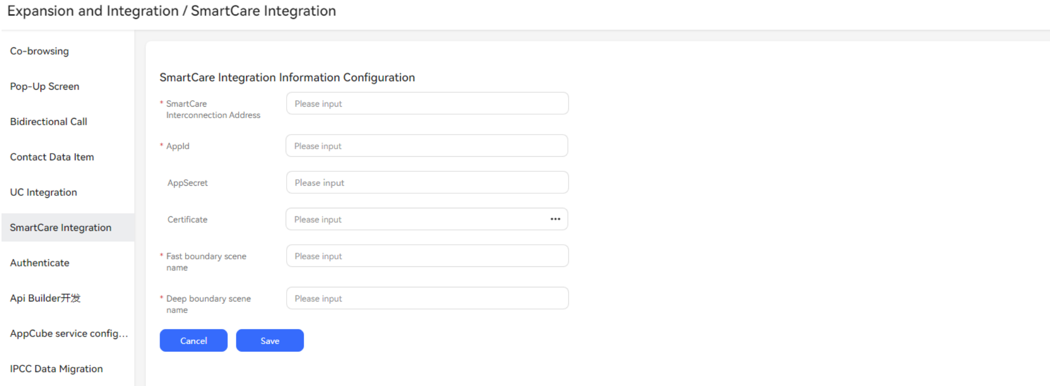
Prerequisites

- The **Intelligent Outbound Call**, **SMS Marketing**, **Email Marketing**, **WhatsApp Marketing**, and **SmartCare** features have been enabled for the tenant space.
- To use the care task function, you have contacted the system administrator to add the SmartCare interconnection address on the **Call Center** > **Address Trustlist** page.

Procedure

Step 1 (Optional) Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **SmartCare Integration**, and configure SmartCare integration information. If the care task function is not required, skip this step.

Figure 2-660 Configuring SmartCare integration information

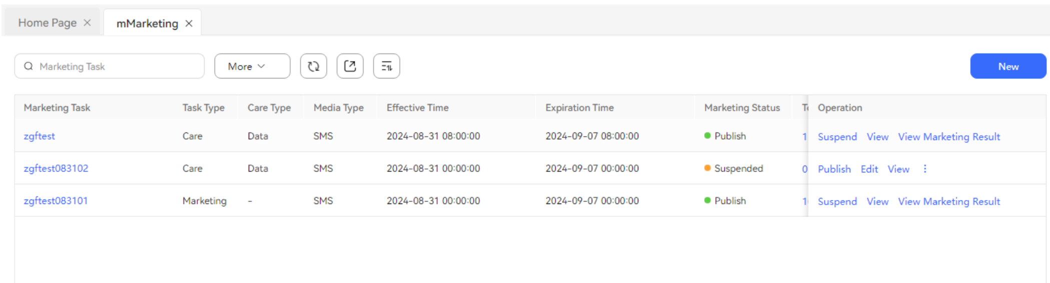


1. **SmartCare Interconnection Address**: Contact Huawei O&M personnel to obtain the address, and contact the system administrator to add the address to the trustlist on the **Call Center** > **Address Trustlist** page.
2. **AppId**: Contact Huawei O&M personnel to obtain the value.
3. **AppSecret**: Contact Huawei O&M personnel to obtain the value.
4. **Certificate**: Contact the system administrator to upload the certificate to **Configuration Center** > **System Management** > **Certificate**.

Step 2 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 3 View the created multimedia marketing tasks in the list.

Figure 2-661 mMarketing



Step 4 Click **New**. On the **Create Multimedia Marketing Task** page, configure marketing task information.

Figure 2-662 Basic Information

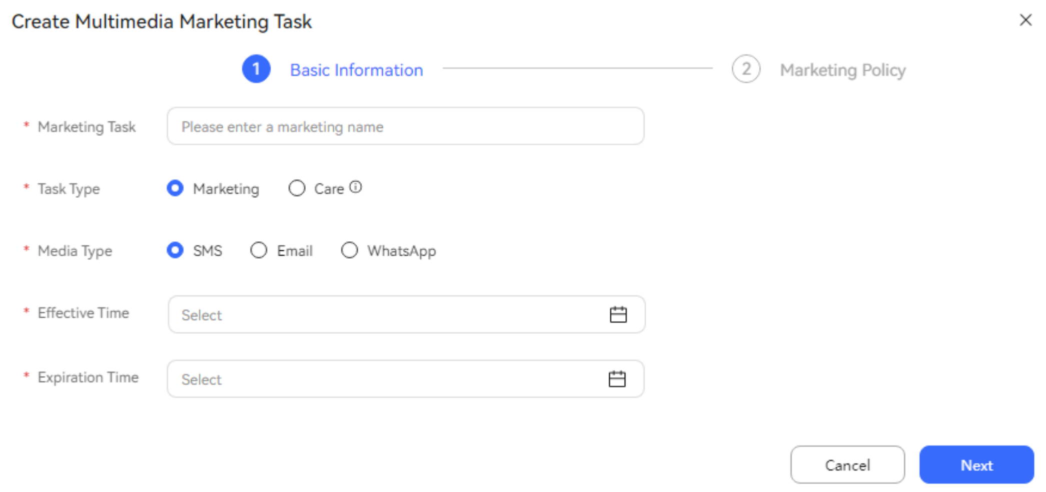
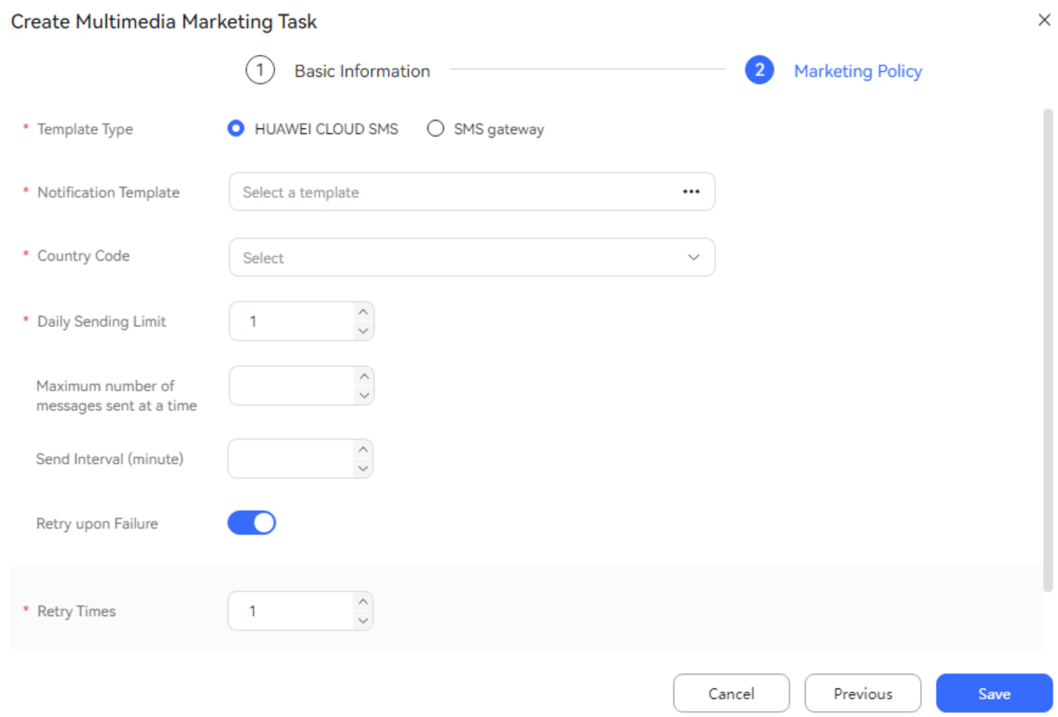


Figure 2-663 Marketing Policy



Task Type: The options are **Marketing** and **Care**. In a care task, an agent needs to call a customer back who intends to make a complaint to pacify the customer and improve customer satisfaction. The **SmartCare** feature must be enabled for care tasks. Care task data is imported through scheduled tasks in the background. A tenant space can publish only one voice scenario–based care task and one data scenario–based care task.

The supported media types of multimedia tasks are as follows:

- **SMS**: Marketing campaigns are carried out by SMS message. The notification template can be a Huawei Cloud SMS message template or SMS gateway message template.

- For details about how to configure a marketing notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
- To use an SMS gateway message template, you need to configure a gateway. For details about how to configure a gateway, see **2.11.3.1 Configuring SMS Gateways**.
- By default, the country codes of China and Brazil are available. To add a country code, configure the dictionary value.

  The configuration method is as follows:

```
DELETE FROM SYS_DATADICT_ITEM WHERE rel_id = '88001202102081808';
INSERT INTO SYS_DATADICT_ITEM (rel_id, dict_code, item_code, item_name, be_code, order_no,
description, oper_id, oper_time, oper_org_id, ext1, ext2, ext3, ext4, ext5, be_id) VALUES
('88001202102081808', 'CCN.COUNTRY_CODE', '+55', 'Brazil', '101', '2', null, '101', null, '101',
null, null, null, null, null, null)
DELETE FROM SYS_DATADICT_ITEM_LANG WHERE rel_id = '880012021020818080l';
INSERT INTO SYS_DATADICT_ITEM_LANG (rel_id, item_rel_id, locale, item_name, be_id) VALUES
('8800120210208180801', '88001202102081808', 'en_US', 'Brazil', null);
DELETE FROM SYS_DATADICT_ITEM_LANG WHERE rel_id = '8800120210208180802';
INSERT INTO SYS_DATADICT_ITEM_LANG (rel_id, item_rel_id, locale, item_name, be_id) VALUES
('8800120210208180802', '88001202102081808', 'en_US', 'Brazil', null);
```

  In the preceding information, **88001202102081808** is the customized dictionary value ID. **8800120210208180801** and **8800120210208180801** are the customized dictionary internationalization IDs. **Brazil**, **+55**, and **2** are the customized country name, country code, and sequence number, respectively.

  After the configuration, restart the SUMApp for the configuration to take effect.

- **Email**: Marketing activities are carried out by email.
  - For details about how to configure a marketing notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
  - For details about how to configure a gateway, see **2.11.3.1 Configuring SMS Gateways**.
- **WhatsApp**
  - For details about how to configure the WhatsApp channel, see **2.5.8 Configuring the WhatsApp Channel**.
  - For details about how to configure a WhatsApp template message, see **2.3.2.10 Managing the Multimedia Library**.

Step 5 Click **Save**. The multimedia marketing task is created successfully.

Step 6 Return to the **mMarketing** tab page and click **Import Data** to import data.

Step 7 Return to the **mMarketing** tab page and click **Publish** to publish the marketing task.

Step 8 Click to export multimedia marketing tasks. A maximum of 100,000 records can be exported.

----End

Follow-up Procedure

To modify a multimedia marketing task, click **Suspend** to suspend it.

After the task is suspended, you can perform the following operations:

- Click **Edit** to modify the multimedia marketing task.
- Click **Delete** to delete the multimedia marketing task.
- Click **Import Data** to import data.
- Click **View Marketing Result** to view the execution result of the multimedia marketing task.

2.13.4.2 Configuring Multimedia Marketing Data

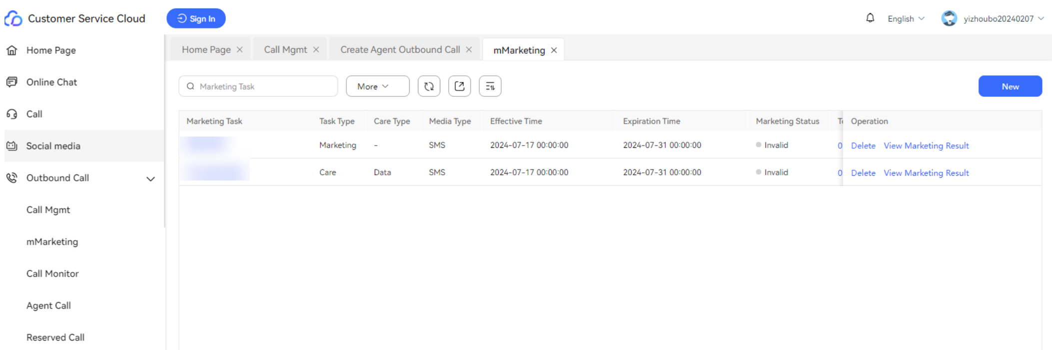
Marketing data of multimedia marketing tasks can be added one by one or imported in batches. Data of the multimedia marketing tasks of the care type is imported by obtaining poor-QoE users from the SmartCare system through scheduled tasks.

Importing Marketing Data in Batches

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 2 If the marketing activity is in draft or suspended state, click **Import Data**. You can import data by file or by server.

Figure 2-664 Multimedia data import page



If you select the import mode using a template, click **Download Marketing Data Template**. The following figure shows the preconfigured template. Add marketing data by row in the template.

If you select the import mode using a rule, the file is imported based on the configured rule.

Figure 2-665 SMS import template

Recipient number	Name	Sex
123456789	123456	Male

Figure 2-666 Email import template

Email Address	Name
xxx@xxx.com	123456

NOTE

Set the cell format of the imported file to text. If you import data using a file, a maximum of 10,000 records can be imported at a time. If you import data using a server, a maximum of 500,000 records can be imported at a time. It is recommended that a maximum of 50,000 records be imported at a time. Otherwise, the outbound call rate may be affected.

When the template selected for a marketing task has variables, the template to be imported has the corresponding variables.

The format of **Recipient number** is restricted by the tenant parameters **Minimum length of outbound customer number**, **Maximum length of outbound customer number**, **The begin digits of the customer number**, **International Crown Code**, and **International area code**. These parameters are set under **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 3 In the **Import Marketing Data** dialog box, set the required parameters, select the file prepared in the previous step, and click **OK**.

Step 4 Click **Import Result** to view the import result, that is, the numbers of records that are successfully imported and that fail to be imported. Click the value in the **Number of Failed Records** column to download and view the failed outbound call data, and click the value in the **Number of Duplicate Records** column to download and view the duplicate outbound call data.

----End

Adding Marketing Data Records One by One

Step 1 Choose **Outbound Call** > **mMarketing** and click **Import Data** in the **Operation** column.

Step 2 Click **Add** and enter the recipient number in the text box. Click **Set Variable** in the **Operation** column and set the variable.

Figure 2-667 Page for adding the multimedia marketing data

Step 3 Click **Save**.

Step 4 (Optional) Click **Edit** to change the recipient number, and reconfigure the variable for the configured multimedia marketing data.

----End

Importing Marketing Data Using Scheduled Tasks (Multimedia Marketing Tasks of the Care Type)

Step 1 Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **SmartCare** feature for the tenant space.

Step 2 Sign in to the AICC as a tenant administrator, choose **Outbound Call** > **mMarketing**, and create a multimedia marketing task of the care type. For details, see **2.13.4.1 Configuring Multimedia Marketing Tasks**.

Step 3 Click **View** in the **Operation** column of the multimedia marketing task of the care type to view the poor-QoE data imported by scheduled tasks.

NOTE

The number of poor-QoE customers (including customers in data and voice scenarios) obtained every day is restricted by the system parameter **Maximum number of caring users**. Modification to this parameter does not take effect immediately. Wait for 1 hour.

Step 4 Select a recipient number and click **Delete** to delete the number. Click **Edit** to modify the recipient number.

----End

2.13.4.3 Viewing Multimedia Marketing Results

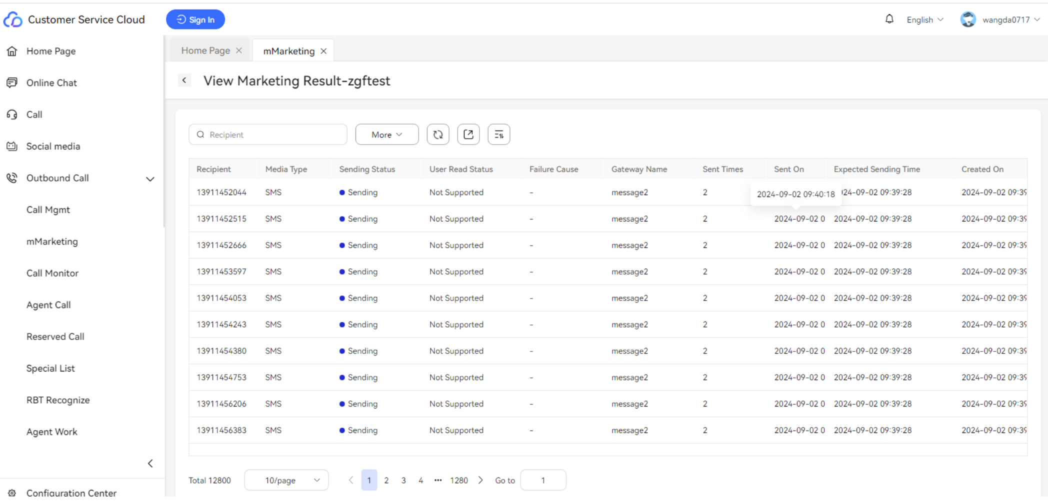
An agent can view the result of a single multimedia marketing task on the iSales task list page.

Procedure

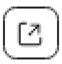
Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 2 Click **View Marketing Result**.

Figure 2-668 Multimedia marketing result page



You can perform a search as follows:

1. By sending status: Select a sending status and click **Search**.
2. By time: Set the start time and end time, and click **Search**.
3. By recipient: Enter a recipient number or email address, and press **Enter**.
4. Click  to export multimedia marketing results. A maximum of 100,000 records can be exported.

NOTE

The start time cannot be later than the current time. Data created within a maximum of three months can be queried. By default, data created within one month is queried.

----End

2.13.5 Managing Outbound Call Task Reports

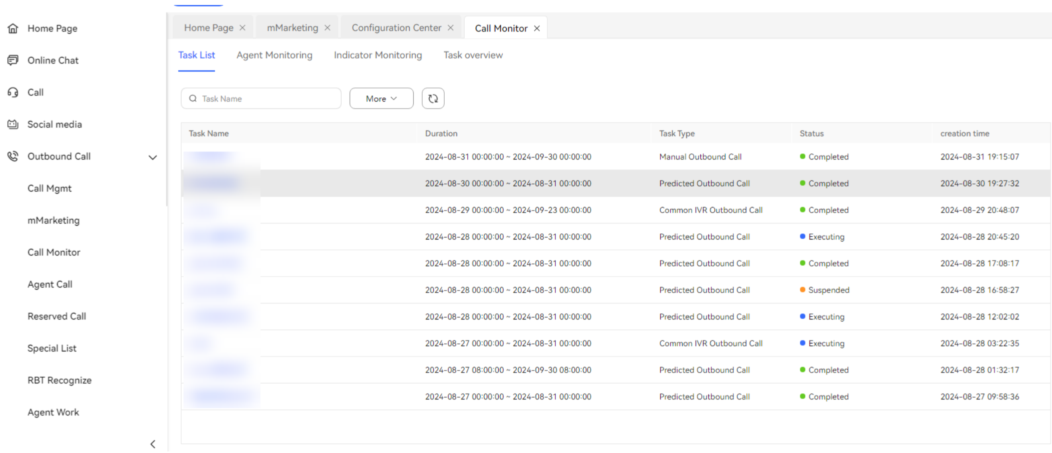
2.13.5.1 Outbound Call Task Monitoring Report

The outbound call task monitoring data can be displayed in reports so that administrators can track the execution of outbound call tasks promptly.

Procedure

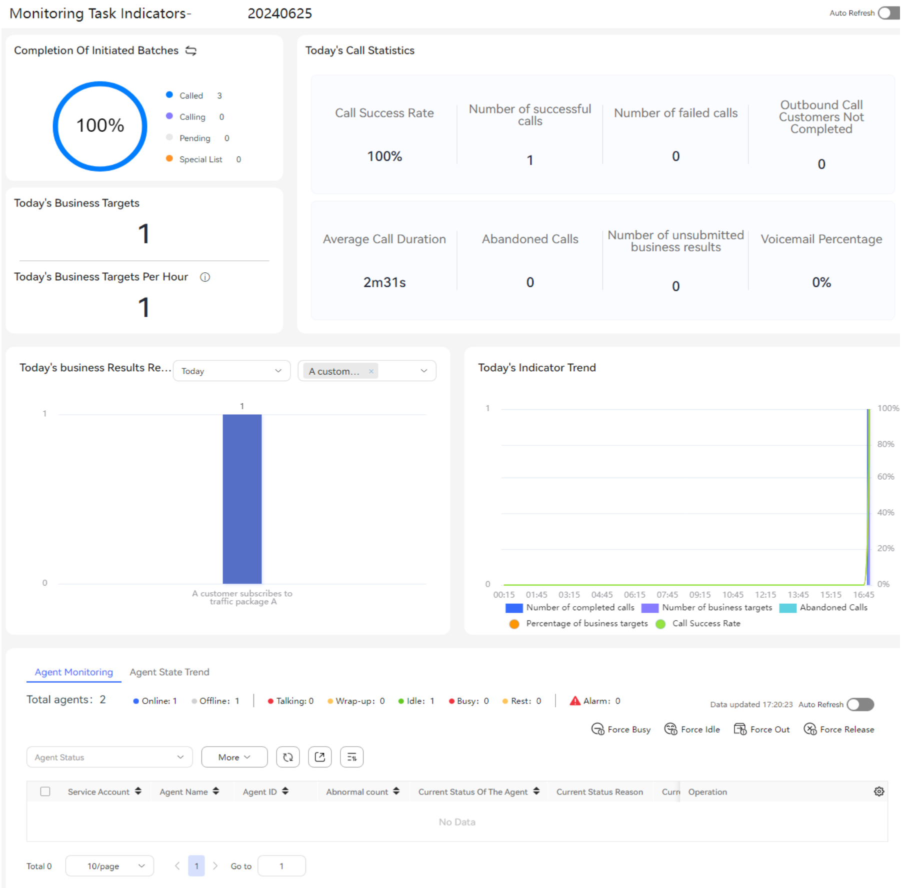
Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Monitor**.

Figure 2-669 Call Monitor



Step 2 Click an outbound call task to access the **Monitoring Task Indicators** page.

Figure 2-670 Monitoring Task Indicators



- In **Completeness Of All Batches** or **Completion Of Initiated Batches**, view statistics on the completion status of the outbound call task, including the number of completed calls, number of uncompleted calls, number of pending calls, and number of records in the special list.
- In **Today's Business Targets**, view the number of calls that are completed on the current day with their business results marked as **Business Target**.
- In **Today's Business Targets Per Hour**, view the number of today's calls that have achieved the business target per hour, which is calculated as follows: Number of today's calls that have achieved the business target/Number of valid outbound call hours.
- In **Today's Call Statistics**, view the data of **Call Completion Rate**, **Number of successful calls**, **Number of failed calls**, **Outbound Call Customers Not Completed**, **Average Call Duration**, **Abandoned Calls**, **Number of unsubmitted business results**, and **Voicemail Percentage**.

Table 2-185 Indicators in the Today's Call Statistics area

Indicator	Description
Call Completion Rate	The formula is as follows: Number of successful calls/(Number of successful calls + Number of failed calls).

Indicator	Description
Number of successful calls	Number of completed and uncompleted calls that are successful on the current day.
Number of failed calls	Number of completed and uncompleted calls that fail on the current day. **After a reserved manual outbound call made to a customer fails, if another call attempt is made and fails again, only one failure record is counted.**
Outbound Call Customers Not Completed	Number of uncompleted calls.
Average Call Duration	Average call duration.
Abandoned Calls	Number of calls that customers hang up when waiting in skill queues.
Number of unsubmitted business results	Number of completed outbound calls, uncompleted outbound calls, and reserved manual outbound calls that are successful and not marked with business results on the current day.
Voicemail Percentage	The formula is as follows: Number of outbound calls that are transferred to the voice mailbox/ (Number of successful outbound calls + Number of failed outbound calls).

- In **Today's business Results Report**, view the details of business results marked for outbound calls in the outbound call task in a specified time range.
- In **Today's Indicator Trend**, view the trends of 15-minute indicators of the outbound call task on the current day, including **Number of completed calls**, **Number of business targets**, **Abandoned Calls**, **Percentage of business targets**, and **Call Success Rate**.

Table 2-186 Indicators in the Today's Indicator Trend area

Indicator	Description
Number of completed calls	The formula is as follows: Number of completed outbound calls + Number of uncompleted outbound calls + Number of completed reserved manual outbound calls.
Number of business targets	Number of completed outbound calls, uncompleted outbound calls, and reserved manual outbound calls that are successful and whose business results are marked as **Business Target**.
Abandoned Calls	Number of calls that are hung up when waiting in skill queues.

Indicator	Description
Percentage of business targets	The formula is as follows: Number of calls that have achieved the business target/Number of successful outbound calls.
Call Completion Rate	The formula is as follows: Number of successful outbound calls/Number of outbound calls.

- On the **Agent Monitoring** tab page, view the current status and status duration of all agents in the tenant space.
  - An inspector can perform real-time inspection operations on a specific agent, including **Screen QC**, **Force Busy**, **Force Idle**, **Force Out**, and **Force Release**.
  - When the **Online Chat** and **Intelligent Outbound Call** features are enabled for the current tenant, a supervisor can click **Chat** corresponding to an agent and send an instant message to the agent, as shown in **Figure 2-671**. The agent receives a screen pop-up as shown in **Figure 2-672**, and can click  in the lower right corner of the page to view the session list. To use this function, an agent needs to contact the tenant administrator to grant the **Message Sending** permission. The tenant administrator has this permission by default.

Figure 2-671 Instant message sent by a supervisor

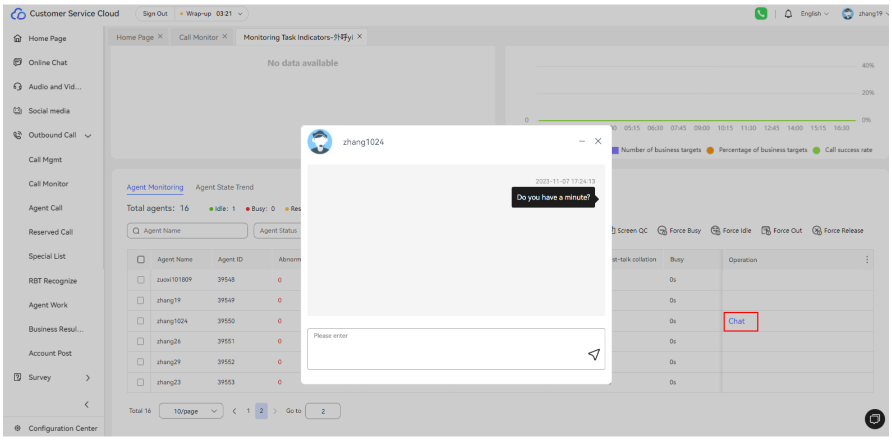
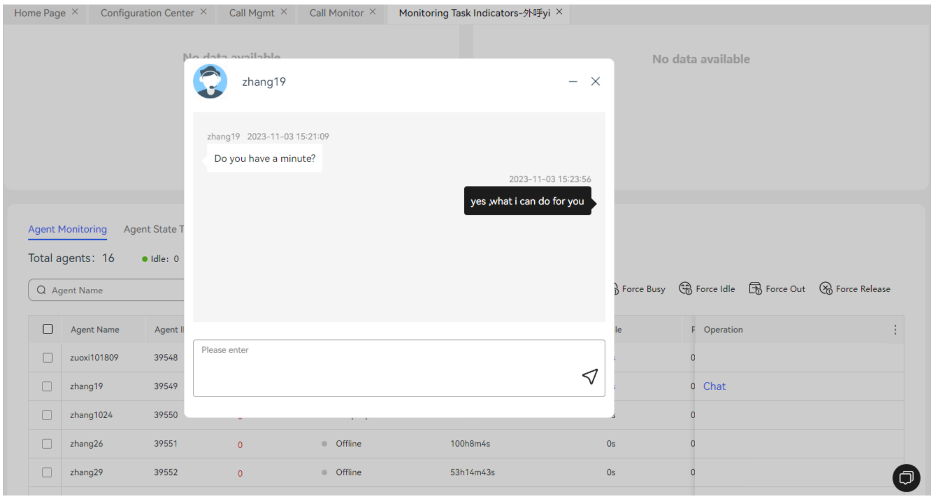


Figure 2-672 Screen pop-up received by an agent

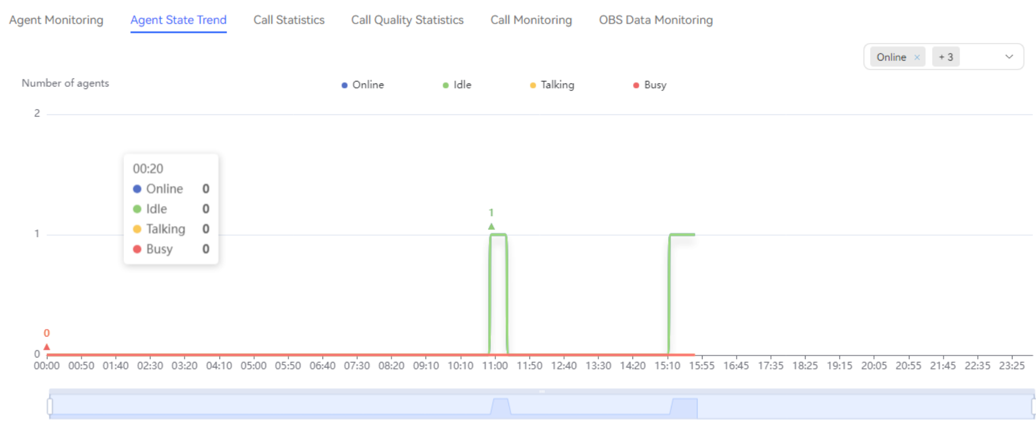


– Click 0 > to view the indicator statistics of rest reasons. You can configure rest reasons on the **Configuration Center** > **Workbench Configuration** > **Rest Reason** page.

– Click **More**, select **Common agent**, **Quality checker**, or **Callout agent**, and search for data based on the selected platform role.

- On the **Agent State Trend** tab page, view today's statistics on the number of agents in a specified state for every 5 minutes. By default, the statistics on agents in the **Online**, **Idle**, **Talking**, and **Busy** states are displayed.

Figure 2-673 Agent State Trend

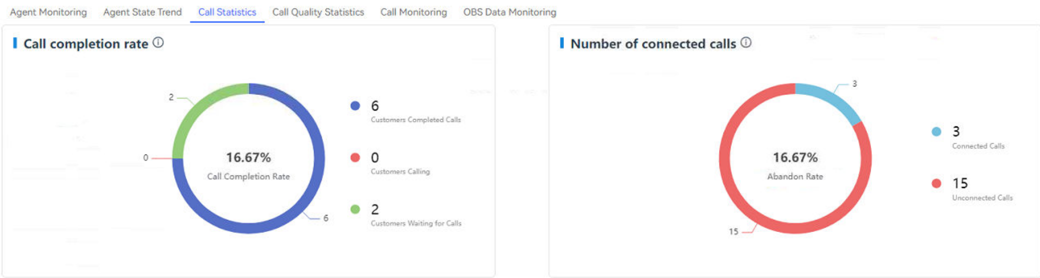


NOTE

The agent state trend chart displays the data of agent states at the data collection time point instead of agent states in a certain time range. For example, if an agent is in the **Idle** state from 19:11:00 to 19:14:00 and in the **Rest** state (marked with rest reason A) at 19:15:00, which is the data collection time point, the number of rest reason As is incremented by 1 at 19:15:00.

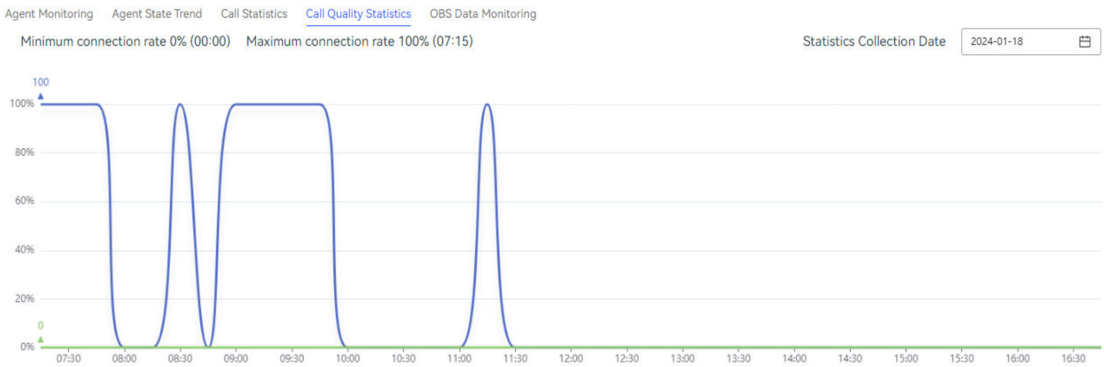
- On the **Call Statistics** tab page, view the progress of the outbound call task. (This tab page is displayed only for predicted, previewed, and preempted outbound call tasks.)

Figure 2-674 Call Statistics



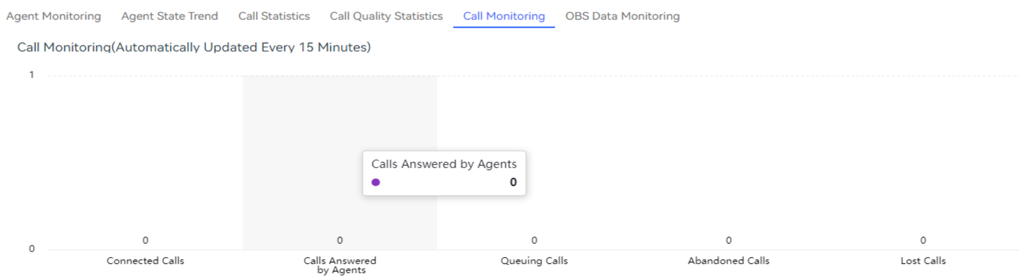
- On the **Call Quality Statistics** tab page, view the call connection rate and abandonment rate (displayed in a line chart). You can select a date that is not earlier than the task start date or later than the current date. (This tab page is displayed only for predicted, previewed, and preempted outbound call tasks.)

Figure 2-675 Call Quality Statistics



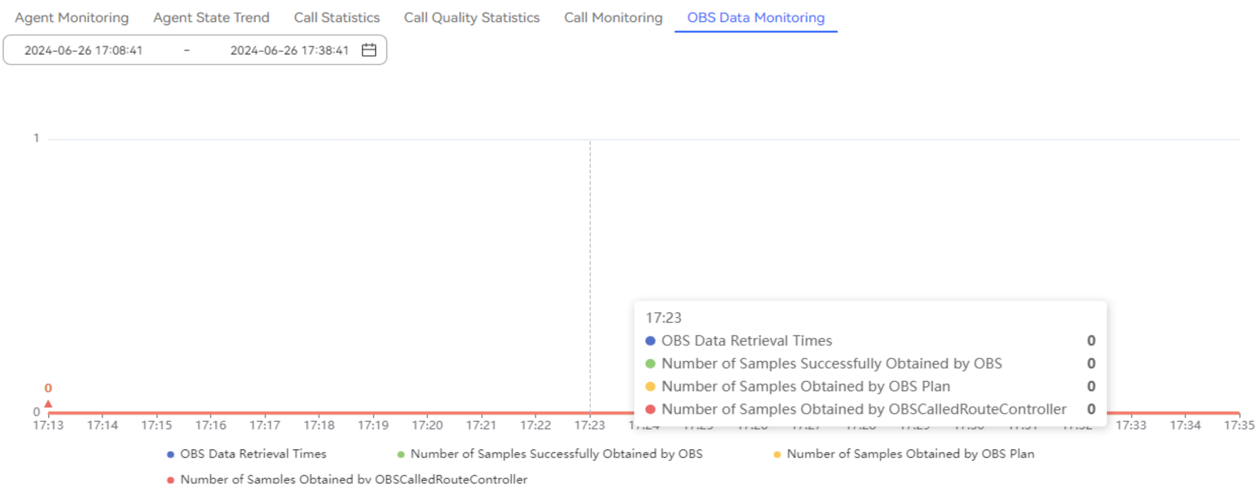
- On the **Call Monitoring** tab page, view the monitoring chart of the task. (This tab page is displayed only for predicted outbound call tasks.) The bar chart is refreshed every 15 minutes and displays the following data: **Connected Calls**, **Calls Answered by Agents**, **Queuing Calls**, **Abandoned Calls**, and **Lost Calls**.

Figure 2-676 Call Monitoring



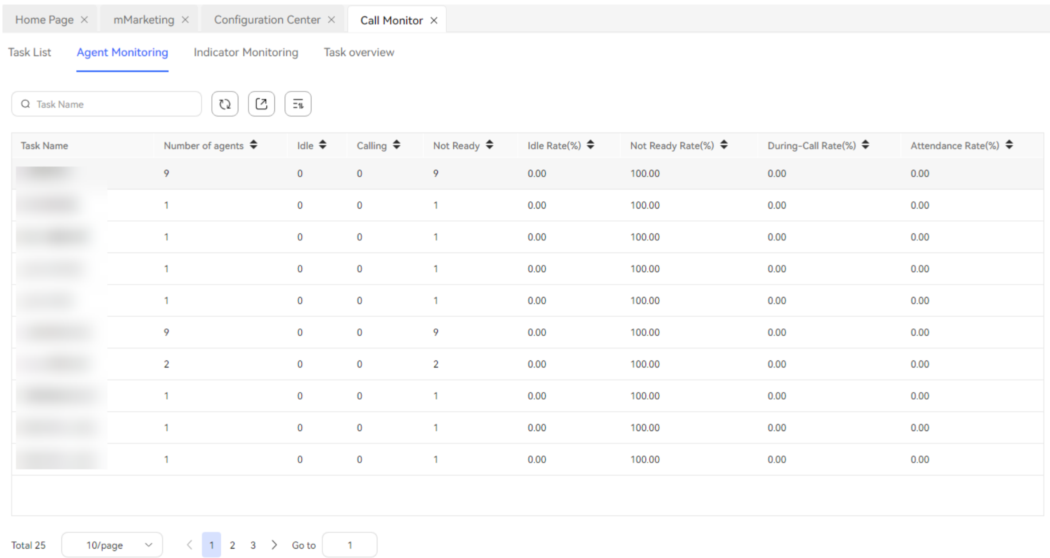
- On the **OBS Data Monitoring** tab page, view OBS data monitoring information. (This tab page is displayed only for predicted, previewed, preempted, and fixed outbound call tasks.)

Figure 2-677 OBS Data Monitoring



Step 3 Click the **Agent Monitoring** tab.

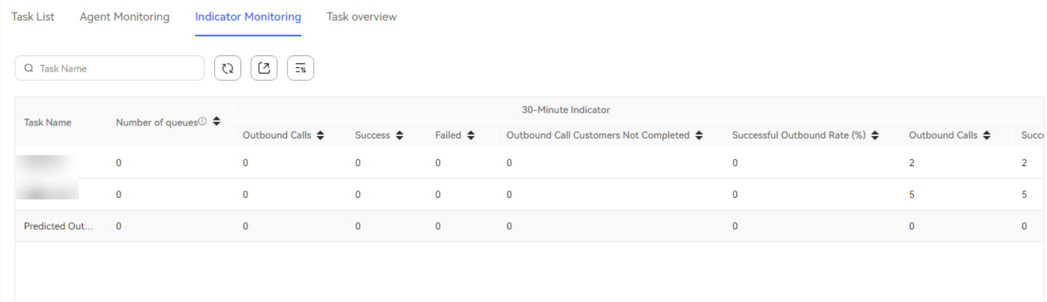
Figure 2-678 Agent Monitoring



- Enter the name of an outbound call task and click to search for the monitoring data of the outbound call task.
- Click to export agent monitoring data. Click to view the export record.
- Click to sort the data of an indicator in ascending or descending order.

Step 4 Click the **Indicator Monitoring** tab.

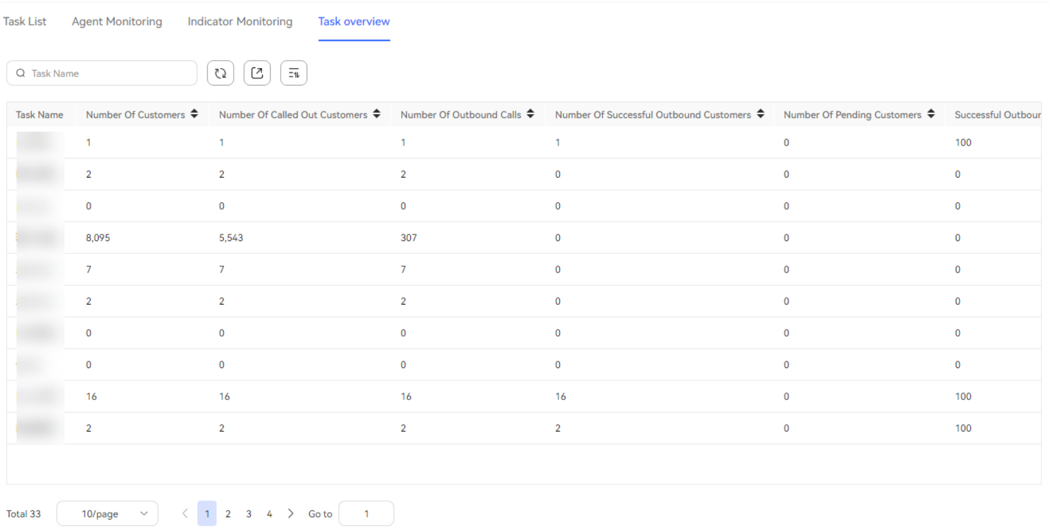
Figure 2-679 Indicator Monitoring



- Indicator monitoring information of **30-Minute Indicator** and **Indicator of the current day** are displayed.
- Enter the name of an outbound call task and click to search for the monitoring data of the outbound call task.
- Click to export indicator monitoring data.
- Click to sort the data of an indicator in ascending or descending order.

Step 5 Click the **Task overview** tab.

Figure 2-680 Task overview



- Enter the name of an outbound call task and click to search for the monitoring data of the outbound call task.
- Click to export report data.
- Click to sort the data of an indicator in ascending or descending order.

----End

2.13.5.2 Viewing Business Result Reports

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Service Result Report**.

- **Outbound Call Task**: Select an outbound call task.
- **Report Type**: Select **Daily report**, **Weekly report**, or **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Select the start date and end date. (The time selector converts a date into the corresponding week.)
  - **Monthly report**: Set the start year and month as well as the end ones.

Step 2 Select a report type and click **Search**.

- **Daily report**: Set the start date and end date. The end date cannot be earlier than the start date. The time range cannot exceed 31 days. The end date must be earlier than the current date.
- **Weekly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed 12 weeks. The maximum end week is the week of the current date.
- **Monthly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed six months. The maximum end month is the month of the current date.

Step 3 Select some business results from the **Select** drop-down list and a date, week, or month to view the corresponding bar chart.

Step 4 Select some business results from the **Select** drop-down list to view the corresponding trend line chart.

Step 5 View sub-business result report data.

- Click the bar of a business result in the bar chart to drill down to the sub-business result report of the business result.
- Click the line of a business result in the line chart to drill down to the sub-business result trend chart of the business result.

----End

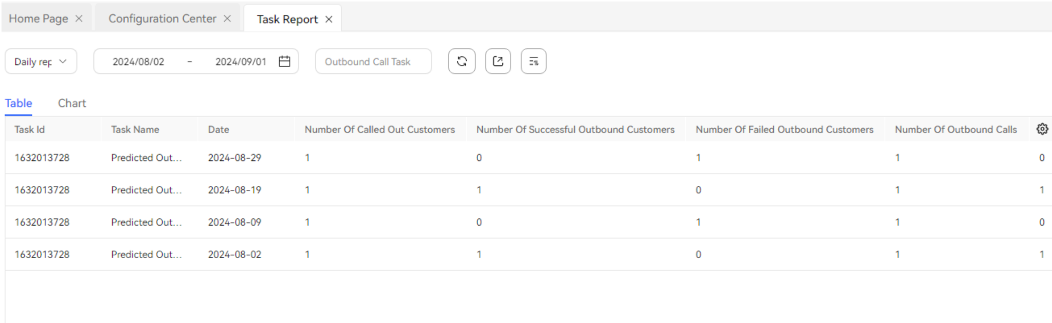
2.13.5.3 Outbound Call Task Report

You can view indicators such as **Number Of Called Out Customers**, **Number Of Successful Outbound Customers**, and **Number Of Failed Outbound Customers** on the **Task Report** page.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Task Report**.

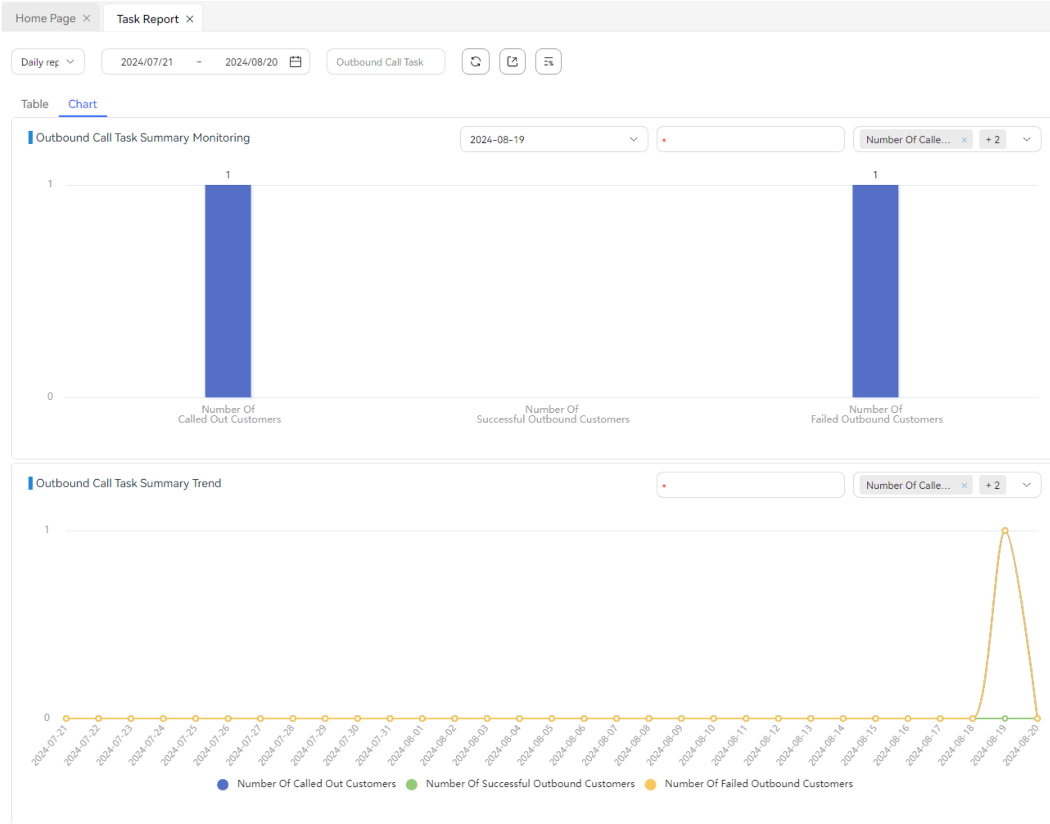
Figure 2-681 Task Report



- Report type: Select **Daily report**, **Weekly report**, or **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: Set the start date and end date. The end date cannot be earlier than the start date. The time range cannot exceed 31 days. The end date must be earlier than the current date.
  - **Weekly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed 12 weeks. The maximum end week is the week of the current date.
  - **Monthly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed six months. The maximum end month is the month of the current date.
- **Outbound Call Task**: Select a manual, predicted, preempted, previewed, or fixed outbound call task that is not in the draft state.

Step 2 You can switch to the **Chart** page to view the monitoring indicators and trend of outbound call tasks. Click on the right and select indicators as required.

Figure 2-682 Summary of outbound call tasks



----End

2.13.5.4 Viewing Intelligent Robot Outbound Call Records

Tenant administrators can view the call records of intelligent robot outbound call tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click an outbound call task that is not in the draft state to go to the outbound call task details page.

Step 3 On the outbound call task details page, click the **Completed** tab, and view the outbound call result.

Step 4 Click a call record in the outbound call result to view the call record.

----End

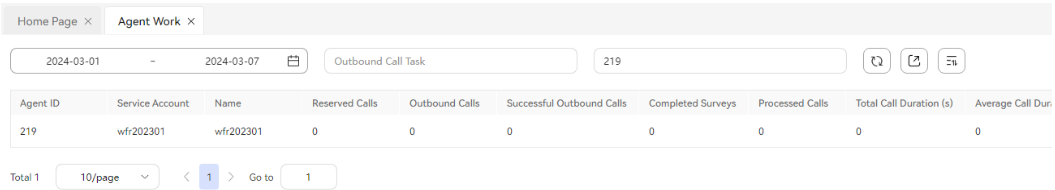
2.13.5.5 Agent Work Statistics

You can view agent work statistics by outbound call task or agent.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Agent Work**.

Figure 2-683 Agent Work page



Step 2 Select a start time, an end time, and an outbound call task or agent whose statistics are to be collected.

NOTE

The time range is less than or equal to seven days.

Select at least one outbound call task or agent.

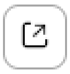
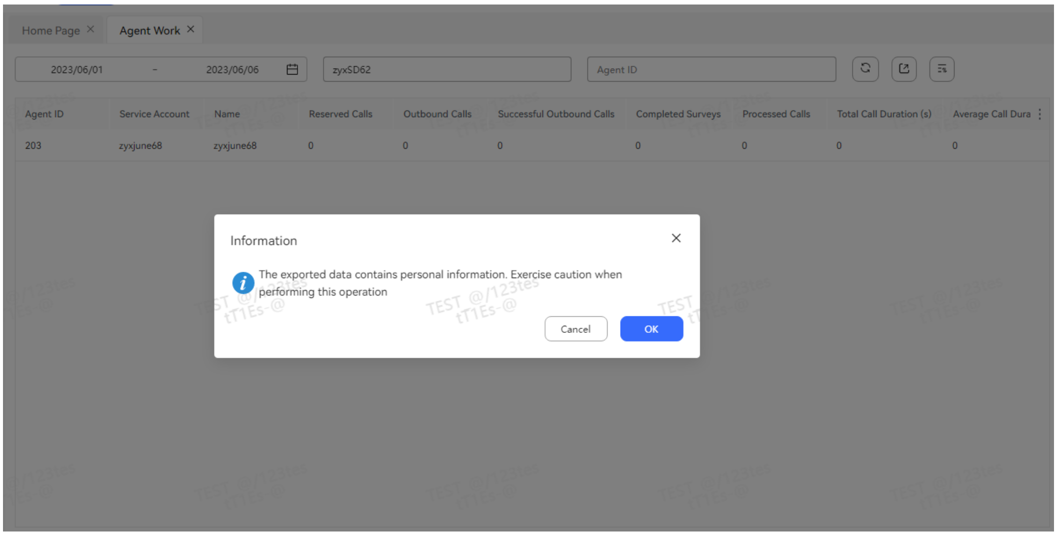
Step 3 If the query is successful, click . The message "The exported data contains personal information. Exercise caution when performing this operation" is displayed, as shown in **Figure 2-684**. After you click **OK**, the message "The export task list has been created. Do you want to view it in the export list?" is displayed.

Figure 2-684 Exporting a data package

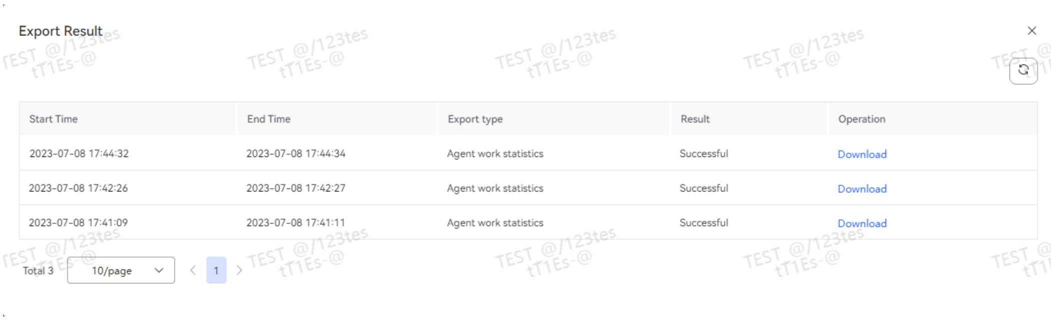


NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

Step 4 Click  to download the exported CSV file.

Figure 2-685 Exporting a CSV file



----End

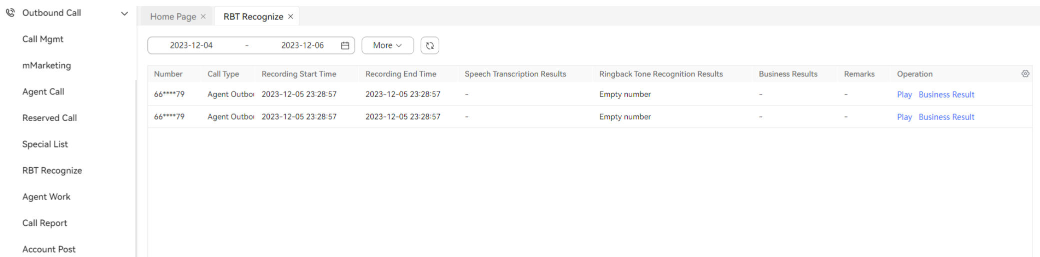
2.13.5.6 RBT Recognition

When an agent executes an outbound call task, a large amount of failed outbound call data may be generated. The agent may be unable to record and analyze the failure causes due to heavy workload. In this case, a tenant administrator can use the RBT intention recognition function for intention recognition. After outbound call failure results are automatically recognized, they are saved to an RBT report which the tenant administrator can use for analysis.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **RBT Recognize**.

Figure 2-686 RBT Recognize



- **Start Time**: Set the recording start time for query.
- **End Time**: Set the recording end time for query.
- **Customer number**: Enter the called number of a customer.
- **Status**: Select **To be confirmed** or **Confirmed**.

Step 2 After the start time and end time are selected, query data. (The end date cannot be earlier than the start date, and the date range cannot cross months.)

Step 3 Click **Advanced Search**. Enter the outbound call number or select a status from the drop-down list and click **Search**.

Step 4 View RBT recognition results. Click **Play** to play the record of a CDR.

Step 5 Click **Business Result**. If the business result of the current data is edited, the updated business result is displayed in the list.

----End

2.14 Managing Surveys

A survey records the survey content in the form of questions. Administrators can configure surveys for survey statistics collection of other businesses.

2.14.1 Configuring Surveys

Surveys include manual surveys, IVR surveys, and intelligent training surveys. After a tenant administrator configures surveys in a unified manner, the surveys can be used to collect statistics based on scenarios.

Survey types are described as follows:

- Lightweight surveys can be used only by IVR flows. Only single-question surveys with a fixed number of options can be configured.
- Standard surveys can be used by intelligent outbound calls, IVR flows, and intelligent training businesses. Diversified surveys can be configured.

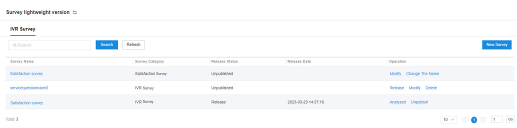
Prerequisites

To use the **Analyzed** function in the lightweight survey management, the commissioning in "Commissioning Guide > Commissioning Functions > Commissioning the Function of Pushing CDR Files and Satisfaction Results to Kafka and Elasticsearch" has been completed for the tenant space.

Configuring a Lightweight Survey

Step 1 Sign in to the AICC as a tenant administrator and choose **Survey** > **Survey Config**.

Figure 2-687 Lightweight survey management



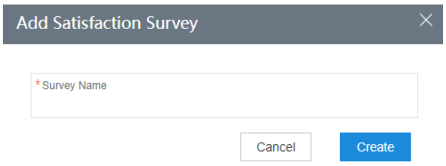
Step 2 (Optional) Click to switch the survey edition as required.

Step 3 Click **New Survey**. The **Create Survey** page is displayed.

- **Satisfaction Survey**: Only one satisfaction survey can be created and cannot be deleted.

   a. Create a satisfaction survey. Configure the survey name.

Figure 2-688 Add Satisfaction Survey



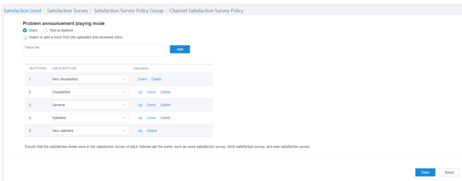
b. Click **Create** to save the survey information.

c. On the survey management page, click **Modify** corresponding to the new satisfaction survey, and configure the survey content.

d. Click the **Satisfaction Level** tab and configure satisfaction levels for the survey.

You need to configure the voice file of the IVR flow.

Figure 2-689 Satisfaction Level



- Click the **Voice File** selection box to select an uploaded and approved voice file.
- Click **Add** to upload a local voice file. After the system administrator approves the file, the file can be used.

e. For details about other configurations, see **2.3.3.2 Configuring Satisfaction Surveys**.

NOTICE

- After the satisfaction survey is published successfully, the settings on the **Configuration Center** > **Workbench Configuration** > **Satisfaction** page cannot be modified. If the satisfaction survey is not created or published, the settings on the **Configuration Center** > **Workbench Configuration** > **Satisfaction** page are not affected.
- If the satisfaction survey is not published and the settings are different from those on the **Satisfaction** page, the settings of the satisfaction survey are used.

- **IVR Survey**

a. Configure an IVR survey. For details, see **Table 2-187**.

Figure 2-690 Survey Content Configuration

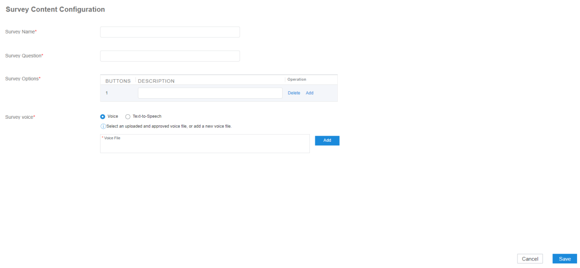
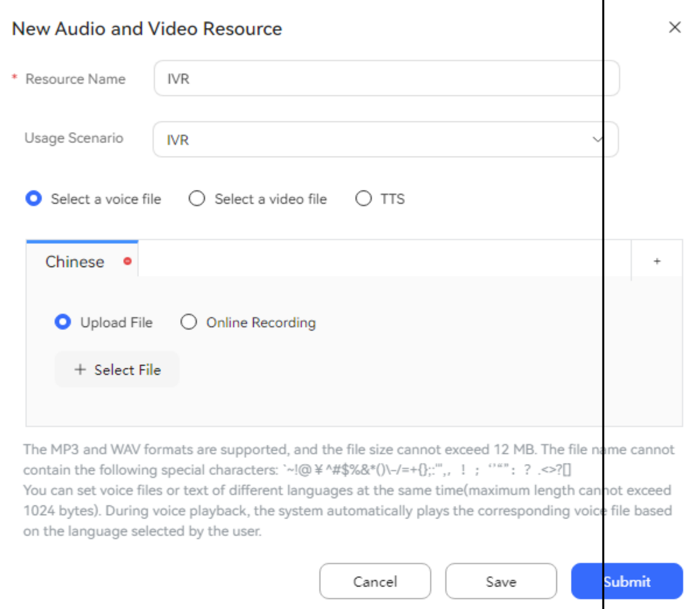
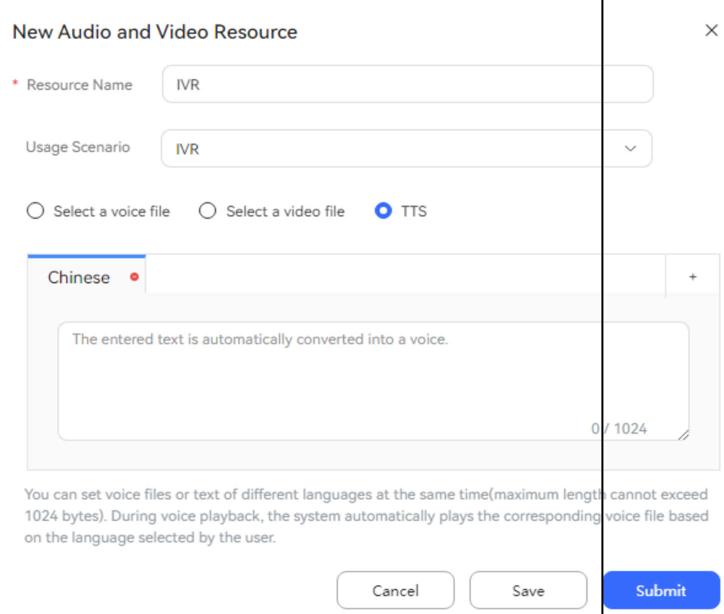


Table 2-187 GUI elements on the Survey Content Configuration page

Element	Description
Survey Name	The value can contain a maximum of 32 characters, including only letters and digits.
Survey Question	The value can contain a maximum of 256 characters.
Survey Options (A maximum of nine options can be added.)	
DESCRIPTION	The value can contain a maximum of 32 characters.
Operation	You can perform the following operations: ■ **Add** ■ **Delete**
Survey voice	
Voice type	Voice file type. The options are as follows: ■ **Voice** ■ **Text-to-Speech**

<table>
<tr><th>Element</th><th>Description</th></tr>
<tr><td>Voice File</td><td>You can select only an approved voice file whose Usage Scenario is IVR on the Resource Management > Audio and Video page.

</td></tr>
<tr><td>TTS</td><td>You can select only an approved TTS file whose Usage Scenario is IVR on the Resource Management > Audio and Video page.

</td></tr>
</table>

Element	Description
Add	After you click this button, the **Audio and Video** page is displayed. For details about how to configure voice and video resources, see **2.6.3.2 Managing Voice and Video Resources**.

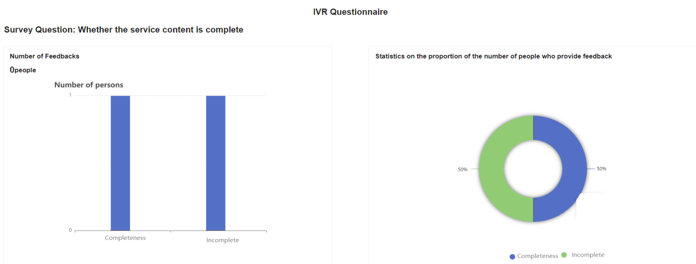
b. Click **Save**. The IVR survey is configured.

Step 4 Return to the survey management page and click **Release** corresponding to the new survey. After the survey is published, the IVR flow management side automatically creates and publishes an IVR flow with the same name as the survey.

Step 5 (Optional) Click **Change The Name** corresponding to the satisfaction survey to change the survey name.

Step 6 Click **Analyzed** to view the usage of the survey in the IVR, including the respondent quantity statistics and respondent proportion statistics.

Figure 2-691 IVR survey statistics

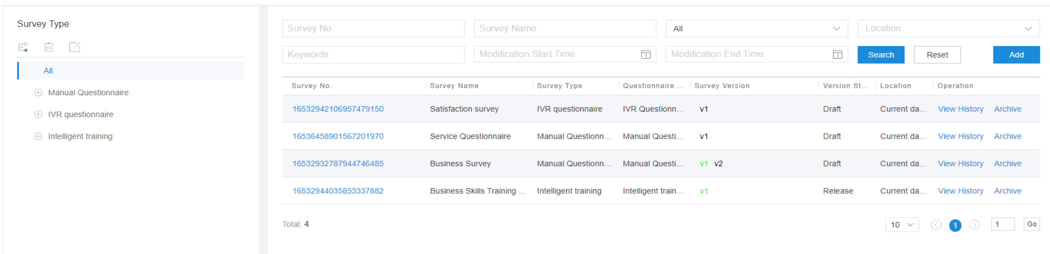


----End

Configuring a Standard Survey

Step 1 Sign in to the AICC as a tenant administrator and choose **Survey** > **Survey Config**.

Figure 2-692 Survey Config

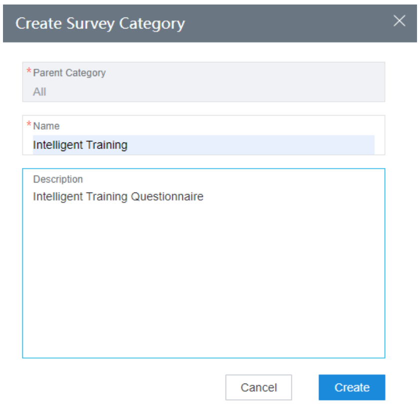


Step 2 (Optional) Click to switch the survey edition as required.

Step 3 Configure a survey category.

1. **All** is selected by default. Click  . The **Create Survey Category** dialog box is displayed.
2. Configure the survey type.

Figure 2-693 Create Survey Category

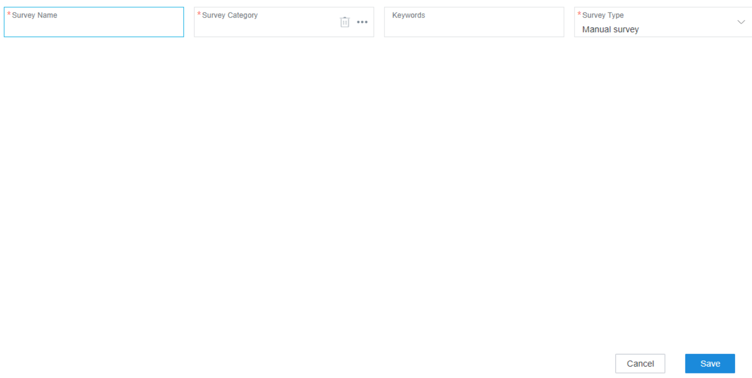


3. Click **Create** to save the survey category information.

Step 4 Configure a survey.

1. Select the new survey category and click **Add** on the right of the page. The **Create Survey** page is displayed.
2. Configure the survey content.

Figure 2-694 Create Survey



   – **Survey Name**: (Mandatory) Survey name. Enter a value that contains a maximum of 32 characters.
   – **Survey Category**: (Mandatory) Survey category. Select a created survey category.
   – **Keywords**: Survey keywords.
   – **Survey Type**: (Mandatory) The options are **Manual survey**, **IVR survey**, **Intelligent training**, and **Manual and IVR survey**.
3. Choose **Save**.

Step 5 Click **Question List** and configure questions.

1. Click **Add**. The **Create Question** page is displayed.
2. Configure the question content.

Figure 2-695 Adding a question to a manual survey

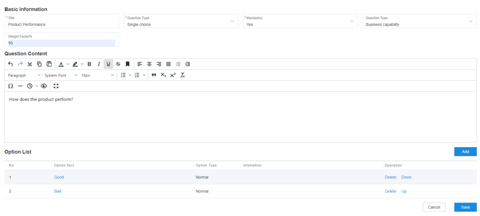


Figure 2-696 Adding a question to an IVR survey

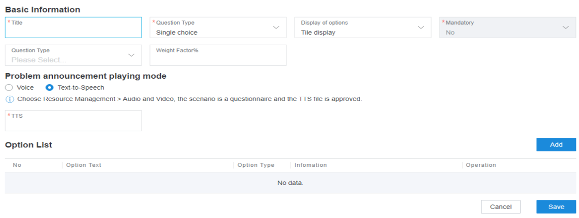
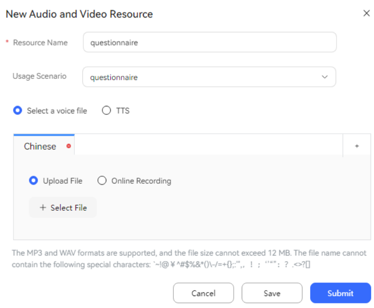
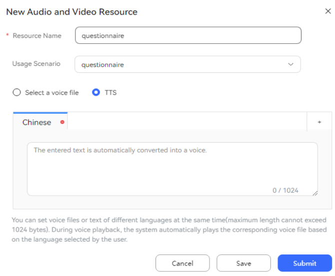


Table 2-188 Problem announcement playing mode

Element	Description
Voice File	You can select only an approved voice file whose **Usage Scenario** is **questionnaire** on the **Resource Management** > **Audio and Video** page. 

<table>
<tr><th>Element</th><th>Description</th></tr>
<tr><td>TTS</td><td>You can select only an approved TTS file whose Usage Scenario is questionnaire on the Resource Management > Audio and Video page.

</td></tr>
</table>

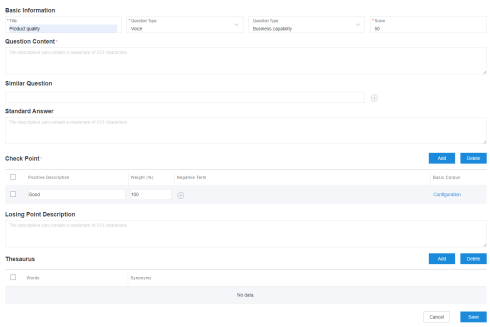
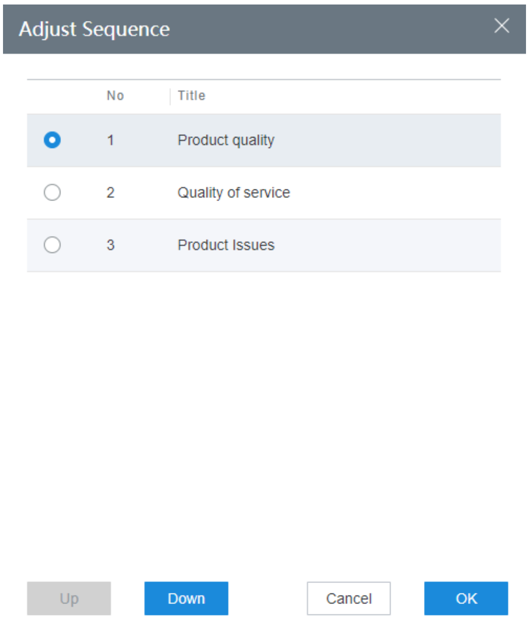


Figure 2-697 Adding a question to an intelligent training

3. Click **Save**. The question list page is displayed.

Step 6 (Optional) Adjust the sequence of questions in the question list. Click **Adjust Sequence**. In the **Adjust Sequence** dialog box, select the desired question, click **Up** or **Down**, and click **OK**.

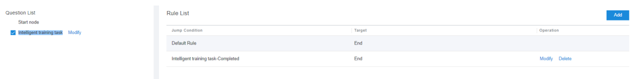
Figure 2-698 Adjust Sequence



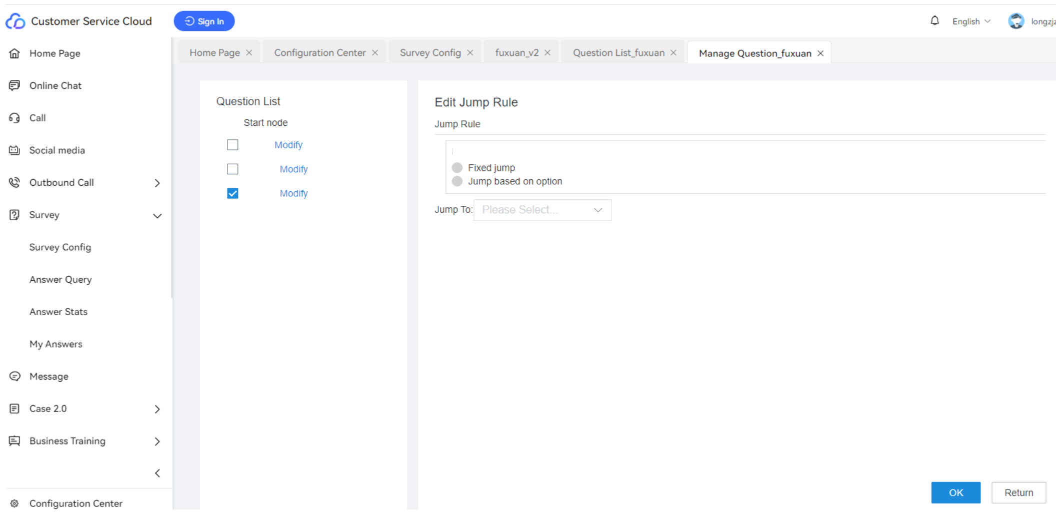
Step 7 Configure question execution rules.

1. Return to the question list page and click **Manage Question**. The **Manage Question** page is displayed.

   Figure 2-699 Manage Question

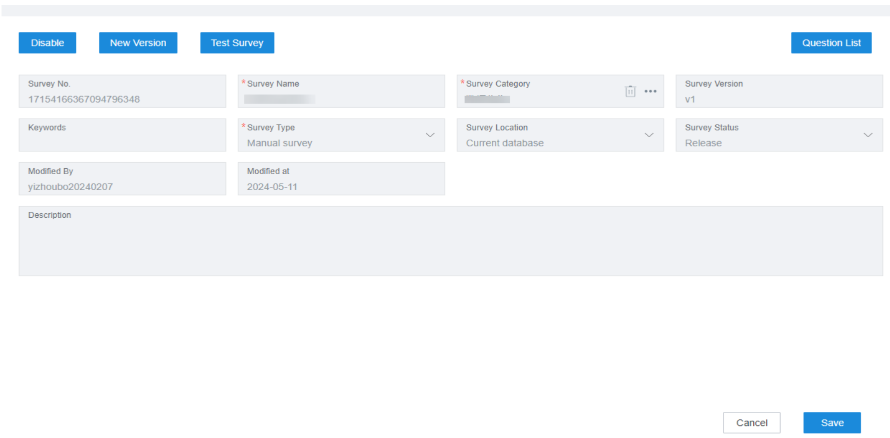
2. Each question has a default rule. Default rules cannot be modified or deleted. You can click **Add** to customize question execution rules as required. Customized rules cannot be modified or deleted.
3. Set **Question Type** to **Multiple choices** and edit the rule.
   a. Select a question from the question list and set the redirection rule. The default redirection rule is **Jump based on option**.
   b. If **Jump Rule** is set to **Fixed jump**, the system directly jumps to the specified question. If **Jump Rule** is set to **Jump based on option**, the system jumps to the specified question only when the specified option is met.



4. Click **OK**.

Step 8 (Optional) On the survey details page, click **Test Survey** to test the survey before the survey is officially published.

Figure 2-700 Survey details



Step 9 Click **Release** to officially publish the survey.

----End

Follow-up Procedure

You can perform the following operations on a published survey:

- Click **Disable**. The survey of the current version is disabled and cannot be used by other modules.
- Click **New Version** to copy all content of the survey of the current version to create a survey of a new version.

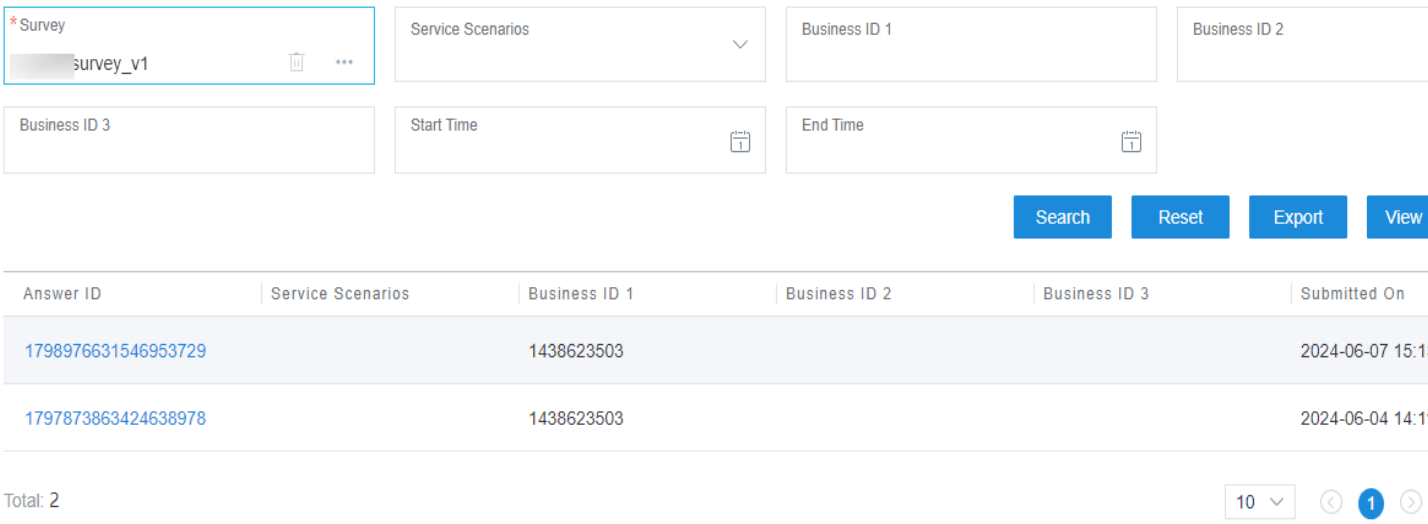
2.14.2 Querying Answers

Business scenarios associated with released surveys can be queried.

Procedure

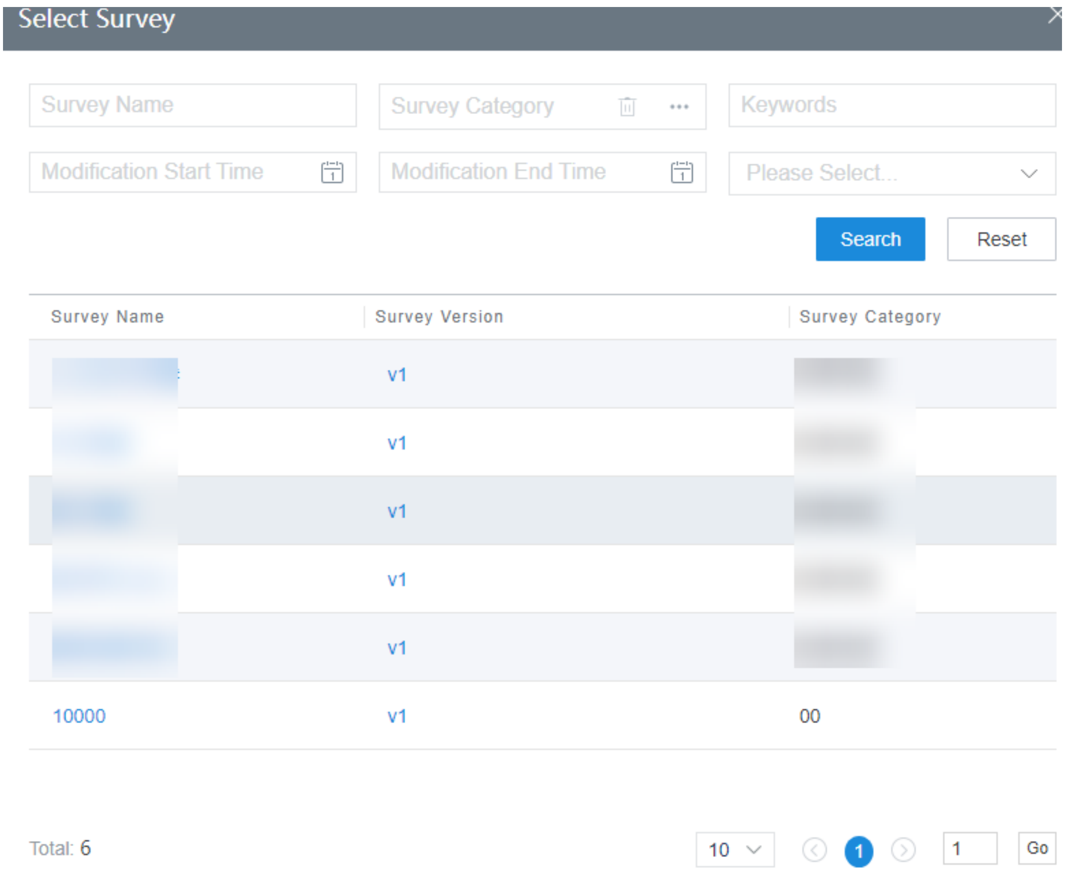
Step 1 Sign in to the AICC as a tenant administrator and choose **Survey** > **Answer Query**.

Figure 2-701 Answer Query



Step 2 Click ··· in the **Survey** text box, and select a survey.

Figure 2-702 Select Survey



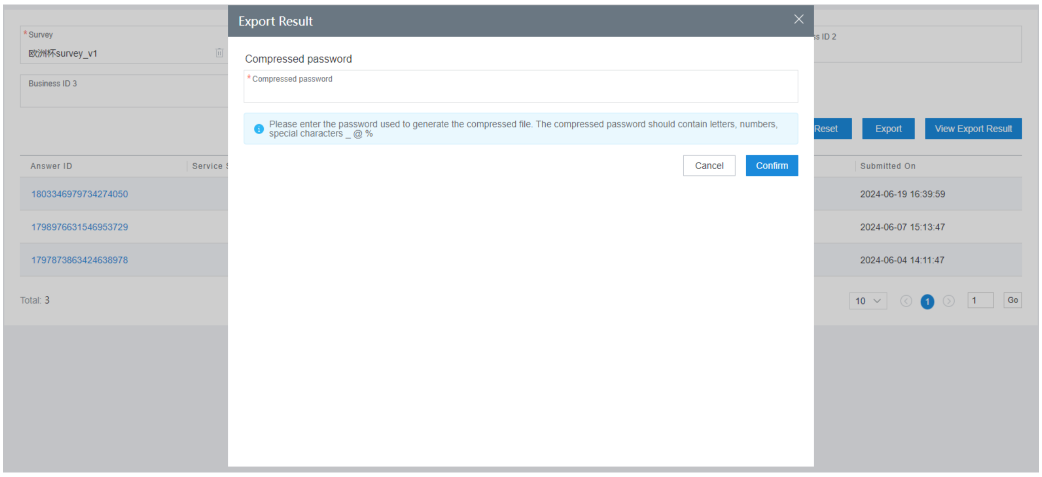
NOTE

Click a survey version to query its details.

Step 3 Click **Search** to search for business scenarios associated with the survey.

Step 4 Click **Export** to export the survey.

Figure 2-703 Export Result



Step 5 Click **View Export Result** to view the survey export result.

Step 6 Click an answer ID to view details about the answer.

----End

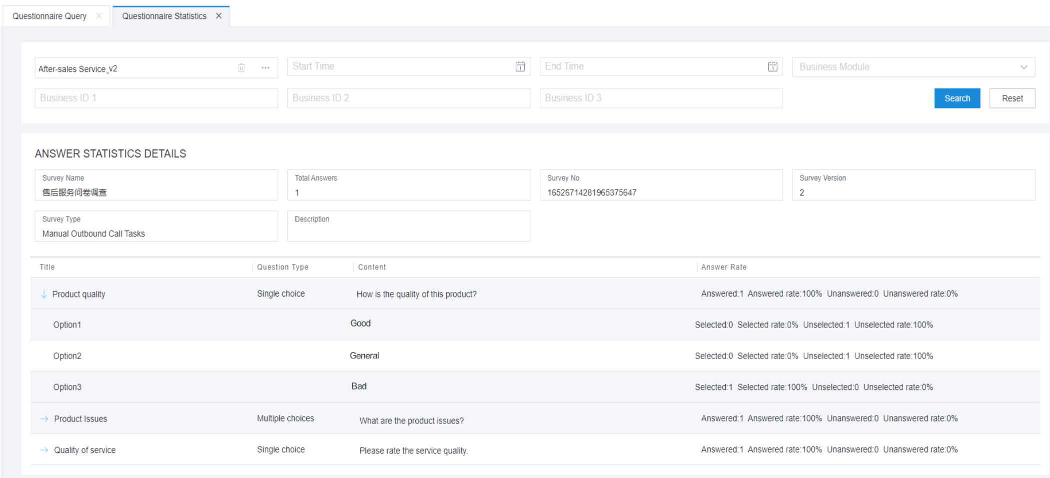
2.14.3 Querying Answer Statistics

Answer statistics details of surveys can be queried. The statistics are displayed by answer rate.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Questionnaire Survey** > **Questionnaire Statistics**.

Figure 2-704 Questionnaire Statistics



Step 2 Click **Search** to query answer details based on search criteria.

Step 3 Click to query answer details.

----End

2.15 Managing Intelligent Training

Intelligent training tasks can be used to periodically train and test agents through released intelligent IVR flows to check the business skills of the agents.

2.15.1 Managing Training Tasks

A tenant administrator configures intelligent training tasks. Agents can choose to participate in training tasks as required.

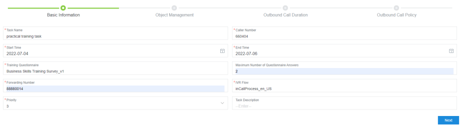
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Business Training** > **Training Task Management**.

Step 2 Click **New**. The **Creating a Training Task** page is displayed.

Step 3 Configure basic information about the training task.

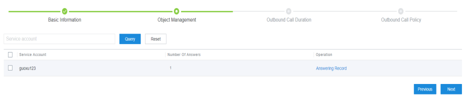
Figure 2-705 Basic Information



- **Maximum Number of Questionnaire Answers**: Enter an integer ranging from 1 to 100. If no value is entered, the number of times for answering the survey is not limited by default.
- **Training Questionnaire**: Select a published intelligent training survey.
- **IVR Flow**: Select a published intelligent IVR flow.

Step 4 Click **Next**. The **Object Management** page is displayed.

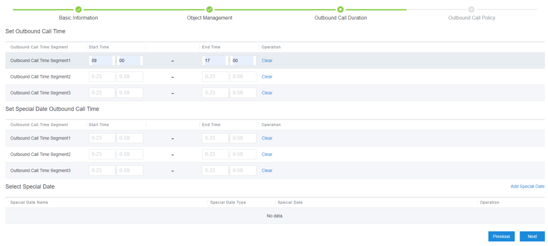
Figure 2-706 Object Management



Click **Add**, and select an agent account to participate in the training task.

Step 5 Click **Next**. The **Outbound Call Duration** page is displayed.

Figure 2-707 Outbound Call Duration

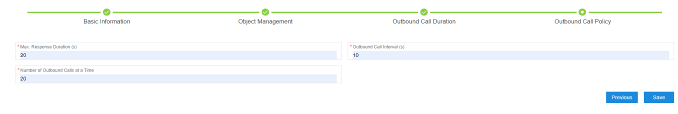


NOTE

An outbound call time segment must be set in the **Set Outbound Call Time** area.

Step 6 Click **Next**. The **Outbound Call Policy** page is displayed.

Figure 2-708 Outbound Call Policy



Step 7 Click **Save**.

Step 8 Return to the **Training Task Management** page, select the configured training task, and click **Start** to start the training task.

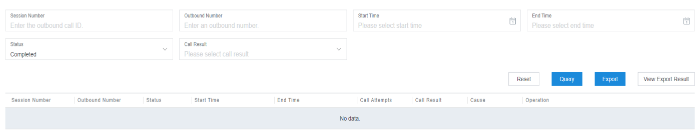
----End

Follow-up Procedure

You can perform the following operations on training tasks:

- Click **Suspend** to stop a training task.
- Click **Edit** to modify all information of a training task.
- Click **Task Result** to view the call result list of a task.

  Figure 2-709 Task result

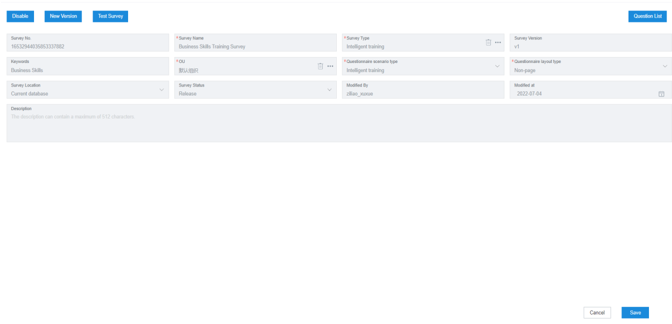
  Click **Export** to create a task of exporting training task results. Click **View Export Result** and click **Download** corresponding to the export task whose **Result** is **Successful** to download the training task results to the local PC.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

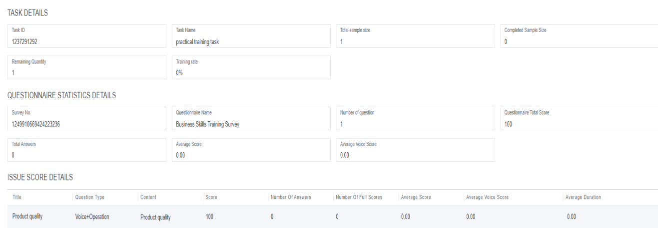
- Click **Associated Questionnaire** to view the survey details.

Figure 2-710 Associated survey



- Click **Result Analysis** to view the answer details.

Figure 2-711 Result analysis



- Click to modify the basic information, task object, task time, and task policy of a training task.

2.16 Configuring the Knowledge Base

This section describes how to configure the knowledge base as a tenant administrator for agents to reference.

2.16.1 Introduction

The knowledge base is a valuable knowledge management tool that helps enterprises, organizations, and individuals better manage and use their knowledge resources to enhance work efficiency, improve decision-making, promote knowledge sharing, improve customer service, and reduce costs.

Related Concepts

- Column: A column is similar to a folder, which is used to store knowledge files. Knowledge compilers can create columns based on the column type, business status, and business effective time, organize columns in a tree structure, and store knowledge in different columns to implement knowledge classification and management.
- Knowledge: Knowledge is stored in columns. An online editor is provided to edit knowledge content. Common knowledge and Q&A knowledge are supported. Common knowledge can be displayed in texts, charts, audio, and videos. Q&A knowledge can be displayed only in FAQ groups.
- Extended attribute: In addition to the content, knowledge also carries many attribute labels. Different industries and enterprises have different label definitions.

- Consultation table: A consultation table stores business consultation information. When handling businesses, an agent can look up information in a consultation table to answer business questions.

2.16.2 Managing Knowledge in the Background

Knowledge compilers can manage knowledge columns and content in the background and publish knowledge after professional review. Agents can search for and browse knowledge details in the foreground.

2.16.2.1 Configuring Columns

Knowledge compilers organize columns in a tree structure by business dimension to implement knowledge classification and management.

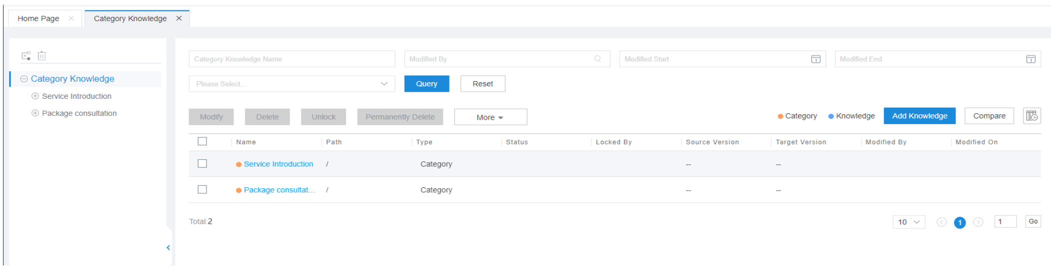
Prerequisites

- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Knowledge Column** menu permission.
- Extended attributes can be configured for columns. For details about how to manage extended attributes, see **2.16.2.3 Managing Extended Attributes**.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Knowledge Column**.

Figure 2-712 Category Knowledge



- indicates a column, and indicates a knowledge item.
- You can search for existing column information based on the knowledge column name, modifier, modification start time, modification end time, and column type.
- Historical and valid normal columns are displayed on the left.
  - For normal columns, column names are displayed.
  - For historical columns, column names are in *Column name***(History)** format.
- Subcolumns and valid knowledge items in the selected column are displayed on the right by default.

– Click to display historical subcolumns and expired knowledge items in the selected column.

– Click to display normal subcolumns and valid knowledge items in the selected column.

NOTE

The preceding operations are not supported for historical columns.

Step 2 Click . The page shown in **Figure 2-713** is displayed.

NOTE

Only subcolumns can be added to a root column. Subcolumns or knowledge items can be added to a customized column.

Figure 2-713 Add Category

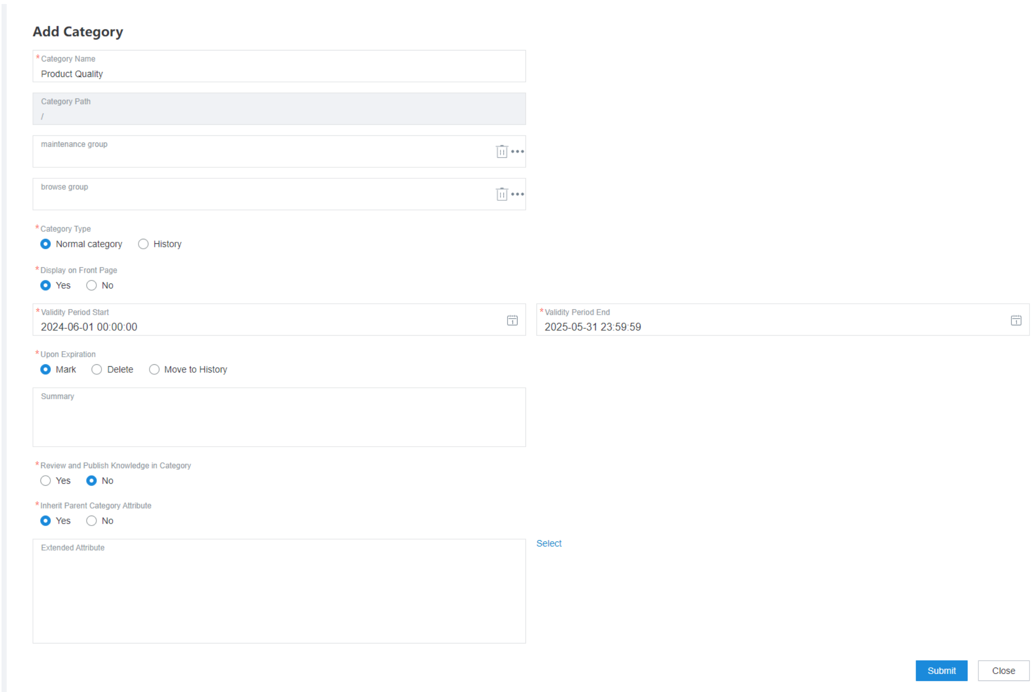


Table 2-189 Parameters on the Add Category page

Element/ Component	Description
Category Name	Mandatory. The value can contain a maximum of 80 characters.
Category Path	Path of a column to be added or modified, which cannot be modified.
maintenance group	Group to which personnel who can maintain the current column belong.

Element/ Component	Description
browse group	Group to which the personnel who can browse the current column belong.
Category Type	Mandatory. The options are as follows: ● **Normal category**: A column of this type and its knowledge items can be displayed on the knowledge base home page. ● **History**: A column of this type and its knowledge items cannot be displayed on the knowledge base home page.
Display on Front Page	Mandatory when **Category Type** is set to **Normal category**. Whether to display a column on the knowledge base home page after the column is published. The options are as follows: ● **Yes** ● **No**
Validity Period Start/Validity Period End	Mandatory when **Category Type** is set to **Normal category**. The time zone of the validity period must be the same as that of the browser.
Upon Expiration	Mandatory when **Category Type** is set to **Normal category**. The options are as follows: ● **Mark**: After a column expires, the column status is changed to **Expired**. **[Expired]** is automatically added to the column name. ● **Delete**: Move a column to the recycle bin. (When a column and its subcolumns are deleted, only the parent column is moved to the recycle bin.) ● **Move to History**: Move a column to a specified historical column.
Move to History	Mandatory when **Upon Expiration** is set to **Move to History**. Column to which an expired column is moved.
Summary	The value can contain a maximum of 256 characters.
Review and Publish Knowledge in Category	Mandatory when **Category Type** is set to **Normal category**. The options are as follows: ● **Yes**: Knowledge items in the current column need to be approved before being published. ● **No**: Knowledge items in the current column can be directly published without approval.

Element/ Component	Description
Inherit Parent Category Attribute	Mandatory when **Category Type** is set to **Normal category**. The options are as follows: ● **Yes**: Subcolumns automatically inherit the extended attributes of the parent column. ● **No**: Subcolumns do not inherit the extended attributes of the parent column.
Extended Attribute	Label attributes of the current column. Click **Select** and select extended attributes. The options are attributes that have been configured and enabled by referring to 2.16.2.3 Managing Extended Attributes.

Step 3 Verify that the information is correct and click **Submit**.

Step 4 (Optional) Select a column under a knowledge column and click to delete the column and all its subcolumns and knowledge items.

Step 5 Select the new column, click , and create a subcolumn by referring to Step 2.

Step 6 (Optional) Select the new subcolumn on the right.

- Click **Modify** and modify basic column information based on Table 2-189. **Category Path** and **Category Type** cannot be modified.
- Click **Delete** to move the column to the recycle bin.
- Click **Unlock** and unlock the locked column.

  If the editing of a column is interrupted due to reasons such as sign-out and the column is not saved, the column will be locked. In this case, the value of **Locked By** is the account of the operator who locks the column.

  NOTE

  Only the operator who has locked the column can unlock it.
- Click **Permanently Delete** to delete the column directly instead of moving it to the recycle bin.

  NOTE

  Before permanently deleting a column, ensure that the column is no longer needed. Deleted data cannot be retrieved.
- Click **More** and choose **Move**. In the dialog box that is displayed, select the target column, click **Submit**, and move the column to the target column.
- Click **More** and choose **Modify Attribute**. In the **Batch Modify Attributes** dialog box, modify **Display on Front Page**, **Validity Period Start**, and **Validity Period End**.
- Click **More**, choose **Sort**, and click **Up**, **Down**, or **Pin** as required. Alternatively, click **Adjust to**, select the target column, and move the column before or after the target column.

----End

2.16.2.2 Compiling Knowledge

After configuring a knowledge column, a knowledge compiler can configure the information of a knowledge item such as the knowledge type and knowledge content.

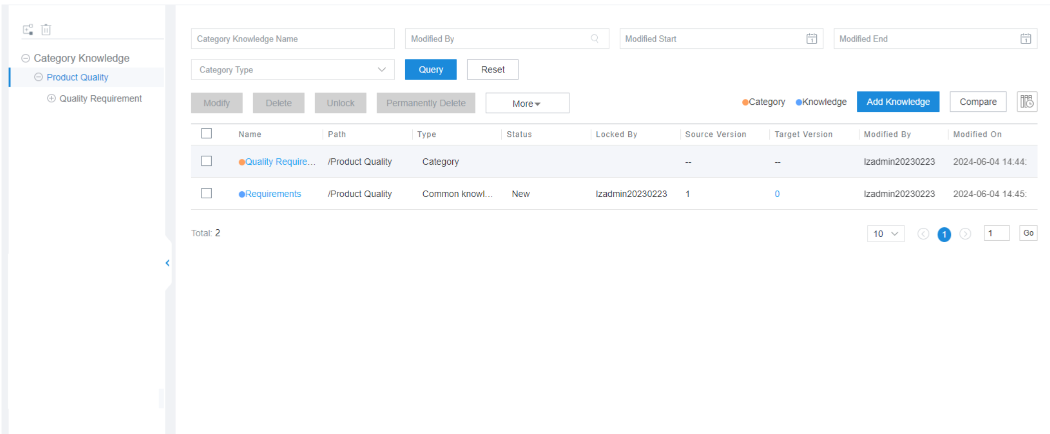
Prerequisites

- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Knowledge Column** menu permission.
- A column has been configured under the current tenant.
- Extended attributes can be configured for knowledge items. For details about how to manage extended attributes, see **2.16.2.3 Managing Extended Attributes**.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Knowledge Column**.

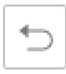
Figure 2-714 Knowledge list



- indicates a column, and indicates a knowledge item.
- You can search for existing knowledge information by knowledge column name, modifier, modification start time, modification end time, column type, knowledge type, and knowledge status.

  When **Category Type** is set to **Knowledge**, you can set **Knowledge Type** and **Knowledge Status**.
- Historical and valid normal columns are displayed on the left.
  - For normal columns, column names are displayed.
  - For historical columns, column names are in *Column name***(History)** format.
- Subcolumns and valid knowledge items in the selected column are displayed on the right by default.

– Click  to display historical subcolumns and expired knowledge items in the selected column.

– Click  to display normal subcolumns and valid knowledge items in the selected column.

NOTE

The preceding operations are not supported for historical columns.

Step 2 Select a new column and click **Add Knowledge**.

Step 3 Configure knowledge content.

1. Configure basic knowledge information.

Figure 2-715 Basic Information

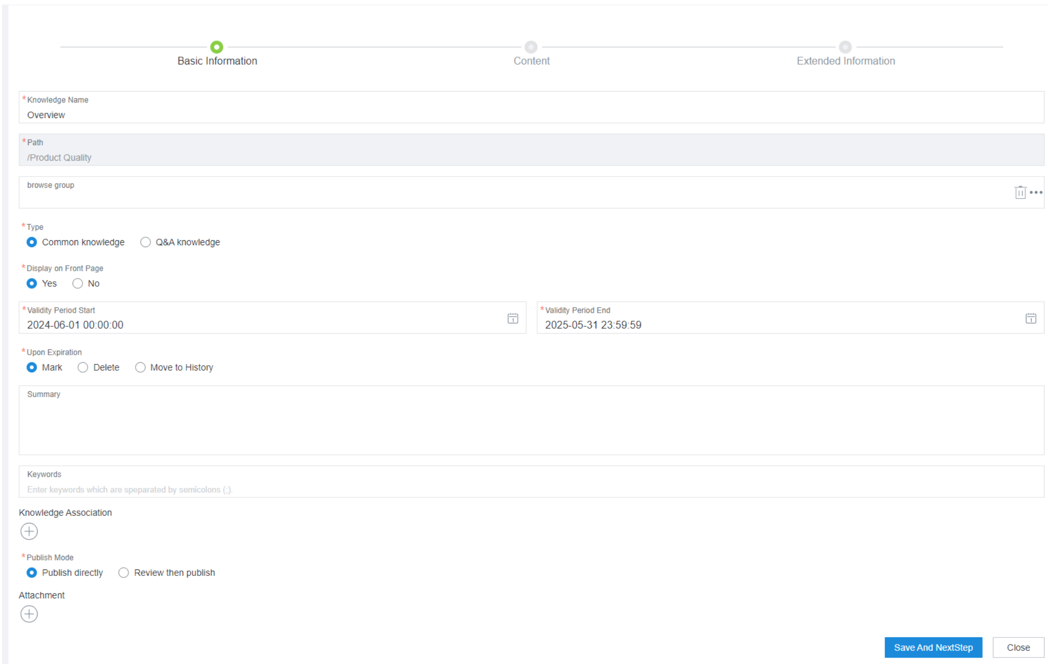


Table 2-190 Parameters on the Basic Information tab page

Parameter	Description
Knowledge Name	Mandatory. The value can contain a maximum of 80 characters.
Path	Path of a knowledge item to be added or modified, which cannot be modified.
browse group	Group to which the personnel who can browse the current knowledge item belong.

Parameter	Description
Type	Mandatory. The options are as follows: – **Common knowledge**: You can use an editor to edit knowledge content, such as texts, tables, images, audio, and videos, and set their formats. – **Q&A knowledge**: You need to configure at least one question and one answer. A question can have multiple answers.
Display on Front Page	Mandatory. Whether to display a knowledge item on the knowledge base home page after it is published. The options are as follows: – **Yes** – **No**
Validity Period Start/Validity Period End	Mandatory. The time zone of the validity period must be the same as that of the browser.
Upon Expiration	Mandatory. The options are as follows: – **Mark**: After a knowledge item expires, its status is updated to **Expired**, and its name is displayed as *Knowledge name***[expired]**. – **Delete**: Move a knowledge item to the recycle bin. (When a column and its subcolumns are deleted, only the parent column is moved to the recycle bin.) – **Move to History**: Move a knowledge item to a specified historical column.
Move to History	Mandatory when **Upon Expiration** is set to **Move to History**. You can specify the column to which a knowledge item is moved upon expiration.
Summary	The value can contain a maximum of 256 characters.
Keywords	Keywords used to search for knowledge content. Use semicolons (;) to separate multiple keywords.
Knowledge Association	A maximum of 20 published knowledge items can be associated.
Publish Mode	Mandatory. The options are as follows: – **Publish directly**: A knowledge item is directly published to the knowledge base home page without secondary approval. – **Review then publish**: A knowledge item needs to be approved before being published to ensure the accuracy and security of knowledge content.

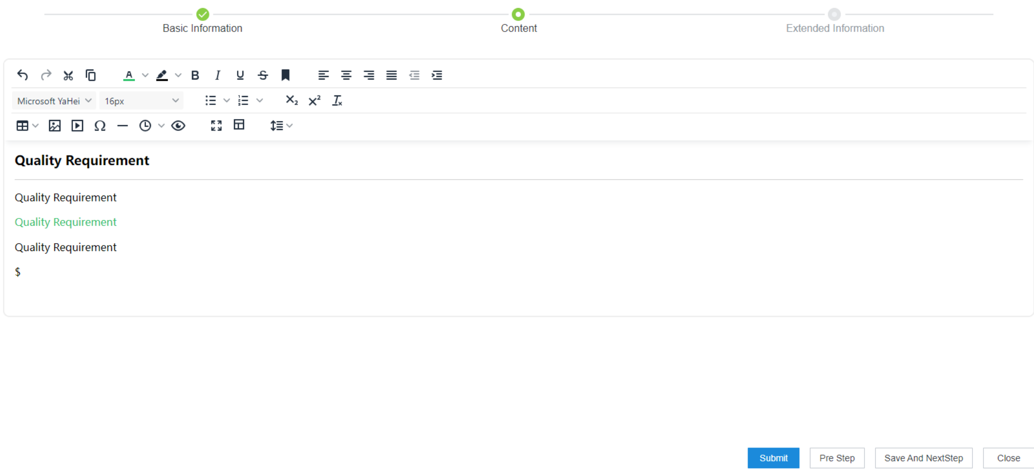
Parameter	Description
Reviewed By	Mandatory when **Publish Mode** is set to **Review then publish**.
Attachment	Click ⊕ and upload a local file.

2. After confirming that the information is correct, perform the following operations as required:
   - Click **Close** to cancel the knowledge creation.
   - Click **Save and NextStep** and go to the **Content** tab page.
3. Configure knowledge content.
   - Configure common knowledge content.

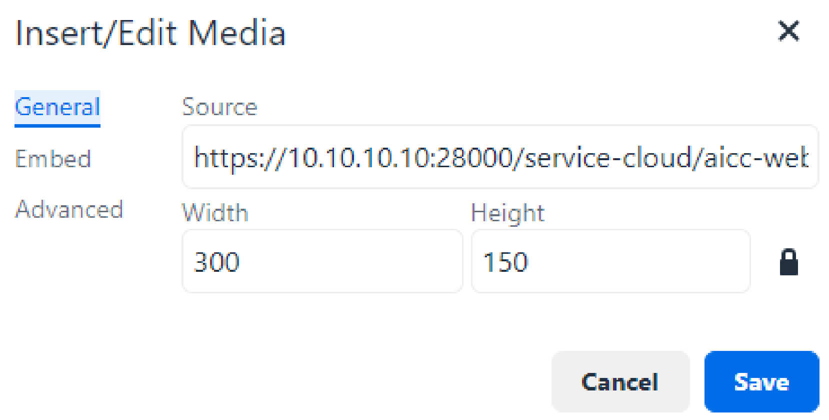
     When **Type** is set to **Common knowledge**, configure the content based on the following description:

     You can edit common knowledge content, such as texts, tables, images, audio, and videos, and set their formats in an editor.

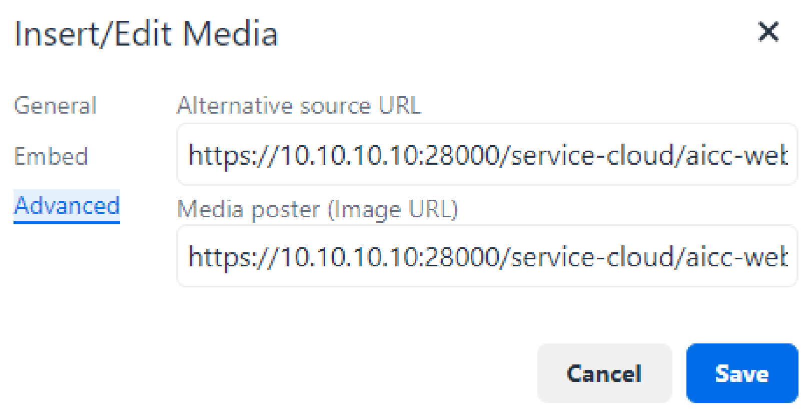
     Figure 2-716 Common knowledge content

     ▪ : Insert or edit a multimedia file. Local videos cannot be uploaded.
       - **General**: Set the multimedia URL and the width and height. The multimedia URL is the URL of a media resource that can be downloaded.



- ○ **Embed**: Paste the multimedia embedded code.
- ○ **Advanced**: Set the alternative multimedia URL and media poster (image URL). The alternative multimedia URL is the URL of a media resource that can be downloaded. The media poster is the URL of an image that can be previewed.



- ▪  : Insert special characters. The following types of special characters are provided: **Currency**, **Text**, **Quotations**, **Mathematical**, **Extended Latin**, **Symbols**, and **Arrows**.
- ▪  : Preview the knowledge display effect during editing.
- ▪ : Reference a published **content template**.

NOTE

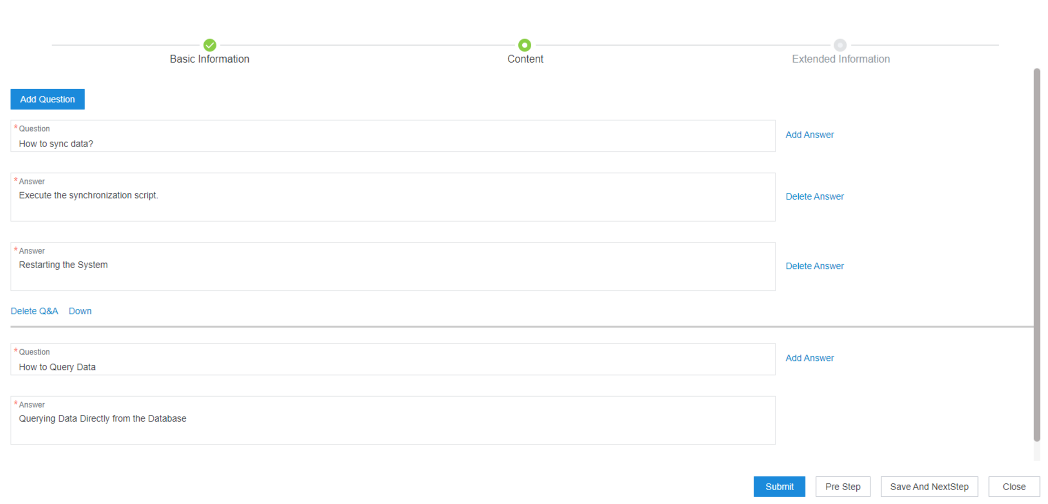
- After a content template is used, the content you are editing will be overwritten. Exercise caution when performing this operation.
- After a content template is used, the editing specifications related to the content template are displayed. The **Editing Specifications** dialog box can be moved and collapsed, but cannot be closed.

– Configure Q&A knowledge content.

When **Type** is set to **Q&A knowledge**, configure the content based on the following description:

A Q&A knowledge item is displayed in the form of one question and one answer. Only the text format is supported. A question can have one or more answers, and a Q&A knowledge item can have one or more FAQ groups.

Figure 2-717 Q&A knowledge content

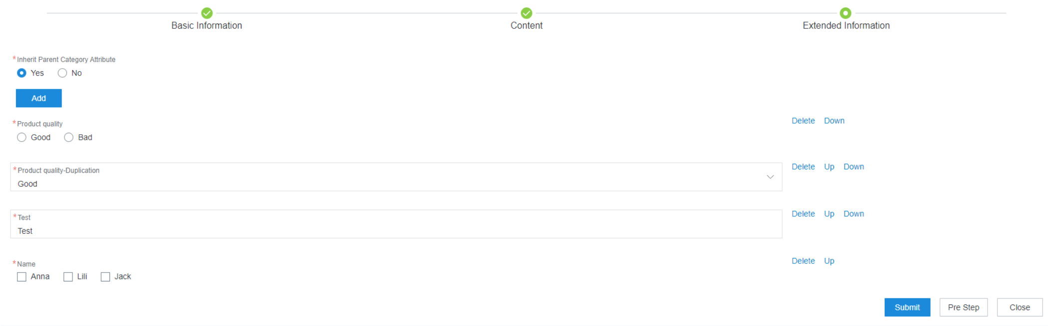


- **Add Question**: Add FAQ groups.
- **Delete Q&A**: Delete an unnecessary FAQ group if there are multiple FAQ groups. There must be at least one FAQ group.
- **Up**/**Down**: Sort FAQ groups.

- **Question** (mandatory): The value can contain a maximum of 500 characters.
- **Answer** (mandatory): The value can contain a maximum of 500 characters.
- **Add Answer**/**Delete Answer**: A question can have multiple answers and must have at least one answer.

4. After confirming that the information is correct, perform the following operations as required:
   - Click **Submit**. The knowledge item is compiled successfully, and the knowledge status becomes **Published**.
   - Click **Pre Step** to return to the **Basic Information** tab page.
   - Click **Save And NextStep** to go to the **Extended Information** tab page.
   - Click **Close** to save the current knowledge content. The knowledge status becomes **New**.
5. Configure extended knowledge information.

Figure 2-718 Extended Information



   - **Inherit Parent Category Attribute** (mandatory): Determine whether to inherit the extended attributes of the parent column.
   - **Add**: Click this button and select a configured extended attribute. For details about extended attributes, see **2.16.2.3 Managing Extended Attributes**.

     You can perform the following operations on configured extended attributes:
     - Click **Delete** to delete unnecessary an extended attribute.
     - Click **Up** or **Down** to determine the display position of an attribute.
6. After confirming that the information is correct, perform the following operations as required:
   - Click **Close** to save the current knowledge content. The knowledge status becomes **New**.
   - Click **Submit**. The knowledge item is compiled successfully, and the knowledge status becomes **Published**.

Step 4 (Optional) Select the new knowledge item.

- Click **Modify** and modify basic knowledge information by referring to **Table 2-190**. **Path** and **Type** cannot be modified.
- Click **Delete** to move the knowledge item to the recycle bin.
- Click **Unlock** and unlock the locked knowledge item.

  If a knowledge item is edited and submitted again, or the editing is interrupted due to reasons such as sign-out and the knowledge item is not saved, the knowledge item is locked. In this case, the value of **Locked By** is the account of the operator who locks the knowledge item.

  NOTE

  Only the operator who has locked the knowledge item can unlock it.
- Click **Permanently Delete** to delete the knowledge item directly instead of moving it to the recycle bin.

  NOTE

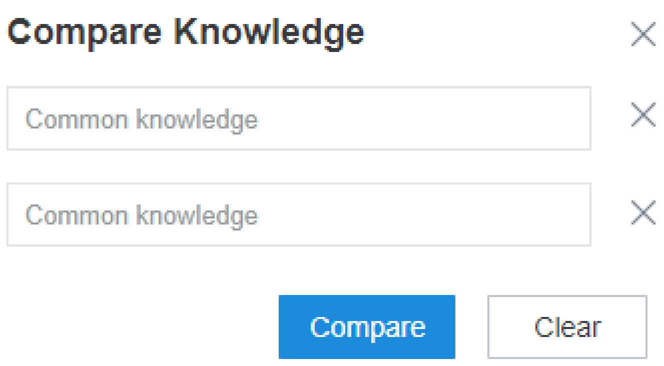
  Before permanently deleting the knowledge item, ensure that it is no longer needed. Deleted data cannot be retrieved.
- Click **More** and choose **Move**. In the dialog box that is displayed, select the target column and click **Submit** to move the knowledge item to the column.
- Click **More** and choose **Publish** to publish the new knowledge item. You can publish knowledge items in batches.
- Click **More** and choose **Copy**. On the **Knowledge Compilation** page, configure knowledge content by referring to **Step 3**.
- Click **More** and choose **Modify Attribute**. In the **Batch Modify Attributes** dialog box, modify **Display on Front Page**, **Validity Period Start**, and **Validity Period End**.
- Click **More**, choose **Sort**, and click **Up**, **Down**, or **Pin** as required. Alternatively, click **Adjust to**, select the target knowledge item, and move the knowledge item before or after the target knowledge item.

Step 5 (Optional) Compare knowledge items. You can compare only two common knowledge items.

To compare knowledge items, use either of the following methods:

- Select two common knowledge items and click Compare.
- Click Compare. On the knowledge selection page, add common knowledge items to the comparison list and click Compare.

Figure 2-719 Selecting knowledge items for comparison



----End

2.16.2.3 Managing Extended Attributes

Labels can be added to knowledge items using extended attributes so that users can quickly locate them.

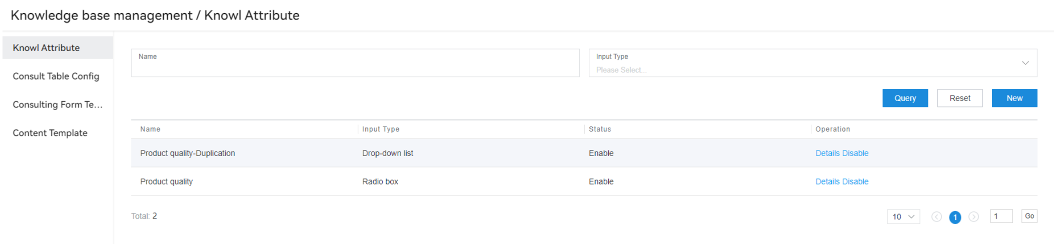
Prerequisites

The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Knowl Attribute** menu permission.

Procedure

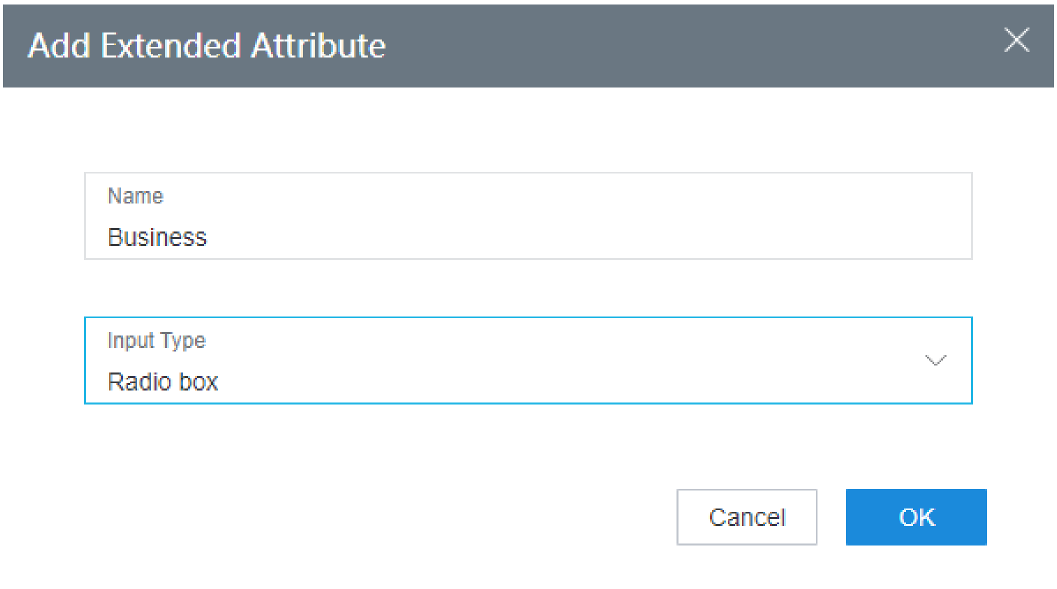
Step 1 Sign in to the AICC as a knowledge compiler and choose **Configuration Center** > **Knowledge base management** > **Knowl Attribute**.

Figure 2-720 Knowl Attribute



Step 2 Click **New**.

Figure 2-721 Add Extended Attribute



- **Name** (mandatory): The value can contain a maximum of 50 characters.
- **Input Type** (mandatory): Select **Text input**, **Drop-down list**, **Radio box**, or **Check box**.

  NOTE

  The input mode of an extended attribute cannot be modified and updated after being saved.

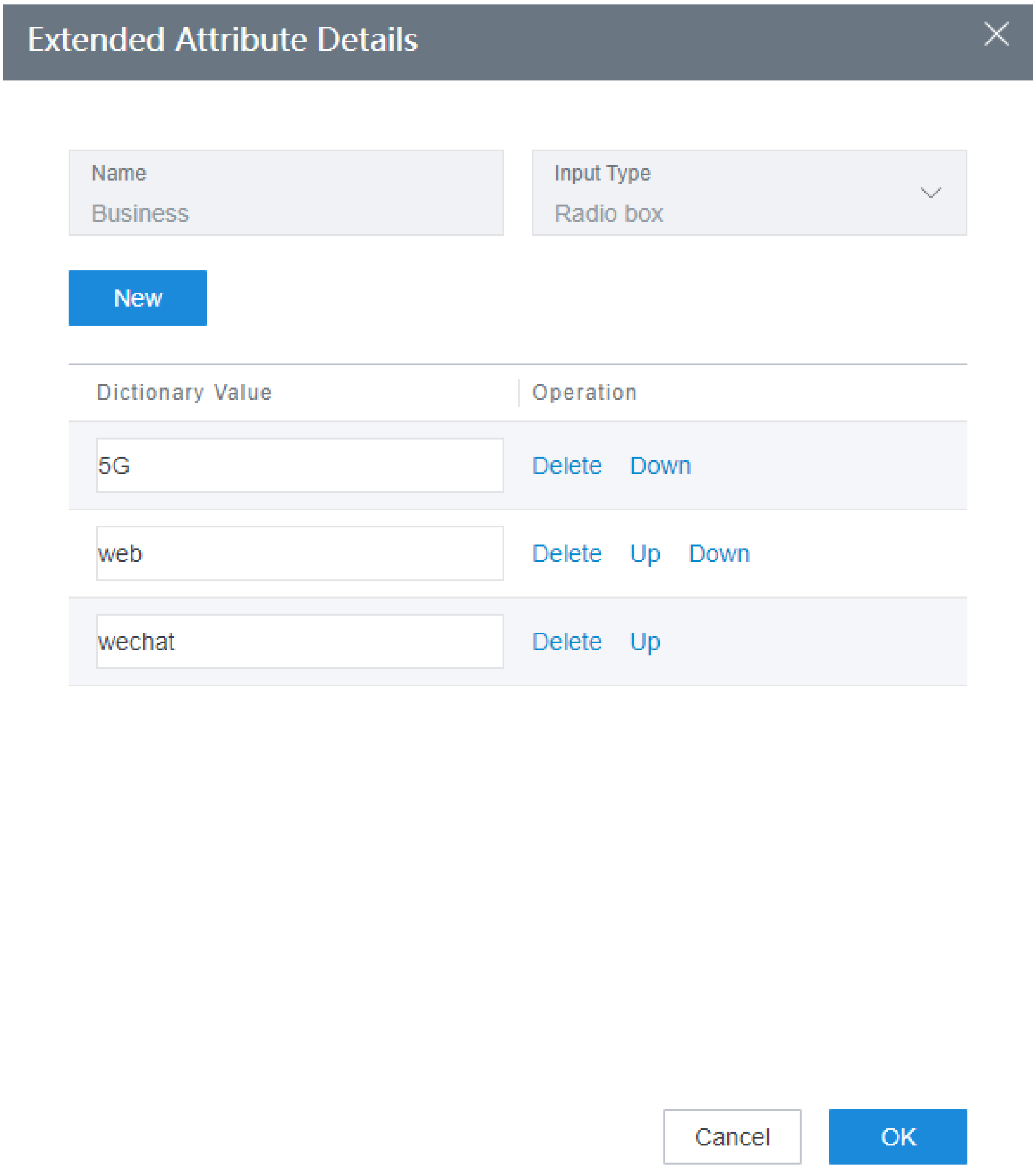
Step 3 Click **OK**.

Step 4 Configure extended attribute details.

When **Input Type** is set to **Drop-down list**, **Radio box**, or **Check box**, dictionary values can be configured for the extended attribute.

1. Click **Details** in the **Operation** column corresponding to the new extended attribute.

Figure 2-722 Extended Attribute Details



2. Click **New** and add attribute dictionary values as required. The extended attribute must have at least one dictionary value.
3. Set **Dictionary Value**, which is mandatory. The value can contain a maximum of 100 characters.
4. (Optional) Click **Delete** to delete an unnecessary dictionary value. Click **Up** or **Down** to sort dictionary values.
5. After the configuration is complete, click **OK**.

Step 5 Click **Enable** corresponding to the configured extended attribute. The extended attribute status becomes **Enable**.

Extended attributes in the **Enable** state can be referenced by columns and knowledge items.

Step 6 (Optional) Perform other operations.

- By default, a new extended attribute is in the **Draft** state. Click **Edit** and modify the basic information about the extended attribute. Click **Delete** to delete the extended attribute.
- Click **Disable** corresponding to an enabled extended attribute. The extended attribute status becomes **Disable**. In this case, the extended attribute cannot be referenced by columns or knowledge items.

  Enabled extended attributes cannot be modified. You can only view their details.
- Click **Enable** corresponding to a disabled extended attribute. The extended attribute status becomes **Enable**.

----End

2.16.2.4 Reviewing Knowledge

To ensure the correctness of knowledge content, knowledge items need to be reviewed by reviewers before being published or updated.

Prerequisites

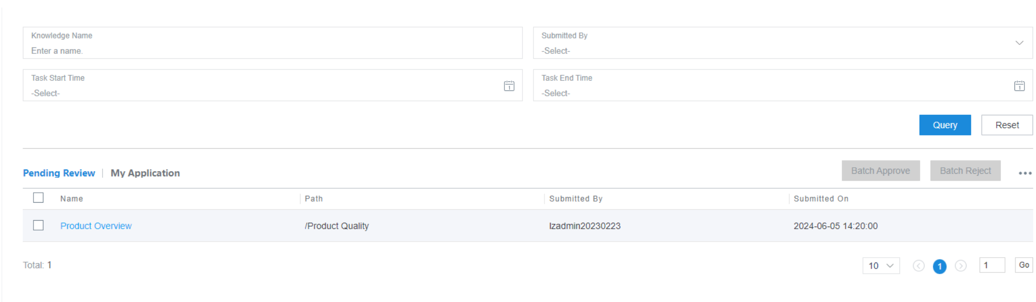
- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Review** > **Knowledge Review** menu permission.
- The current user has tasks to be reviewed.

Procedure

Step 1 Sign in to the AICC as a reviewer and choose **Knowledge Base** > **Knowledge Review**.

By default, all knowledge items to be reviewed are displayed. You can set search criteria, such as **Knowledge Name**, **Submitted By**, **Task Start Time**, and **Task End Time**, to search for knowledge items. You can also directly select a knowledge item for review.

Figure 2-723 Reviewing knowledge items

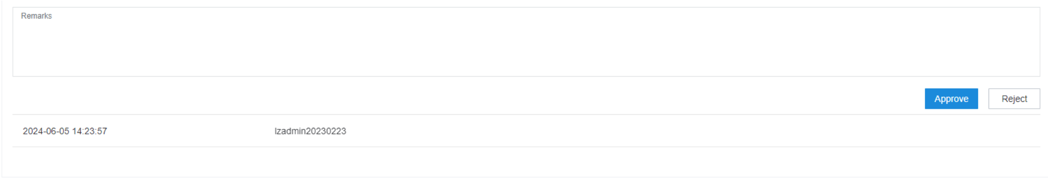


Step 2 Click the **Pending Review** tab and view the list of knowledge items to be reviewed.

Step 3 Click the name of a knowledge item.

Review the knowledge details, enter review remarks at the bottom of the page, click **Approve** or **Reject**, and then confirm the review result.

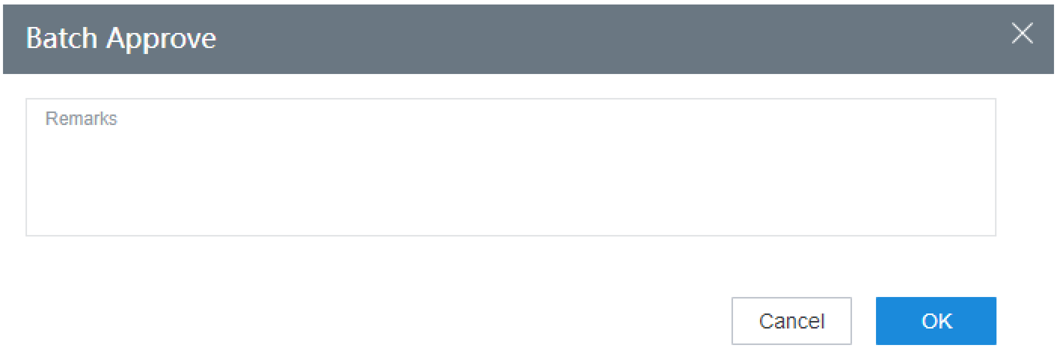
Figure 2-724 Reviewing a knowledge item



Step 4 (Optional) Select multiple knowledge items and click **Batch Approve** or **Batch Reject**.

In the dialog box that is displayed, enter the review remarks and click **OK**.

Figure 2-725 Batch Approve



Step 5 (Optional) Click the **My Application** tab and view the list of knowledge items submitted by the current account for review.

- Search for knowledge item information by knowledge item name, submitter, task start time, task end time, and review status.
- Click the name of a knowledge item to view its knowledge details submitted by the current account.

----End

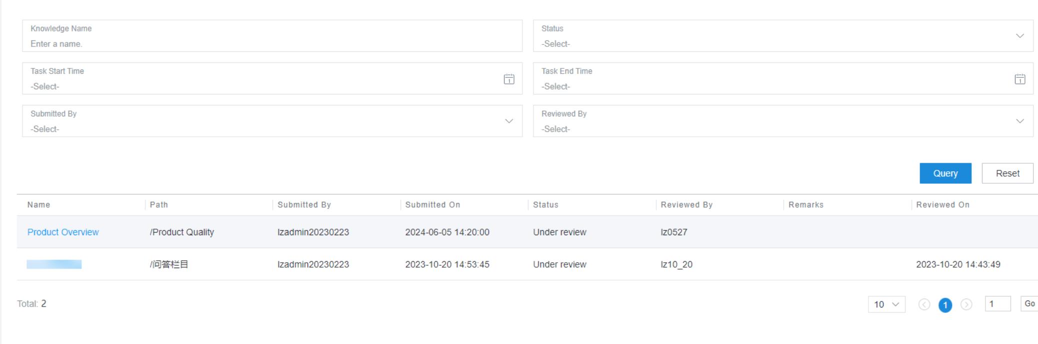
Follow-up Procedure

Step 1 Choose **Knowledge Base** > **Review Record** and view knowledge review records.

NOTE

To use the knowledge review record query function, you must have the **Knowledge Base** > **Knowledge Review** > **Review Record** menu permission.

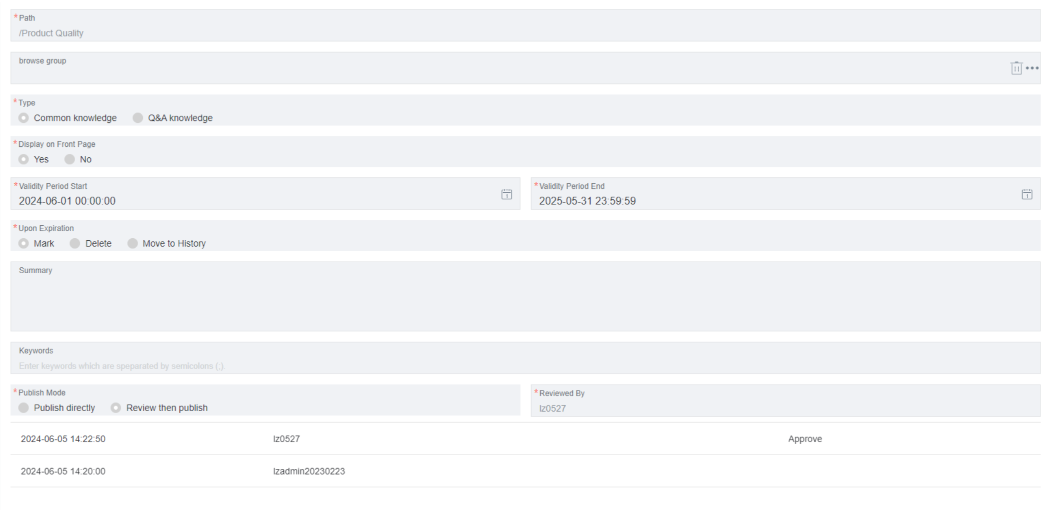
Figure 2-726 Review Record



You can search for data by knowledge item name, review status, task start time, task end time, submitter, and reviewer.

Step 2 Click the name of a review record and view the knowledge details and review process.

Figure 2-727 Review details



----End

2.16.2.5 Managing the Recycle Bin

The CC-iKBS provides the recycle bin function. When deleting columns and knowledge items, you can move them to the recycle bin to prevent data loss caused by misoperations.

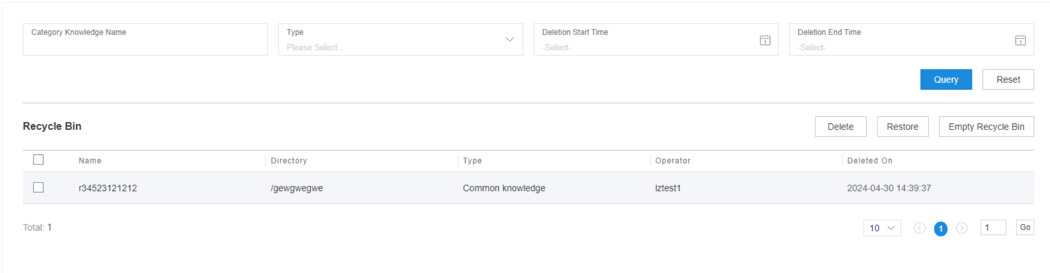
Prerequisites

- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Recycle Bin** menu permission.
- **Delete** has been clicked to delete a column or knowledge item. If you click **Delete permanently**, the deleted column or knowledge item is not moved to the recycle bin.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Recycle Bin**.

Figure 2-728 Recycle Bin



You can search for deleted columns and knowledge items by knowledge column name, knowledge column type, deletion start time, and deletion end time.

Step 2 Select multiple columns or knowledge items and click **Restore** to restore them to the column management page.

Step 3 Select multiple columns or knowledge items and click **Delete** to delete them permanently.

Step 4 Click **Empty Recycle Bin** to clear all deleted columns and knowledge items by one click.

NOTE

After columns and knowledge items are deleted or the recycle bin is cleared, the columns and knowledge data will be deleted permanently. Exercise caution when performing these operations.

----End

2.16.2.6 Managing Knowledge Versions

Historical knowledge versions are used to identify knowledge maintenance records. Knowledge compilers can manage and maintain historical knowledge versions based on the versions recorded in the system.

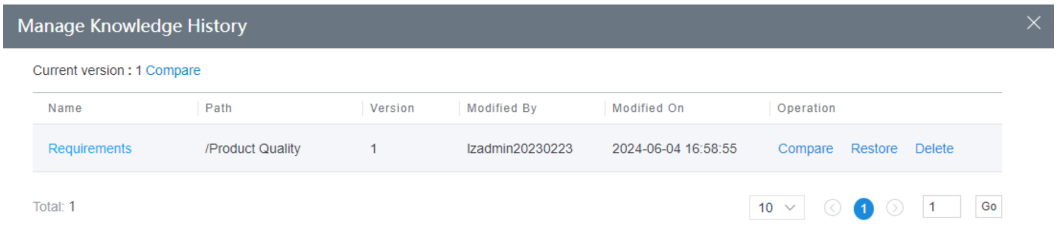
Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Knowledge Column**.

- The historical version function is not supported for columns.
- Click a value in the **Source Version** column to view the latest version of a knowledge item. **Target Version** displays the number of historical versions of a knowledge item.

Step 2 Click a value in the **Target Version** column corresponding to a published knowledge item.

Figure 2-729 Manage Knowledge History



Step 3 (Optional) Click a historical knowledge version name to view its details.

Step 4 Click **Restore** corresponding to a historical knowledge version. The page for configuring a new knowledge version is displayed, and the current knowledge item is automatically changed to a historical version.

Step 5 (Optional) Perform the following operations on historical knowledge versions:

- Click **Delete** corresponding to a historical knowledge version to delete it.
- Select different knowledge versions and click **Compare** to compare them.

----End

2.16.2.7 Managing Content Templates

You can use a content template when configuring common knowledge content in the editor to quickly reference the content configured in the template, facilitating knowledge compilation.

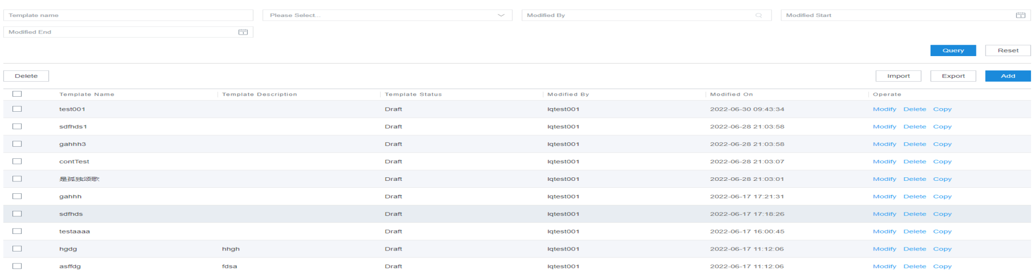
Prerequisites

The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Template management** > **Content template** menu permission.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Configuration Center** > **Knowledge base management** > **Content Template**.

Figure 2-730 Content template management



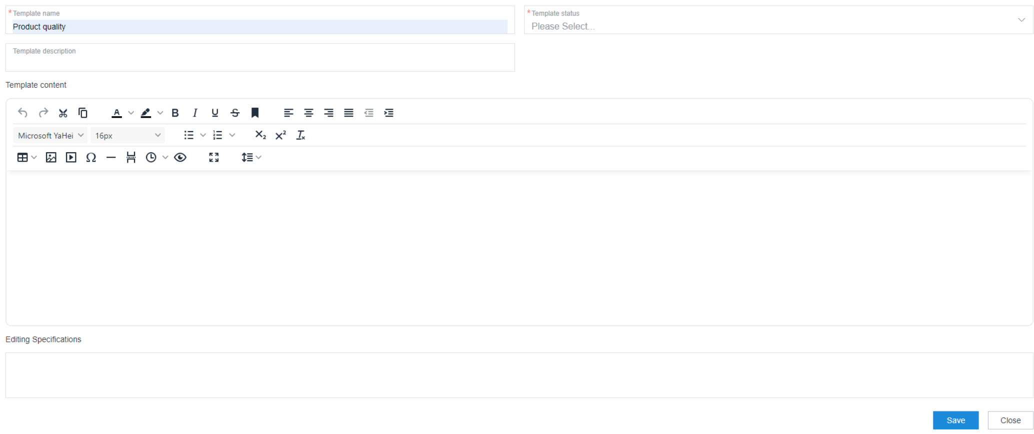
You can search for content template data based on the template name, template status, modifier, modification start time, and modification end time.

Step 2 Add a content template.

Use one of the following methods as required:

- Add a template at a time.
  a. Click **Add**. On the page that is displayed, configure template information.

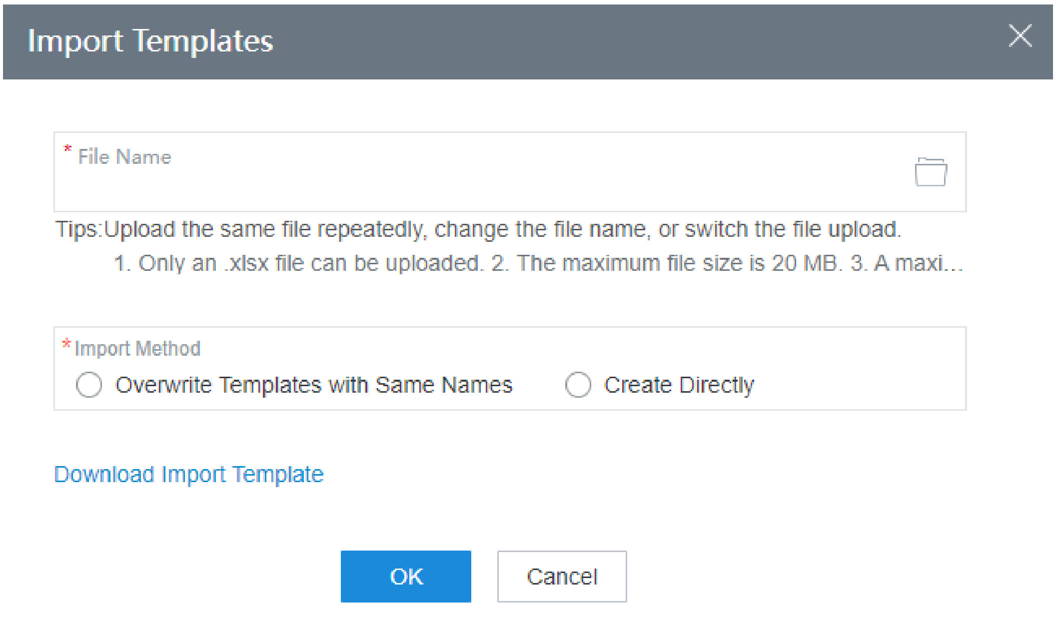
Figure 2-731 Adding a content template



  - **Template name** (mandatory): Enter a value of no more than 80 characters.
  - **Template status** (mandatory): Select **Draft** or **Valid**.
  - **Template description**: Enter a value of no more than 400 characters.
  - **Template content**: Configure the common knowledge content by referring to **2.2-1 Configure common knowledge content**.
  - **Editing Specifications**: Specify the editing requirements for referencing the common knowledge content template.

  b. Click **Save**.
- Import templates in batches.
  a. Click **Import**.

Figure 2-732 Import Templates



b. Click **Download Import Template** to download the import template to the local PC.

c. Edit the file content and then save the file.

d. Click  to upload the template file.

e. Set **Import Method**. If you select **Overwrite Templates with Same Names**, the uploaded content template overwrites an existing content template with the same name. If you select **Create Directly**, the uploaded content template is directly created without overwriting an existing content template with the same name.

f. Click **OK**.

Step 3 (Optional) Perform the following operations on content templates:

- Select multiple content templates and click **Delete** to delete them in batches.
- Select multiple content templates and click **Export** to export them to the local PC.
- Click **Modify** corresponding to a content template to modify the template content. **Template status** can be set to **Invalid**.
- Click **Delete** corresponding to a content template to deleted it.
- Click **Copy** corresponding to a content template. The content template configuration page is displayed for you to add a content template with the same content. The name of the new template is *-**copy**, and its status is **Draft**. For details about how to configure a template copy, see **2.7-2 Add a content template**.

----End

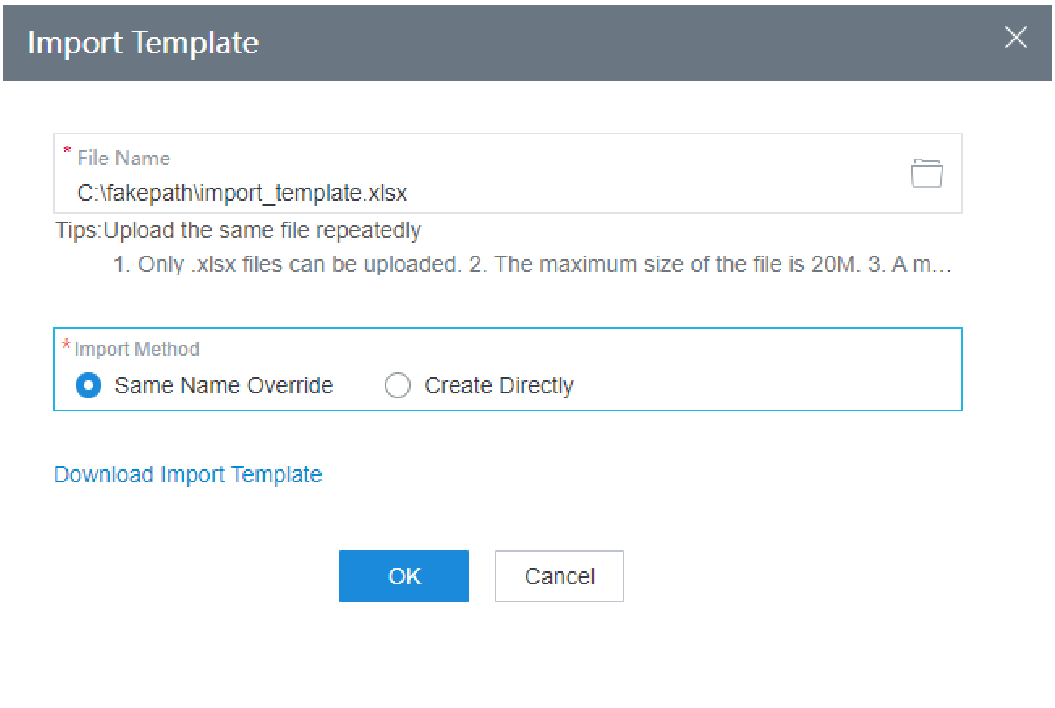
Follow-up Procedure

Content templates can be imported and exported. A maximum of 10 templates can be imported and exported at a time.

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Content Template**.

Step 2 Click **Import**.

Figure 2-733 Import Template



Step 3 Select the template data file, and then click **OK** to upload the file.

NOTE

Before the import, you can download the import template, edit it in the specified format, and then upload it.

----End

2.16.3 Managing Knowledge in the Foreground

The knowledge base allows agents to search for and browse knowledge based on business requirements, improving agent service efficiency.

2.16.3.1 Knowledge Base Home Page

The knowledge base home page is provided for agents to search for knowledge by keyword.

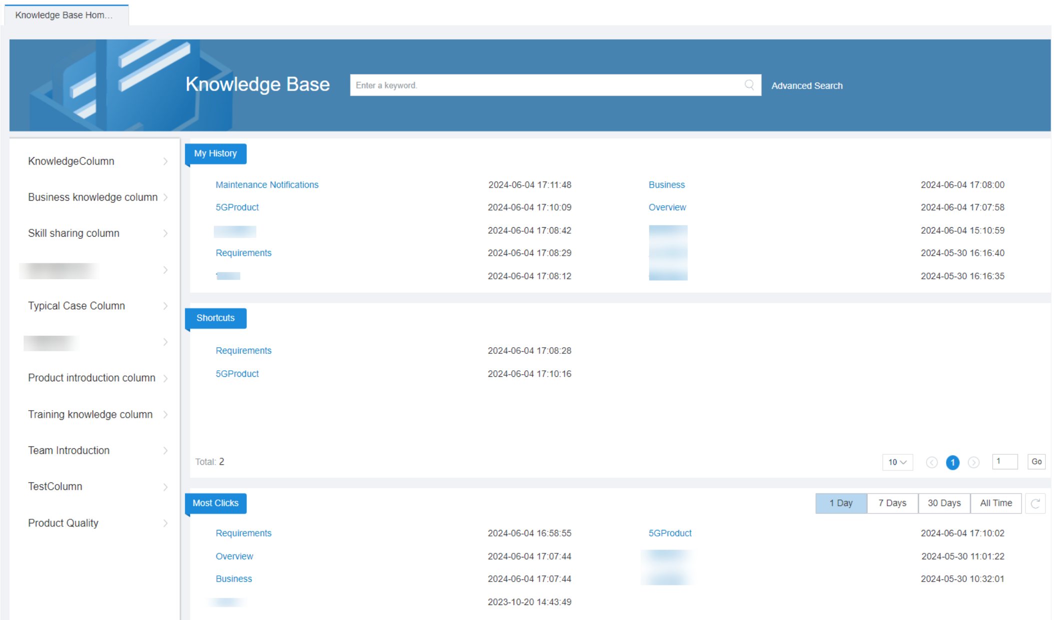
Prerequisites

The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Application** > **Knowledge Home** menu permission.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Knowledge Base** > **Knowledge Home**.

Figure 2-734 Knowledge Home



- **My History**: displays all knowledge items viewed by the current account in descending order of the time on the right of the items, which indicates the time when they were viewed.
- **Shortcuts**: displays all favorite knowledge items of the current account in ascending order of the time on the right of the items, which indicates the time when they were added to favorites.
- **Most Clicks**: displays all knowledge items that have been clicked in descending order of the number of views and the last update time on the right of each item.

  You can view the number of views on the knowledge details page.

Step 2 Search for knowledge items.

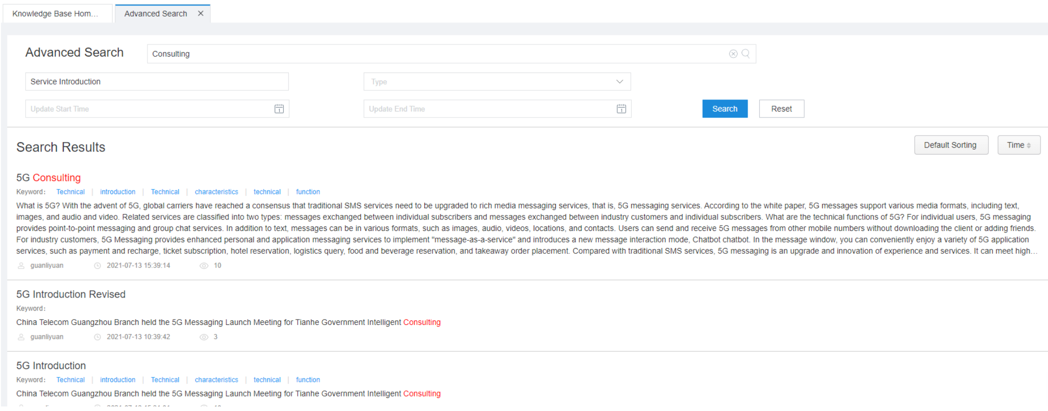
Use either of the following methods:

- Enter a keyword in the text box on the top and click  to search for required knowledge items.

  The knowledge names, content, or keywords are matched based on the entered content. The matched keywords are displayed in red in the search results.
- Click **Advanced Search**.

  You can set keyword, column name, knowledge type, update start time, and update end time, and then search for required knowledge items. The matched keywords are displayed in red in the search results.

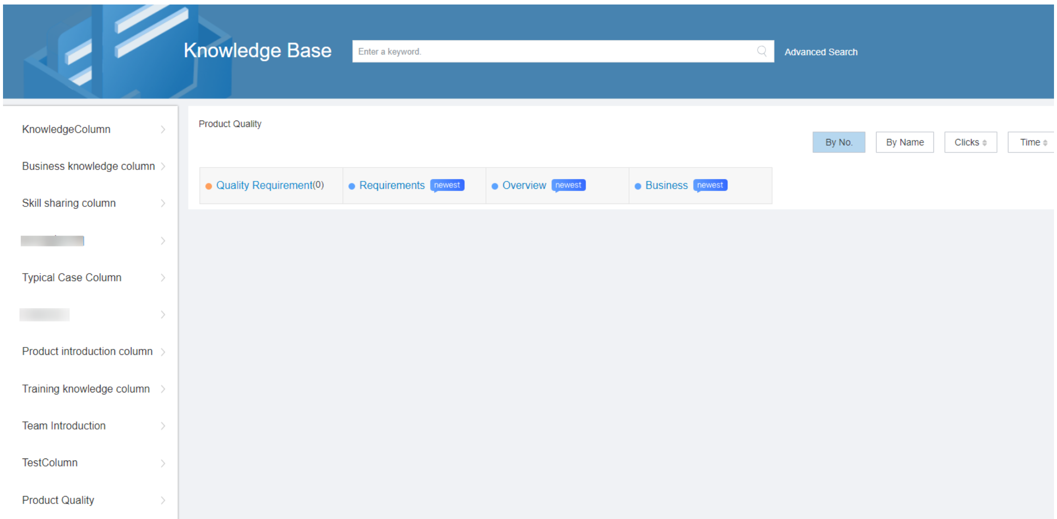
Figure 2-735 Advanced Search



Step 3 Click  on the top to refresh the knowledge base home page and return to the page shown in **Figure 2-734**.

Step 4 Choose a column on the left. The subcolumns and knowledge items in the column are displayed on the right.

Figure 2-736 Knowledge columns



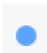
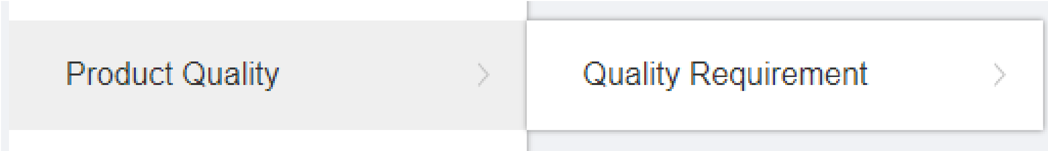
- Name:  indicates a column, and  indicates a knowledge item.
- If a subcolumn has knowledge items, its name is *Subcolumn name***(***Number of knowledge items***)**. You can click a subcolumn name to view the columns and knowledge items in the subcolumn.
- Click  on the right of a column name to display the subcolumns in the column.

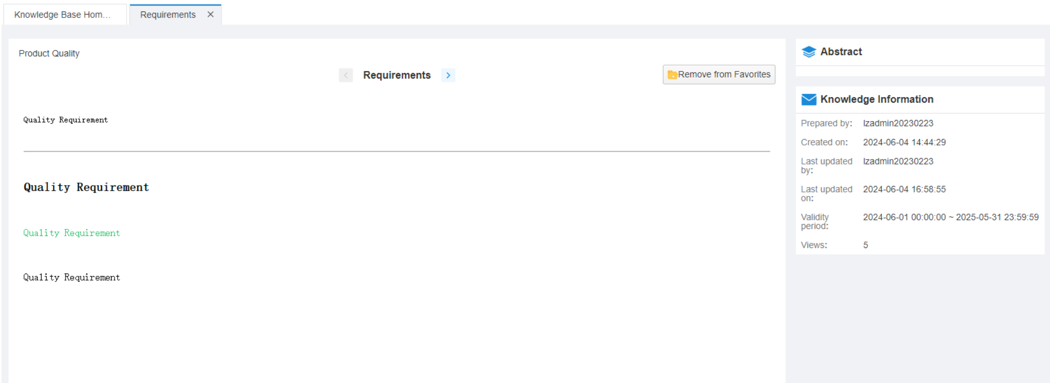
Figure 2-737 Subcolumn

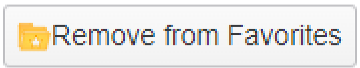


- Display and sorting: Click **By No**, **By Name**, **Clicks**, or **Time** and then to sort the columns and knowledge items in ascending or descending order.

Step 5 Click a knowledge item name to view the knowledge details.

Figure 2-738 Knowledge details



Step 6 Click 

to add the current knowledge item to my favorites.

----End

2.16.3.2 Managing Favorites

Favorites folders are used by agents to save required knowledge to quickly access the knowledge.

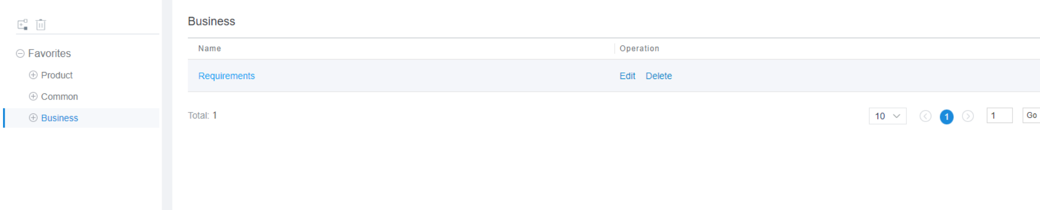
Prerequisites

- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Application** > **Favorites** menu permission.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Knowledge Base** > **Favorites**.

Figure 2-739 Favorites

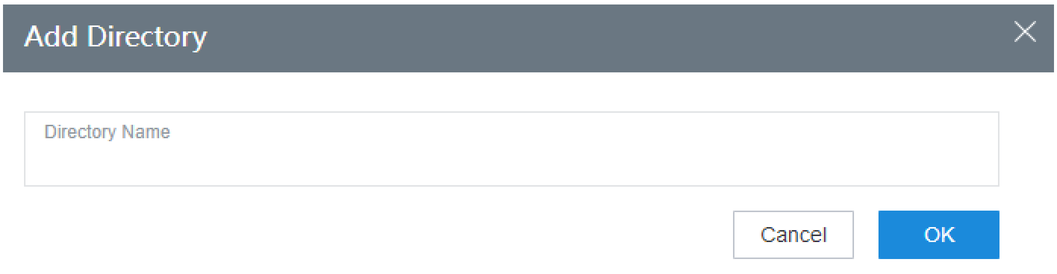


NOTE

On the **Favorites** page, the favorites directory tree on the left can be expanded. A maximum of three directory levels are supported.

Step 2 Click to add a favorites directory.

Figure 2-740 Add Directory



Directory Name (mandatory): Enter a value of no more than 80 characters.

Step 3 Click **OK**.

Step 4 (Optional) Click corresponding to the new favorites directory to delete it.

NOTE

After a favorites directory is deleted, all favourite knowledge items in the directory will be deleted. Exercise caution when performing this operation.

Step 5 Choose a favorites directory. All knowledge items in the directory are displayed on the right.

- Click a favourite knowledge item name to view the knowledge details.
- Click **Edit** and modify the knowledge item name displayed on the **Favorites** page.
- Click **Delete** to delete a knowledge item from favorites.

----End

2.16.4 Managing Consultation Tables

A consultation table stores business consultation information. When handling businesses, an agent can look up in a consultation table to answer business questions.

2.16.4.1 Managing Consultation Table Templates

A consultation table template, similar to a data table, can be referenced during consultation table data creation.

Prerequisites

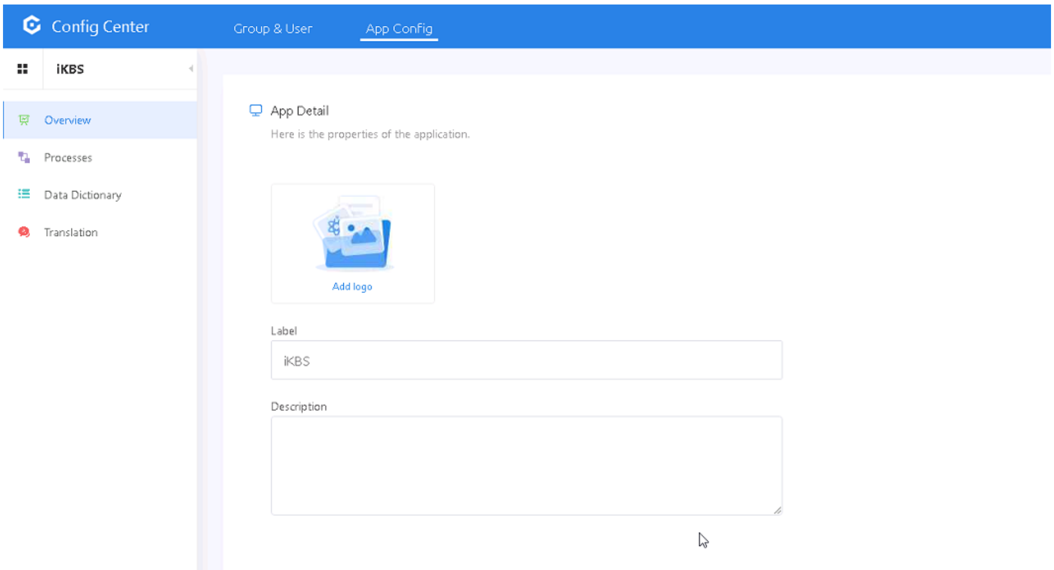
- The **AppCube** feature has been enabled for the tenant space, and the AICC has been connected to AppCube. The **Knowledge base** feature has been enabled.

- You have the **Knowledge Base** > **Knowledge Management** > **Consult Table Config** and **Channel Configuration** > **Call Center Configuration** > **Service Guidance Configuration** menu permissions.
- You have customized consultation table fields.

a. Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Consultation Table Template**.

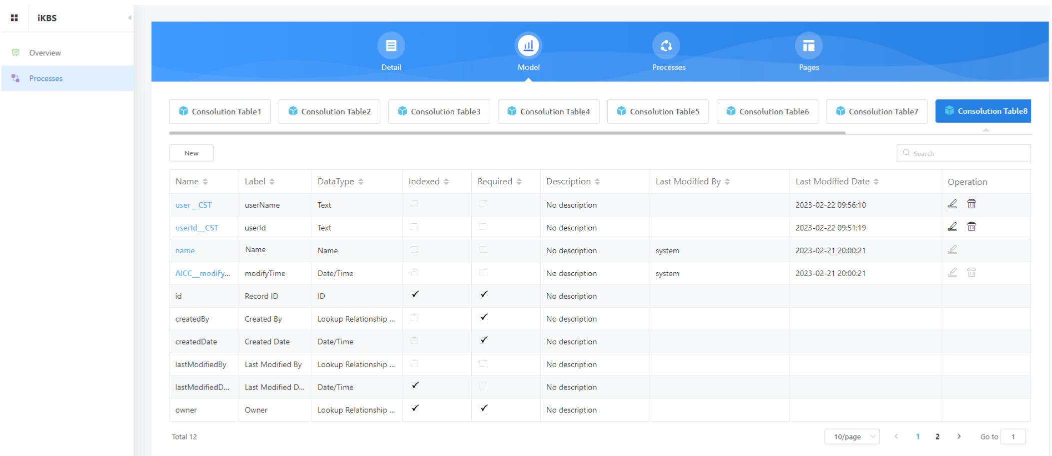
b. Click **Configure** to access AppCube and configure consultation tables.

Figure 2-741 Config Center



c. Choose **Processes** > **Model**. The consultation table list page is displayed.

Figure 2-742 Model



d. Select a consultation table to which a field needs to be added and click **New** to add a field. The consultation tables are preset and contain two fields by default.

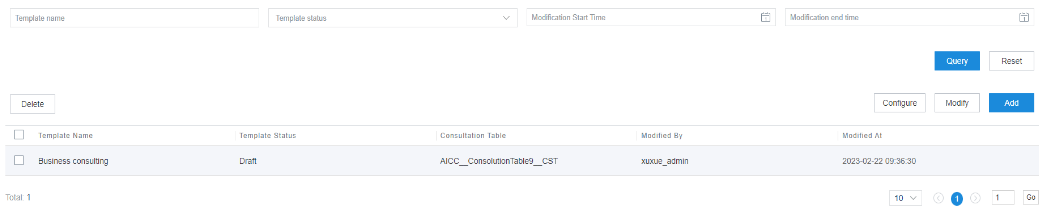
e. Select a field type and configure field details as prompted. The field name is automatically filled in based on the label and can be modified.

f. Click **Next** to save the new field.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Consultation Table Template**.

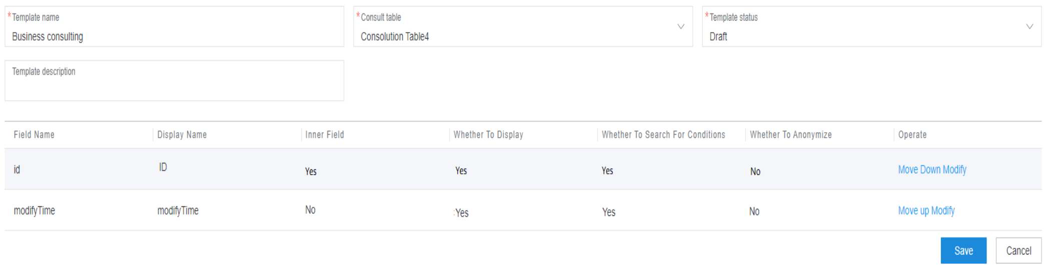
Figure 2-743 Consultation table template list



You can click **Configure** to customize consultation table fields. For details, see **Prerequisites**.

Step 2 Click **Add**. On the page that is displayed, configure a consultation table template.

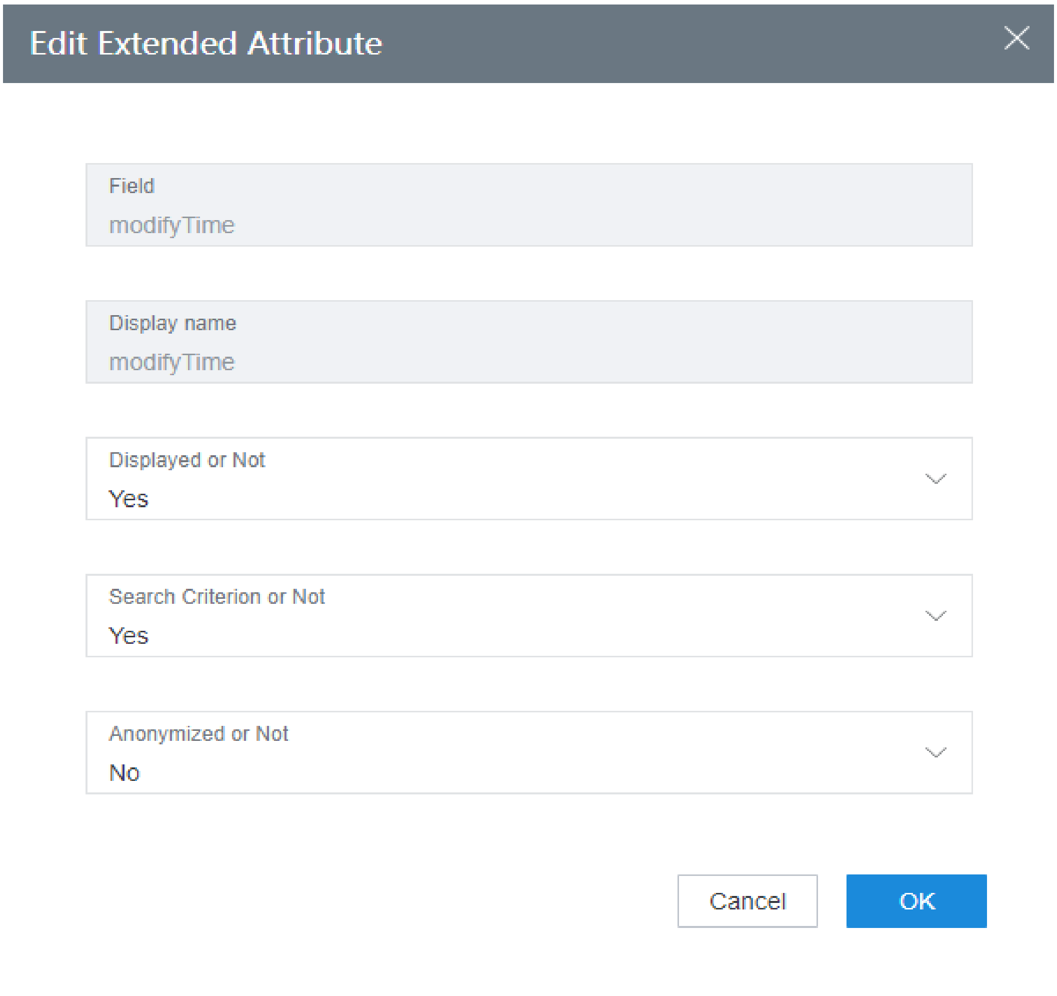
Figure 2-744 Adding a consultation table template



- **Template name**: Name of the consultation table template. This parameter is mandatory.
- **Consult table**: Select the required consultation table. This parameter is mandatory.
- **Template status**: Status of the consultation table template. This parameter is mandatory. The options are as follows:
  - **Draft**: Multiple draft consultation table templates can be created for a consultation table.
  - **Enabled**: Only one enabled consultation table template can be created for a consultation table.
- **Template description**: Description of the consultation table template.
- List of consultation table fields: The values are automatically generated after the required consultation table is selected.

Step 3 Select a field and click **Modify**. On the page for editing extended attributes, configure extended attributes of the consultation table field.

Figure 2-745 Editing extended attributes



- **Field**: Read-only.
- **Display name**: Read-only.
- **Displayed or Not**: Whether to display the field in the consultation table field list.
- **Search Criterion or Not**: Whether the field is a search criterion in the consultation table field list.
- **Anonymized or Not**: Whether to anonymize the field in the consultation table field list. Set **Anonymized or Not** to **Yes** for fields that contain personal data and sensitive data.

Step 4 Click **OK** to complete the configuration of extended attributes and return to the page for adding a template.

Step 5 (Optional) To change the display position of a consultation table field, select the field and click **Move up** or **Move Down**.

Step 6 Click **Save**.

----End

Follow-up Procedure

You can perform the following operations after you select consultation table templates:

- Click **Delete** to delete the consultation table templates in batches.
- Click **Modify** to modify template parameters except **Consult table**. The template status can be changed to **Discarded**.

2.16.4.2 Managing Consultation Table Data

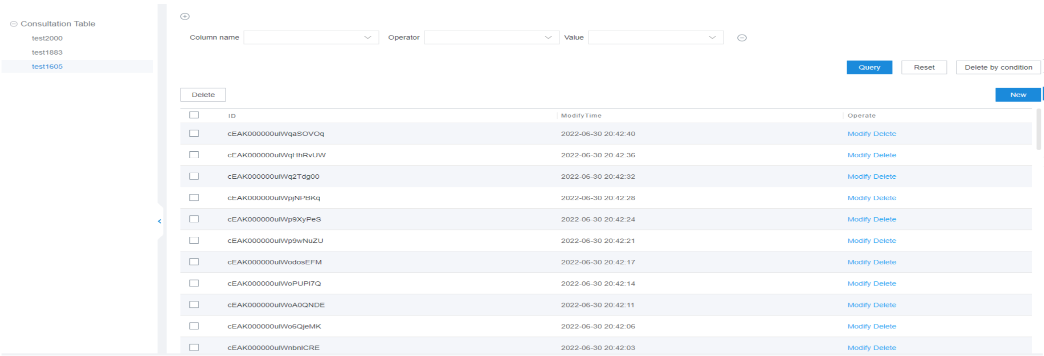
Tenant administrators can configure consultation table data.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Consultation Table Management**.

- Enabled consultation table templates are displayed on the left.
- The data in a consultation table is displayed on the right. By default, 100 records are displayed.

Figure 2-746 Consultation table management



Step 2 Select the consultation table template to be configured and click 

on the right. The dialog box for adding consultation table data is displayed.

Step 3 Enter the values of the fields in the consultation table and click **Save**.

Figure 2-747 Adding consultation table data

----End

Follow-up Procedure

- Manage consultation table data based on conditions.
  - Click to add a search condition. A maximum of 10 search conditions can be added.
  - Click to delete a search criteria.
  - Configure search conditions and click **Delete by condition** to delete field values based on specific conditions.
  - Configure search conditions and click **Query** to query field values based on the conditions.
  - Click **Reset** to clear conditions by one click.
- Select data records and click Delete to delete them in batches.
- For configured field data records:
  - Click **Delete** to delete a field data record.
  - Click **Modify** to update a field data record.

2.16.4.3 Consultation Table Lookup

During business handling, an agent can look up in a consultation table to answer business questions.

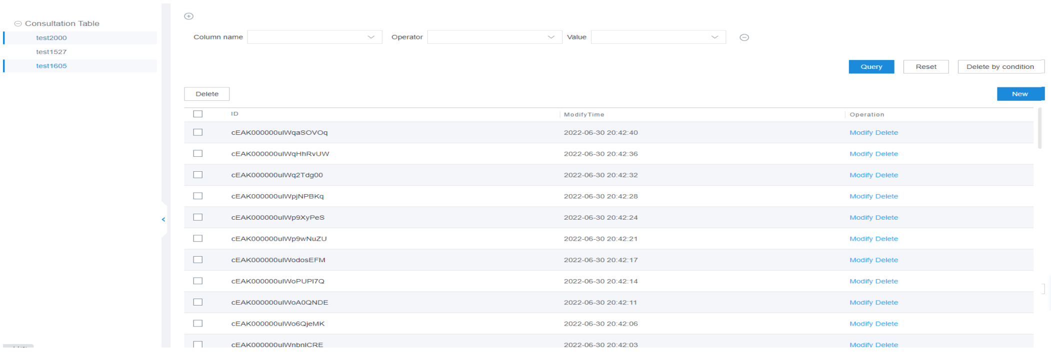
Prerequisites

The knowledge base feature has been enabled for the tenant space, and the operator has the permission on the **Search Consultation Table** menu.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Knowledge Base** > **Search Consultation Table**.

Figure 2-748 Consultation table lookup



- Enabled consultation table templates are displayed on the left.
- All data values in a consultation table template are displayed on the right.

Step 2 Select a consultation table to obtain the table data.

Step 3 Click the **COMMON SEARCH** tab.

Set search criteria and click **Query** to search for consultation table data that meets the search criteria.

Step 4 Click the **INTELLIGENT SEARCH** tab.

Intelligent search supports only keyword-based search. All data values of the string and number types in the consultation table can be queried. Fuzzy search is supported.

----End

2.17 Configuring Public Resources

2.17.1 Modifying Policy Information

A tenant administrator can directly modify the agent call policy of the tenant space without contacting O&M personnel. The policy information includes the call allocation mode, rest queuing policy, whether to release calls not answered for a long period, and whether to set agents who do not answer for a long period to the busy state.

Prerequisites

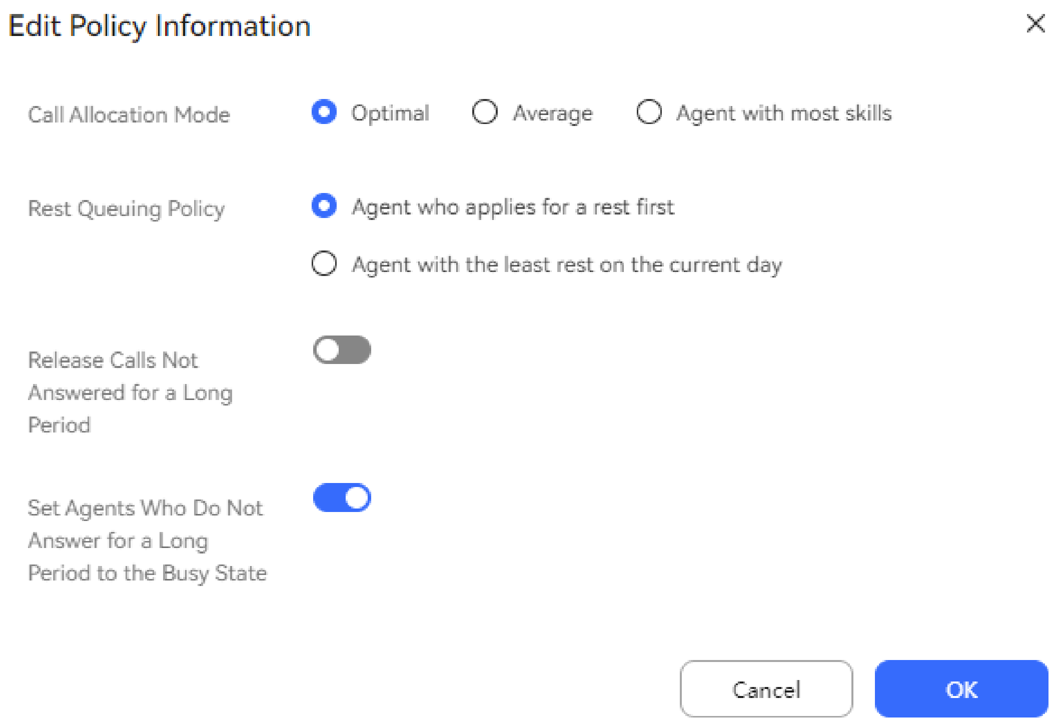
None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Information**.

Step 2 In the **Policy Information** area, click to enter the editing mode.

Figure 2-749 Page for modifying policy information



Step 3 Modify policy information based on **Table 2-191**.

Table 2-191 Policy information parameters

Parameter	Description	Value Range
Call Allocation Mode	Call allocation mode.	• **Optimal** • **Average** • **Agent with most skills** Default value: **Optimal** **Table 2-192** describes the parameters.

Parameter	Description	Value Range
Rest Queuing Policy	Rest queuing policy.	• **Agent who applies for a rest first**: When there is a rest place, the system sets the agent who applies for a rest first to the rest state. • **Agent with the least rest on the current day**: When there is a rest place, the system sets the agent with the least rest on the current day to the rest state. Rest ratio of a day = (Total rest duration during historical sign-in periods on the day + Rest duration during the current sign-in period)/(Total sign-in duration during historical sign-in periods on the day + Sign-in duration during the current sign-in period) Default value: **Agent who applies for a rest first**
Release Calls Not Answered for a Long Period	Whether to release calls not answered for a long period.	• : no • : yes Default value: 
Set Agents Who Do Not Answer for a Long Period to the Busy State	Whether to set agents who do not answer for a long period to the busy state.	• : no • : yes Default value: 

Table 2-192 Call allocation modes

Call Allocation Mode	Description	Scenario	Processing
Optimal	In this mode, a call is preferentially allocated to the agent who meets the call skill requirements and has the fewest skills. When there are multiple agents who meet the requirements, the system allocates the call to one of the agents at random.	A VDN has the following idle agents at a certain time: ● Agent A has skill 1 and skill 2. ● Agent B has skill 1. ● Agent C has skill 1, skill 2, and skill 3.	The call that is first selected from skill queue 1 is allocated to agent B.
Average	In this mode, the system allocates calls to agents with the longest idle time in turn according to the idle time of the agents.		The call that is first selected in skill queue 1 is allocated to the agent with the longest idle time.
Agent with most skills	In this mode, a call is preferentially allocated to the agent who meets the call skill requirements and has the most skills. When there are multiple agents who meet the requirements, the system allocates the call to one of the agents at random.		The call that is first selected from skill queue 1 is allocated to agent C.

Step 4 Click **Save**.

----End

2.17.2 Viewing Interconnection Parameters

Interconnection parameters are the AK/SK authentication information of the current tenant space. When a tenant invokes the AICC through the API management platform, the AK/SK can be used to obtain a token.

Prerequisites

You have obtained the parameters for interconnection from the operation personnel.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Information**.

Step 2 In the **Incterconnection parameters** area, view the API Fabric ID.

Step 3 (Optional) Click **download SK** to download the SK to the local PC. Click **reset SK** and enter the password of the current user to reset the SK.

NOTE

- The SK information can be downloaded only once. If it is downloaded more than once, the system prompts the user to reset the SK.
- When the SK is rest, if the current user password is incorrectly entered for three times, the user will be locked for 10 minutes. Reset the SK after 10 minutes.
- **Verification Code**: Verification mode used for password settings to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. The verification mode is specified by the system parameter **Two-factor Authentication Method**.

  Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Send Code** to obtain a verification code.
  - A verification code is valid for 1 to 5 minutes, which is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period**.
  - The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but password change fails, you can obtain a new verification code immediately.

----End

Follow-up Procedure

Click **download SK** to download the SK to the local PC.

Click **reset SK** and enter the password of the current user to reset the SK.

NOTE

- The SK information can be downloaded only once. If it is downloaded more than once, the system prompts the user to reset the SK.
- When the SK is rest, if the current user password is incorrectly entered for three times, the user will be locked for 10 minutes. Reset the SK after 10 minutes.

2.17.3 Configuring Parameters

A tenant administrator can configure tenant parameters to control the running mode and function rules of the system. For details about the parameters, see the **Description** column.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Figure 2-750 Configuring parameters

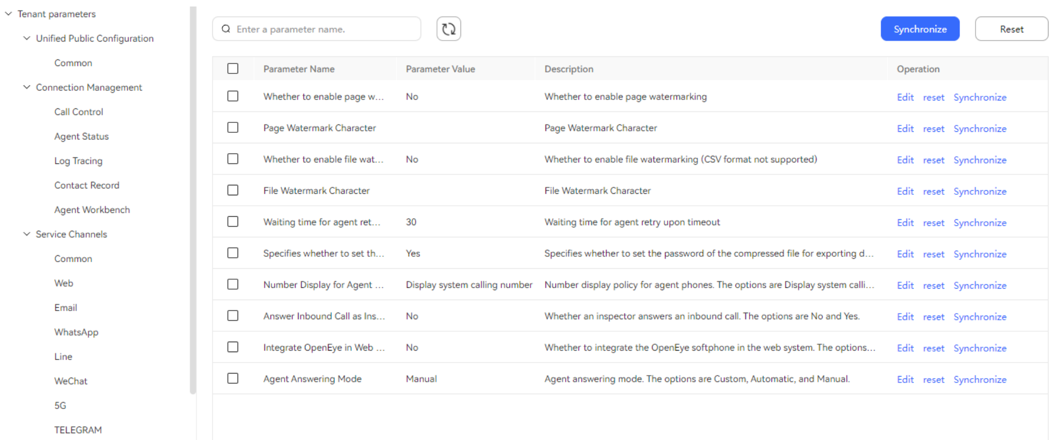


Table 2-193 Tenant parameters

Parameter			Description
Unified Public Configuration	Common	Whether to enable page watermarking	Whether to enable the page watermark function.
		Subscriber Number Anonymization Rule	User number anonymization rule. The options are **Anonymize middle four digits** and **Retain only last four digits**.
		Page Watermark Character	Page watermark string.

Parameter			Description
		Whether to enable file watermarking	Whether to enable the file watermark function. If this function is enabled, watermarks are displayed in the following exported files: ● Exported outbound call result file and call record file ● Exported contact record file ● Exported recording inspection file
		File Watermark Character	File watermark string.
		Specifies whether to set the password of the compressed file for exporting data.	The options are **Yes** and **No**. The default value is **Yes**.
		Number of agents that can be queried for call transfer	Number of agents that can be queried in each skill queue during call transfer. The value ranges from 1 to 500. The default value is **150**.
Connection Management	Call Control	Number Display for Agent Phone	Number display policy for agent phones. The options are **Display system calling number** and **Display customer number**.
		Answer Inbound Call as Inspector	Whether an inspector answers an inbound call. The options are **No** and **Yes**.
		Integrate OpenEye in Web System	Whether to integrate the OpenEye softphone in the web system. The options are **No** and **Yes**. To implement this function, a tenant needs to install the OpenEye locally.
		Agent Answering Mode	Agent answering mode. The options are **Custom**, **Automatic**, and **Manual**.
		Call Processing After Agent Rejection	Call processing after an agent manually rejects a call. The options are **Return call to original queue and set agent to busy** and **Release call and set agent to idle**.

Parameter			Description
		Web-integrated OpenEye Video Display	Video display of the OpenEye integrated with the web system. This parameter is valid only when **Integrate OpenEye in Web System** is enabled. For example, in the value **0,0,800,380,PiP,Fit**, **0,0** indicates the X and Y coordinates of the video position (the upper left corner of the screen is the coordinate origin), **800,380** indicates the width and height of the window, **PiP** indicates the layout of the video image (**PiP** indicates picture-in-picture, and **SbS** indicates side-by-side), and **Fit** indicates the display mode of the video image (**Fit** indicates that the video is adapted according to its original proportions, and **Cut** indicates that the video is displayed at full size according to its original proportions and cropped if necessary).
		Video Recording Mode	Video recording mode. The options are **Same-size image for three parties**, **Maximized customer image**, **Maximized agent image**, and **Maximized third-party image**.
	Agent Status	After-Call Agent State	State that an agent automatically enters after a call ends. The options are **Idle** and **Wrap-up**.
		Signed-in Agent State	State that an agent automatically enters after sign-in. The options are **Idle**, **Wrap-up**, and **Busy**.
		Forcibly End Agent Rest After Timeout	Whether to forcibly end an agent's rest when the rest times out. The options are **No** and **Yes**.
		Internal Message Template for Notifying Supervisor of Agent Rest Timeout	Template for sending an internal message to the supervisor when an agent's rest times out. Set this parameter to the internal message notification template ID. If this parameter is not set, no internal message is sent to the supervisor when an agent's rest times out.

Parameter			Description
		Mode in Which an Agent Signs In to a Skill Queue	Mode in which an agent signs in to a skill queue. The parameter modification takes effect after the page is refreshed. **NOTE** ● If this tenant parameter is set to **Agent-defined**, the value of the agent parameter **Mode in Which an Agent Signs In to a Skill Queue** is used. ● If this tenant parameter is set to **Automatic** or **Specified**, the value of this parameter is used.
	Log Tracing	Agent ID Requiring Log Generation	Agent ID for generating logs. Use commas to separate multiple IDs, for example, **101,102,103**.
		Agent Output Log Level	Level of generated agent connection operation logs.
	Contact Record	Time Span for Contact Record Query	Time span for searching for contact records, in days. The default value is **7**.
		Number of days in advance for querying contact records	Number of days in advance for searching for contact records, in days. The default value is **7**.
		Indicates whether to store callData in contact records.	Whether to store call-associated data in contact records. If this parameter is set to **Yes**, the connected contact records integrated by the Dynamics can carry the call-associated data of the last call for callback. The options are **No** and **Yes**. The default value is **No**.
		Validity days of call reason configuration	Number of days that the call reason can be supplemented or modified for historical contact records. The value must be an integer. The default value is **0**. The value **0** indicates that the period is not limited. The call reason can be supplemented or modified for historical contact records generated in any period. **NOTE** The value of this parameter depends on the time range of data obtained for call reason analysis statistics.

Parameter			Description
		Whether encryption or decryption is required to download recordings.	The value **Yes** indicates that the recording file of a contact record or an outbound call result can be downloaded only after a decompression password is entered. The value **No** indicates that a recording file can be downloaded directly.
		Indicates whether to set the call reason for customer contact.	Whether the call reason needs to be set for a customer contact. ● If this parameter is set to **Yes**, the **Call Reason** dialog box is automatically displayed when no call reason is not set after a common customer session ends. Contact records for which no call reason is set are displayed on the **Unfinished Contact** page. When the agent sign-out response is successful, the system checks whether the agent has unfinished contact at 00:00:00 on the current day in the time zone where the agent is located. A dialog box is displayed if the agent has unfinished contact on the current day which needs to be handled in a timely manner. Click **Go for processing** to open the **Contact record** page. ● If this parameter is set to **No**, the **Call Reason** dialog box is not automatically displayed after a common customer session ends and the **Unfinished Contact** tab page is not displayed. The options are as follows: ● **Yes** ● **No** The default value is **No**.

Parameter			Description
	Agent Workbench	Whether to send internal messages when the WebRTC network is abnormal	Whether to send an internal message to notify the OU manager if the network quality is poor when an agent uses the WebRTC to make a call. Only one internal message can be sent within 60 minutes. The options are as follows: ● **Yes** ● **No** The default value is **No**.
		WebRTC Network Anomaly Detection Threshold	The format is *Number 1*;*Number 2*. Both *Number 1* and *Number 2* range from 1 to 120, in seconds. ● *Number 1* indicates the threshold for the duration in which the WebRTC network status is abnormal, in seconds. If the duration exceeds the threshold, an exception is reported. ● *Number 2* indicates the threshold for the duration in which the WebRTC network status is normal, in seconds. If the duration reaches the threshold, the network is considered to be recovered. The default value is **6;3**.
		Display Associated Data	Whether to display call-associated data. The options are **No** and **Yes**.
		Conference Link SMS Template	SMS template used for sending conference links. The template must contain the **Meeting_URL** variable.
		Display Unified Customer Contact Information	Whether to display unified contact customer information. The options are **No** and **Yes**.
		Local listening port of the agent VRC.	Local listening port of the agent VRC. This port is used by inspectors to initiate screen inspection connections. The value ranges from 1 to 65535. The default value is **6600**.

Parameter			Description
		VRC WebSocket Port	WebSocket connection port of the VRC. When the OpenEye is used, set this parameter to the port configured on the VRC. The value ranges from 1 to 65535. The default value is **7684**.
		The duration of SmartCare abnormal time backtracking (s)	If the abnormal time passed to SmartCare is the current time, the value of the parameter configuration is used to make logical judgments based on the time period before the current time, such as on whether the user is affected by the fault during this period. The value ranges from 60 to 86400. The default value is **3600**.
		The time (h) pushed forward from the current time as start time when SmartCare delimits creation	If the end time passed to SmartCare is the current time, the value of the parameter configuration means that a time period before the current time is used as the start time, for example, of fault demarcation for the user during this period. The value ranges from 1 to 168. The default value is **24**.
Service Channels	Commo n	Indicates whether to enable the system default greeting (except the email channel).	Whether to enable the default system greeting (except the email channel).
		Multimedia Sessions Concurrently Processed by Agent	Number of multimedia sessions that can be handled by an agent concurrently. The value ranges from 1 to 60. Default value: **5** **NOTE** In the text chat scenario, if the CTI specification is 8U32G and 60 text chats are initiated to an agent within 6 seconds (the number of multimedia sessions that an agent can concurrently process is set to 60), a maximum of 10 sessions can be connected.

Parameter			Description
		Third-party interface invoking failure rate statistical period	Statistical period of the third-party interface invocation failure rate, in minutes. The value ranges from 1 to 30. The default value is **5**.
		Third-Party Interface Invoking Failure Rate Alarm Threshold	Alarm threshold of the third-party interface invocation failure rate, in %. The value ranges from 1 to 100. The default value is **20**.
		Validity duration of the URL used by a customer to access a resource	The validity duration of the URL used by a customer to access a resource. The value is in minutes and ranges from 5 to 10080 (at most seven days). The default value is **1440** (equals one day).
		Indicates whether to enable the new special list for multimedia.	Whether to use the new special list function for multimedia channels. The options are **No** and **Yes**.
		Social Media Approver Account	Default value: none Social media approver account. If this parameter is left blank, post approval is not performed. **NOTE** The value can only be an employee account with the **Enterprise account operation** menu permission under the current tenant.
		Social Media Video Upload Size Limit	Maximum size of an uploaded social media video, in MB. The default value is **200**, and the maximum value is **500**.
		Maximum size of uploaded social media images	Maximum size of uploaded social media images, in MB. The default value is **1**, and the maximum value is **4**.
		Message allocation threshold for operators	Threshold for not assigning messages to an operator. If the number of messages unhandled by an operator exceeds the threshold, messages are not assigned to the operator. The default value is **5**, and the maximum value is **20**.

Parameter			Description
		Number of SMs allocated by the operator	Number of messages that can be assigned to an operator at a time. The default value is **10**, and the maximum value is **20**.
		Number of offline users allocated each time	Number of offline customers assigned each time. The value ranges from 1 to 10. The default value is **5**.
		Interval for querying the allocated offline user list	Interval for querying assigned offline customers. The value ranges from 0 to 60, in minutes. The default value is **5**. **NOTE** The value **0** indicates that offline customers are not queried.
		Number of offline message for warning alarm	When the number of offline messages exceeds the value of this parameter, a warning alarm is generated. The value ranges from 1 to 100000. The default value is **5000**.
		Number of offline message for minor alarm	When the number of offline messages exceeds the value of this parameter, a minor alarm is generated. The value ranges from 1 to 100000. The default value is **8000**.
		Number of offline message for major alarm	When the number of offline messages exceeds the value of this parameter, a major alarm is generated. The value ranges from 1 to 100000. The default value is **10000**.
		Offline message days for minor alarm	When the number of days for which an offline message is not handled exceeds the value of this parameter, a minor alarm is generated. The value ranges from 1 to 15. The default value is **3**.
		Offline message days for major alarm	When the number of days for which an offline message is not handled exceeds the value of this parameter, a major alarm is generated. The value ranges from 1 to 15. The default value is **5**.

Parameter			Description
		DY contact record reply message switch	Whether the messages of contact records in the Dynamics can be replied to. The options are **No** and **Yes**. The default value is **No**.
	Web	Map Type Used by Location Message Received Through Web Channel	Type of the map used to display location messages received from the web channel on the web client and agent workbench.
	Email	Max. Bytes in Email Body	Maximum number of bytes in the email body, in MB. The value ranges from 1 to 10. The default value is **2**.
		Max. Email Cc Recipients	Number of Cc recipients when a maximum of 4096 characters are allowed. The value ranges from 0 to 50. The default value is **20**.
		Max. Email Bcc Recipients	Number of Bcc recipients when a maximum of 4096 characters are allowed. The value ranges from 0 to 50. The default value is **20**.
		Max. Email Forwarding Recipients	Number of email forwarding recipients when a maximum of 4096 characters are allowed. The value ranges from 1 to 50. The default value is **20**.
		Max. Email Drafts Added by Agent	Maximum number of email drafts added by an agent. The value ranges from 1 to 50. The default value is **20**.
		Max. Size of Images in Email	Maximum size of images in a reply email edited by an email agent. The value ranges from 0 to 1024, in KB. The default value is **300**.
		Max. Images in Email	Maximum number of images in a reply email edited by an email agent. The value ranges from 0 to 20. The default value is **10**.
		Auto Zoom Email Channel Images	Whether to enable email channel image auto scaling. The options are **Yes** and **No**. The default value is **No**. The value **Yes** indicates that images whose size exceed the limit are automatically zoomed in or out, and the value **No** indicates that images are not zoomed in or out.

Parameter			Description
	WhatsApp	Map Type Used by Location Message Received Through WhatsApp Channel	Type of the map used to display location messages received from the WhatsApp channel on the agent workbench.
		WhatsApp Webhook Password Authentication Validity Period	Validity period of the Webhook password used for authenticating received requests when the WhatsApp channel is connected to the Infobip. The value ranges from 7 to 365. The default value is **90**.
	Line	Map Type Used by Location Message Received Through LINE Channel	Type of the map used to display location messages received from the LINE channel on the LINE client and agent workbench.
		Validity Period of Access Token for Accessing LINE	Validity period of an access token for accessing the LINE, in days. The value ranges from 1 to 30. The default value is **30**.
	WeChat	Map Type Used by Location Message Received Through WeChat Channel	Type of the map used to display location messages received from the WeChat channel on the WeChat client and agent workbench.
	5G RCS	Map Type Used by Location Message Received Through 5G RCS Channel	Type of the map used to display location messages received from the 5G RCS channel on the agent workbench.
Intelligent Outbound Call	Common	Record outbound interface invoking logs	Whether to record outbound call interface invocation logs. If yes, invocation records of one month are stored by default. Invocation records of a maximum of three months can be stored.
		Indicates whether to send internal messages when outbound calls are abnormal.	The default value is **No**, indicating that no internal message is sent to the manager of an employee when an outbound call is abnormal. If this parameter is set to **Yes**, an internal message is sent to the manager of an employee when an outbound call is abnormal.

Parameter			Description
		Threshold for abnormal outbound call duration.	The unit is second. If the duration of an outbound call is less than the value of this parameter, the system considers the call as an abnormal call. If the value is **0** or empty, the system does not determine whether a call is an abnormal call.
		Only leaf nodes can be selected for service results.	Only leaf nodes can be selected for business results. The default value is **no**.
		Task due reminder time	Number of days before task expiration a reminder is sent. Unit: day. The default value is **–1**, indicating that no reminder is sent. The value ranges from –1 to 10, that is, a reminder can be sent at most 10 days before task expiration.
	Managing Configurations	Destination address of outgoing call result push	Address provided by the third party for receiving outbound call results pushed to the third party.
		Maximum number of scheduled tasks in the outbound call blocklist	Maximum number of scheduled tasks in the outbound call blocklist. The value ranges from 1 to 24, and the default value is **10**.
	Call Configuration	Manual outgoing call automatic outgoing call switch	Whether to enable the automatic outbound call capability for manual outbound calls.
		Time limit for manual outgoing calls	Time during which an agent is in idle state before making an automatic outbound call, in seconds. The value ranges from 1 to 120.
		Call Number Prefix Configuration	Prefix of an outbound number. Use commas (,) to separate multiple prefixes.
		Minimum length of outbound customer number	Minimum length of a customer number, excluding the international call prefix and international area code.
		Maximum length of outbound customer number	Maximum length of a customer number, excluding the international call prefix and international area code.

Parameter			Description
		The begin digits of the customer number	Start number of a customer number. Use commas (,) to separate multiple numbers.
CCNotification	Internal Message	Notify App of Internal Message	Whether to notify the app of an internal message. The options are **Yes** and **No**.
		AK for Invoking App Service for Internal Message Notification	AK provided by the app for invoking the app service to send an internal message notification.
		Protocol for Invoking App Service for Internal Message Notification	Protocol type for invoking the app service to send an internal message notification. The options are **http** and **https**. Use HTTPS because HTTP is an insecure protocol.
		IP Address and Port for Invoking App Service for Internal Message Notification	IP address and port number for invoking the app service to send an internal message notification. The format is *IP address*:*Port number*.
		URL for Invoking App Service for Internal Message Notification	URL for invoking the app service to send an internal message notification. A reference configuration is **/app/agent/gateway/v1/notice/enterpriseMessage**.
		Cyclical Invoking Times of App Interface for Internal Message Notification	Number of times that the app interface is cyclically invoked for internal message notification. A reference configuration is **3**.
	Email	Delete Email Received by Tenant Administrator and Tenant from Email Server	Whether to delete emails received by tenant administrators and tenants from the email server. The default value is **Yes**, indicating that the emails are deleted.
		Max. Size of Images in Email	By default, the maximum size of an image is 100 KB. The value must be greater than 0 and less than or equal to 1024, in KB.
	Telecom number	International Crown Code	International call prefix of the tenant location. The default value is **00**.

Parameter			Description
		International area code	International area code of the tenant location. The default value is **86**.
	Online Chat	Session Retention Days	Session retention days. The value is an integer ranging from 1 to 14, and the default value is **7**.
		Number of days for storing chat records	Chat record retention day. The value is an integer ranging from 1 to 93, and the default value is **30**. The chat record retention days must be greater than or equal to the session retention days.
Operation Risk Control	Common	Mobile number area code	-
Schedule	Common	Time when the compliance detail view is automatically updated	Automatic refresh interval when **Auto Refresh** on the adherence details page is enabled, in seconds. The value ranges from 10 to 20. The default value is **20**.
		Maximum number of rule sets in a scheduling scenario	Maximum number of rule sets associated with all agents in a schedule scenario. When this value is exceeded, an error message is displayed. The value ranges from 1 to 5. The default value is **5**.

Step 2 Search for the parameter to be modified based on **Parameter Name** and **Description**, click **Edit** in the **Operation** column, and enter the parameter value in the **Parameter Value** column.

Step 3 Click **Save** to save the parameter configuration.

Step 4 (Optional) Click **Synchronize** or **reset** to synchronize or reset the value in the **Parameter Value** column.

----End

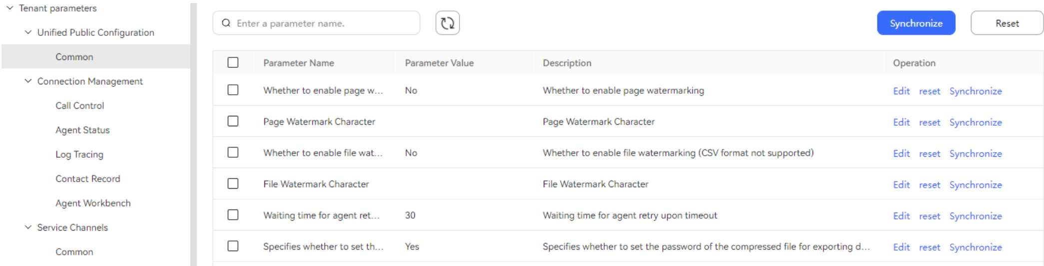
2.17.3.1 Configuring Watermarks

A tenant administrator can configure watermarks for pages and exported files to protect page data security in the tenant space.

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 2 Choose **Tenant parameters** > **Unified Public Configuration** > **Common**.

Figure 2-751 Watermark parameters

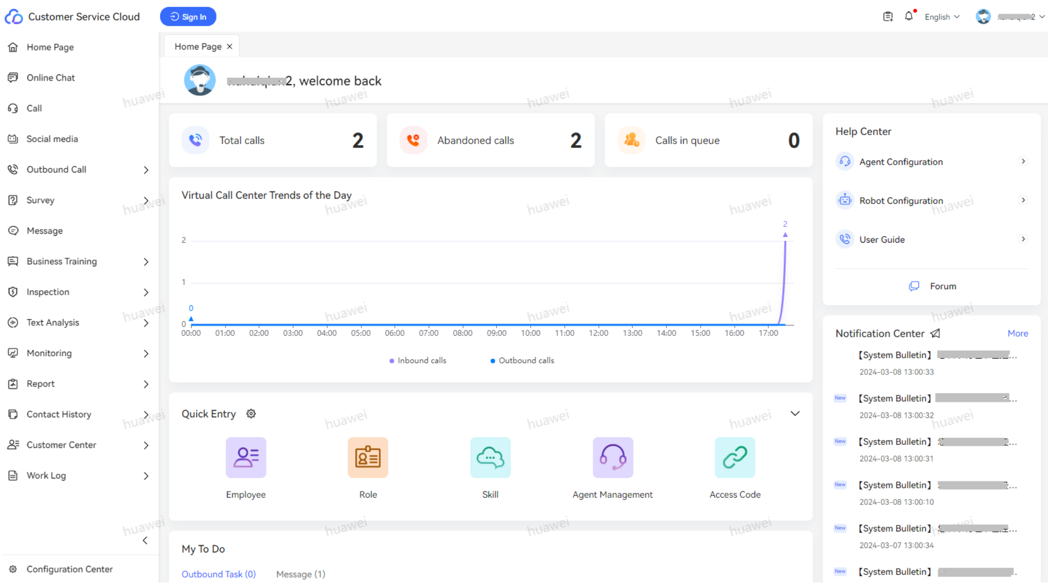


Step 3 Set parameters.

- **Whether to enable page watermarking**: Whether to display watermarks on pages. This function is disabled by default. Enabling this function displays the watermark string on pages after the setting is refreshed. The default watermark string is the business account. You can modify the watermark string using the tenant parameter **Page Watermark Character**.
- **Page Watermark Character**: Watermark string displayed on pages.
- **Whether to enable file watermarking**: Whether to display watermarks in exported files. This function is disabled by default. Enabling this function displays the watermark string in exported files after the setting is refreshed. The default watermark string is the business account. You can modify the watermark string using the tenant parameter **File Watermark Character**. If this function is enabled, watermarks are displayed in the following exported files:
  - Exported outbound call result file and call record file
  - Exported contact record file
  - Exported recording inspection file
- **File Watermark Character**: Watermark string displayed in exported files.

Step 4 View the watermark display effect.

Figure 2-752 Page watermark display effect



----End

2.17.4 Adding Customer Numbers to the Special List

An agent can add customers who make harassing calls to the blocklist. Calls from blocklisted customers are not transferred to manual service and do not occupy manual resources. The agent can add VIP customers to the redlist to receive notifications of calls from redlisted customers.

Context

(Optional) In an old tenant, to use the new special list management function, set the tenant parameter **Indicates whether to enable the new special list for multimedia.** to **Yes**. The system has automatically synchronized the special list data configured in **2.17.7 Configuring Email Special List Rules** and **2.17.8 Configuring SMS Special List Rules** to the new function. All special list records except those with wildcard characters are synchronized. In addition, the old special list management function (**2.17.7 Configuring Email Special List Rules** and **2.17.8 Configuring SMS Special List Rules**) becomes invalid and resumes only after you set **Indicates whether to enable the new special list for multimedia.** to **No**. In this case, the data that has been added to the new special list needs to be manually added to the old special list.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Resource Management** > **Special List**, and click the **Special List** tab.

Step 2 Add a special list level.

1. Click the **Level Management** tab.
2. Click **New**.
3. Set the following special list level parameters:
   - **Special List Type**: The options are **Black List** and **Red List**.
   - **Level Name**: The value can contain a maximum of 100 characters.
   - **Restriction mode**: The options are **Incoming Call**, **Outgoing Call**, and **Incoming and outgoing calls**.
   - **Restricted Duration (Hour)**: The value ranges from 0 to 8760, in hours.
   - **Status**: The options are **Available** and **Unavailable**.
   - **Remark**: The value can contain a maximum of 256 characters.

Step 3 Add a special list reminder.

1. Click the **Special list reminder** tab.
2. Click **New**.
3. Set the following special list reminder parameters:
   - **Special List Type**: The options are **Black List** and **Red List**.
   - **Special list level**: Select a special list level that is enabled on the **Level Management** page.
   - **Reminder Message**: The value can contain a maximum of 256 characters.

Step 4 Add customer numbers to the special list.

You can add customer numbers one by one or import customer numbers in batches as required.

- Add customer numbers one by one.
  a. Click the **Special List** tab.
  b. Click **New**.
  c. Configure customer number information.
     - **Subscriber number**
       The value can contain a maximum of 100 characters.
       - The value can be a phone number.
       - The value can be an email address.
         Example: **123@huawei.com**
     - **Special List Type**: The options are **Black List** and **Red List**.
     - **Special List Level**: Select a special list level that is enabled on the **Level Management** page.
     - **Effective Time**: Time when a customer number takes effect in a special list. The value must be later than the current time and earlier than January 19, 2038.
     - **Expiration Time**: Time when a customer number expires in the special list. By default, this parameter is automatically set to the value of **Effective Time** plus the duration specified by **Restricted Duration (Hour)** on the **Level Management** page. You can manually change the value. The value must be later than the current time and earlier than January 19, 2038.
     - **Reason for Joining**: Reason for adding a customer number to the blocklist. The value can contain a maximum of 1024 characters.
  d. Click **Save** to save the customer number.
- Import customer numbers in batches.
  a. Click the **Special List** tab.
  b. Click .
  c. Select a special list to be imported.
     The options are **Black List** and **Red List**.
  d. Click **Special List Import Template**.
     i. Open the downloaded template and configure the customer numbers to be imported by referring to **Figure 2-753**.

Figure 2-753 Adding data

Subscriber number	Level	Effective Time	Expiration Time	Reason for Joining
		yyyy/MM/dd HH:mm	yyyy/MM/dd HH:mm	

- **Subscriber number**

  The value can contain a maximum of 100 characters.

  - The value can be a phone number.
  - The value can be an email address.

    Example: **123@huawei.com**

- **Level**: Select a special list level that is enabled on the **Level Management** page.
- **Effective Time**: Time when a customer number takes effect in the special list. The value must be later than the current time and earlier than January 19, 2038.
- **Expiration Time**: Time when a customer number expires in the special list. The value must be later than the current time and earlier than January 19, 2038.
- **Reason for Joining**: Reason for adding a customer number to the blocklist. The value can contain a maximum of 1024 characters.

ii. Save the configured template as an .xlsx file.

e. Click 

and select the configured .xlsx file.

f. Click **OK** to upload the customer numbers.

If the customer to be imported already exists in the selected special list, the import fails. In this case, you need to manually add the customer to the special list on the page.

Step 5 View the new customer numbers on the **Special List** tab page.

NOTE

After customer numbers are added, they can be used by the **Information query** diagram element in the IVR flow configuration.

Special list rules are applicable only to common IVR flows, intelligent IVR flows, and email, SMS, and multimedia channels.

After the offline message function is enabled for the SMS and email channels, messages that fail to be sent will be resent 5 minutes later. Therefore, after the blocklist expiration time is reached, SMS messages and emails sent within 5 minutes before the expiration time will be received.

----End

Follow-up Procedure

A tenant administrator can perform the following operations on customer numbers:

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

- **Special List** tab page

  Transfer To History: Select customer numbers, and delete them from **Special List** temporarily and move them to **Special List History**.

Delete: Select customer numbers and delete the data.

Modify: Select customer numbers and modify **Effective Time**, **Expiration Time** and **Reason for Joining** for them.

Export: Select customer numbers and export the data. If no customer number is selected, all records that meet the search criteria are exported. A maximum of 10,000 records can be exported at a time. If the number of records that meet the search criteria exceeds 10,000, the export fails. In this case, you need to set search criteria and export records again.

- **Special List History** tab page

  Restores: Select customer numbers and add them to **Special List** again.

  Delete: Select customer numbers and delete the data.

  Export: Select customer numbers and export the data. If no customer number is selected, all records that meet the search criteria are exported. A maximum of 10,000 records can be exported at a time. If the number of records that meet the search criteria exceeds 10,000, the export fails. In this case, you need to set search criteria and export records again.

2.17.5 Configuring the Channel Special List

A tenant administrator can restrict specified or all channels by special list level.

Prerequisites

A special list level whose restriction mode is blocklist has been created based on **Step 2**.

Procedure

Step 1 Choose **Configuration Center** > **Resource Management** > **Channel Special List** and click **Create**.

Step 2 Set channel special list information.

- **Special List Level**: Select a special list level.

  After **Special List Level** is set, **Special List Type Name**, **Restriction Mode**, **Restricted duration (hour)**, and **Status** are automatically filled in.
- **Restricted Channel Type**: Select **Email** or **SMS**.
- **Application Mode**: Select **All of them** or **Designated Channel**.
- **Restricted Channels** (mandatory when **Application Mode** is set to **Designated Channel**): Select an existing channel.

  NOTE

  - Click **Add**. Multiple channels can be restricted.
  - For the same special list level and channel type, the specified channel must be unique.
  - For the same special list level and channel type, if **Application Mode** is **All of them**, no more channel special list records can be added.

Step 3 Click **Save**.

----End

2.17.6 Managing a Certificate

A tenant administrator can import certificates for management purposes.

Prerequisites

You have obtained the certificate file and certificate information.

The obtaining methods include:

- CLI

Step 1 Run the following command on the Windows 10 or Linux host:

```
echo -n | openssl s_client -connect IP:PORT 2>&1 | sed -ne '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' > yourcert.pem
```

For example, run the following command to generate a Huawei email server certificate:

```
echo -n | openssl s_client -starttls smtp -connect smtp.huawei.com:587 2>&1| sed -ne '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' > smtp.pem
```

Alternatively, run the following command:

```
echo -n | openssl s_client -connect popscn06.huawei.com:995 2>&1| sed -ne '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' > pop.pem
```

NOTE

Certificate files in other formats (such as .jks, .cer, and .crt) can be converted.

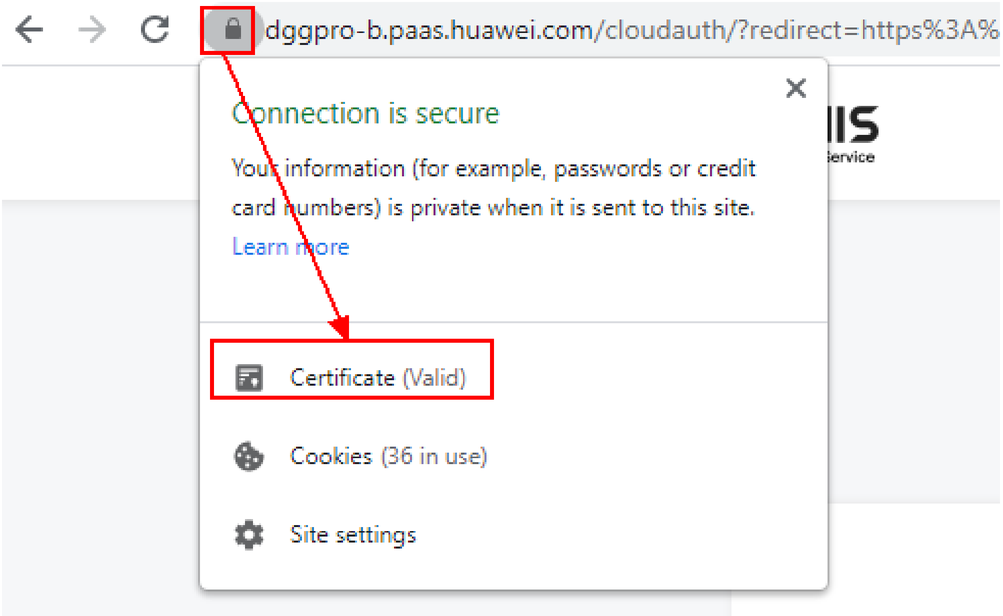
----End

- Browser

Step 1 Enter the address in the browser address bar, click **View site information** in front of the address to obtain the certificate file.

The following takes obtaining the Huawei email server certificate as an example:

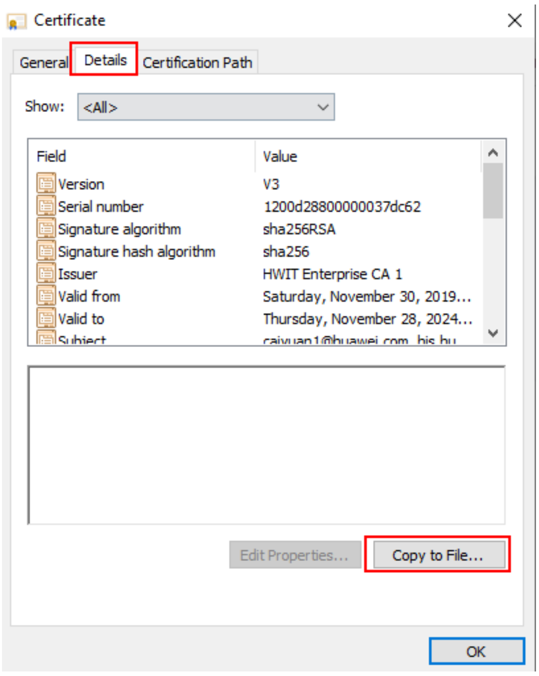
1. Open a browser, enter https://dggpro-b.paas.huawei.com/cloudauth/?redirect=https%3A%2F%2Fcn02%2Eemail%2Ehuawei%2Ecom%3A%2Fowa in the address box, and log in to the mailbox using a domain account.
2. After login, click **View site information** in front of the address, and then click **Certificate (Valid)**.



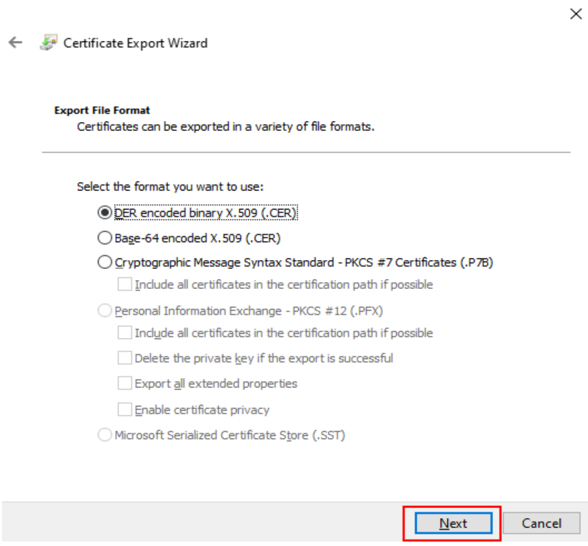
3. Click the **Certification Path** tab, select the root certificate, and click **View Certificate**.

   All branch sites of a website can use the root certificate in the certificate chain for authentication. Therefore, the root certificate is recommended to reduce the certificate maintenance workload.

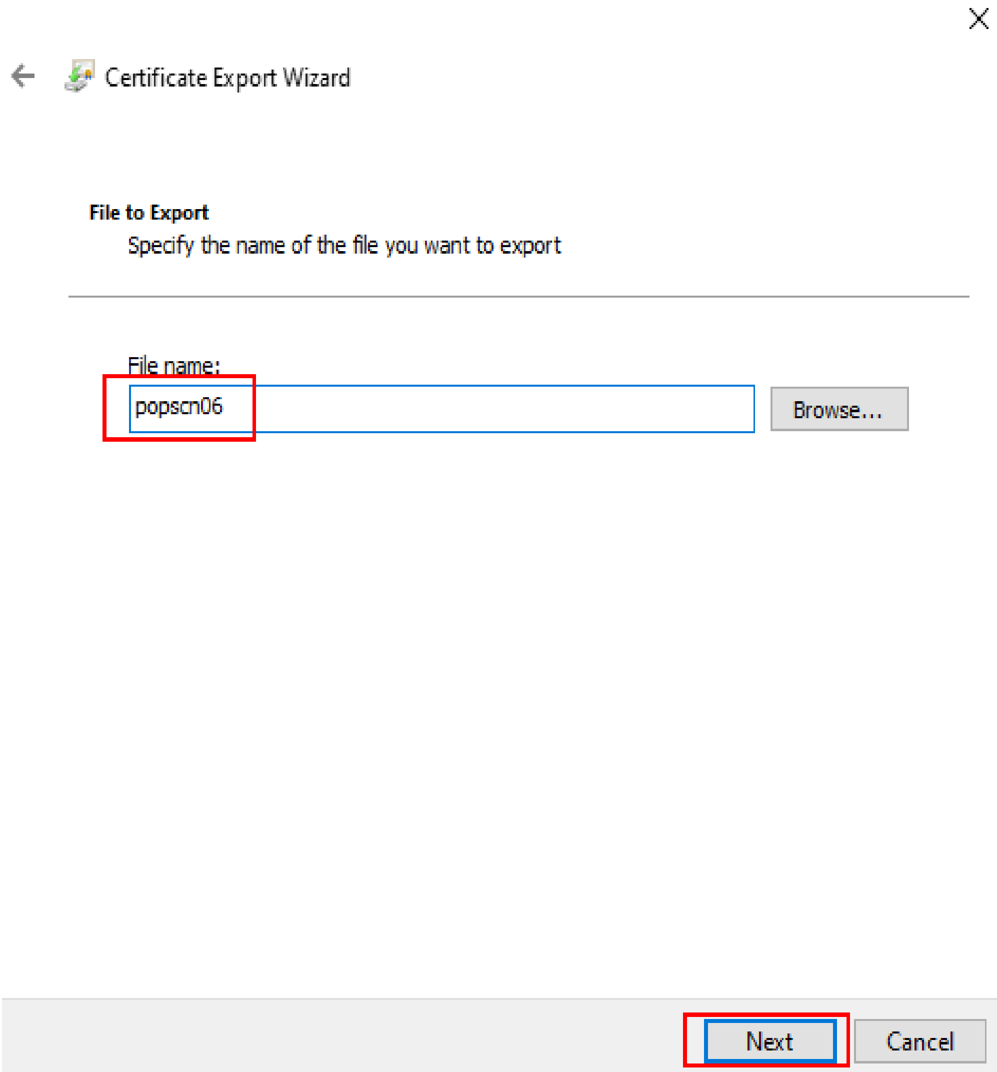
4. In the dialog box that is displayed, click the **Details** tab, click **Copy to File**, and click **Next**. (You can also click the **Certificate Path** tab to export the root certificate or level-2 certificate. The export method is similar.)



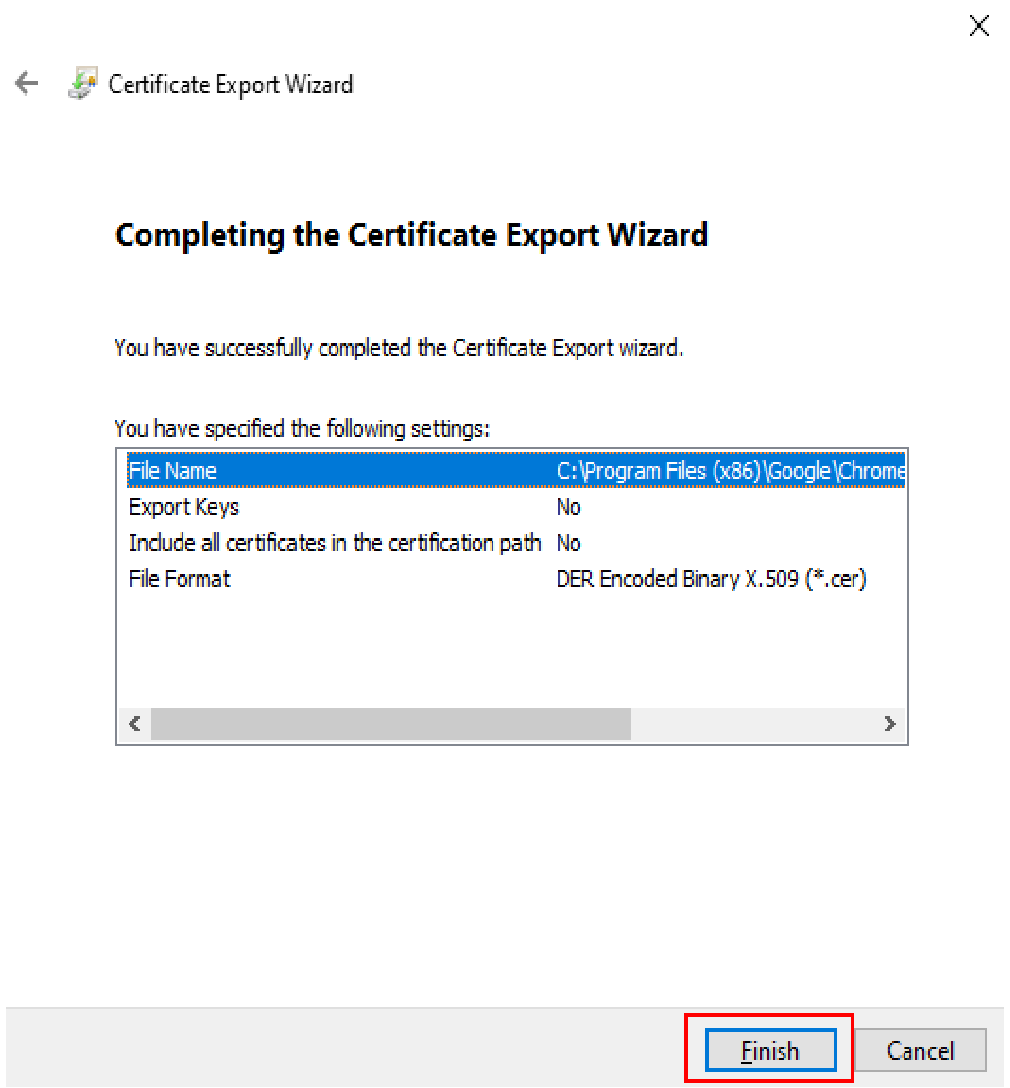
5. Select a certificate format and click **Next**.



6. Enter the name of the certificate file to be exported and click **Next**.



7. Click **Finish** to generate a certificate file. The file name is the complete path of the certificate file.



----End

Procedure

Step 1 Sign in to AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Certificate**.

Step 2 Click **New**. The **Adding a Certificate** dialog box is displayed.

Figure 2-754 Adding a Certificate

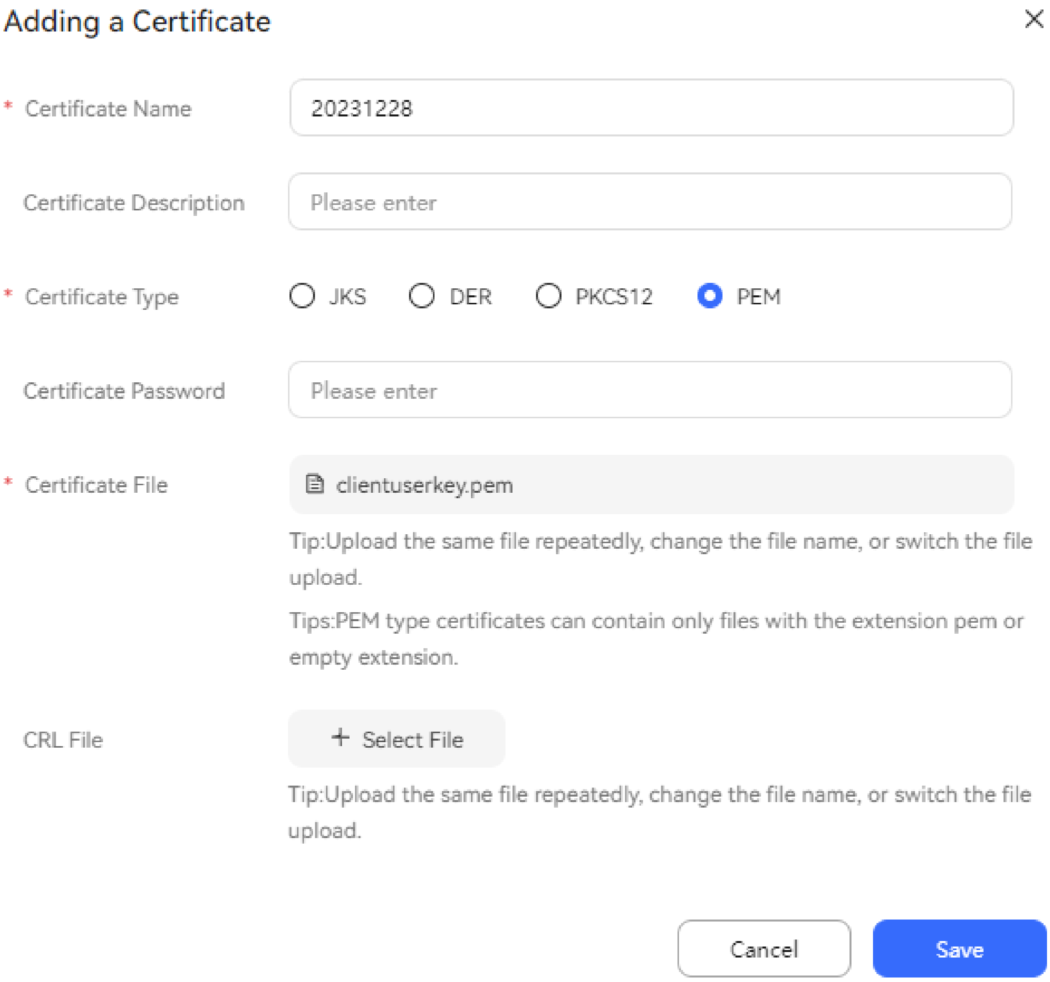


Table 2-194 Parameters for adding a certificate

Parameter	Description
Certificate Name	Enter a customized certificate name. The value can contain a maximum of 64 characters.
Certificate Description	Enter a customized certificate description. The value can contain a maximum of 256 characters.

Parameter	Description
Certificate Type	Select a certificate type that is supported by the system. ● **JKS** ● **DER** ● **PKCS12** ● **PEM** **NOTE** The encryption algorithm used by a certificate in PKCS12 format is insecure and has security risks. You are advised to add a certificate in another format, such as JKS.
Certificate Password	Enter a certificate password. The value can contain a maximum of 256 characters.
Certificate File	Select a local certificate file.
CRL File	Select a local CRL file.

Step 3 Click **Save**. The certificate is uploaded successfully and takes effect 10 minutes later.

----End

Follow-up Procedure

After the certificate is uploaded successfully, you can perform the following operations:

- Click **Edit** in the **Operation** column to update the certificate.
- Click **Discard** in the **Operation** column to discard the certificate.
- Click **Reuse** in the **Operation** column to reuse a discarded certificate.

2.17.7 Configuring Email Special List Rules

A tenant administrator configures the email special list, which is the email address blocklist, to block emails that do not need to be received. Agents cannot send emails to blocklisted email addresses (including email addresses of recipients, Cc recipients, and Bcc recipients).

Prerequisites

You have configured the email channel. For details, see **2.5.6 Configuring the Email Channel**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Mailing Special List**.

Step 2 Click **Create**. In the **Creating a Special List Rule** dialog box, set rule parameters.

Figure 2-755 Creating a Special List Rule

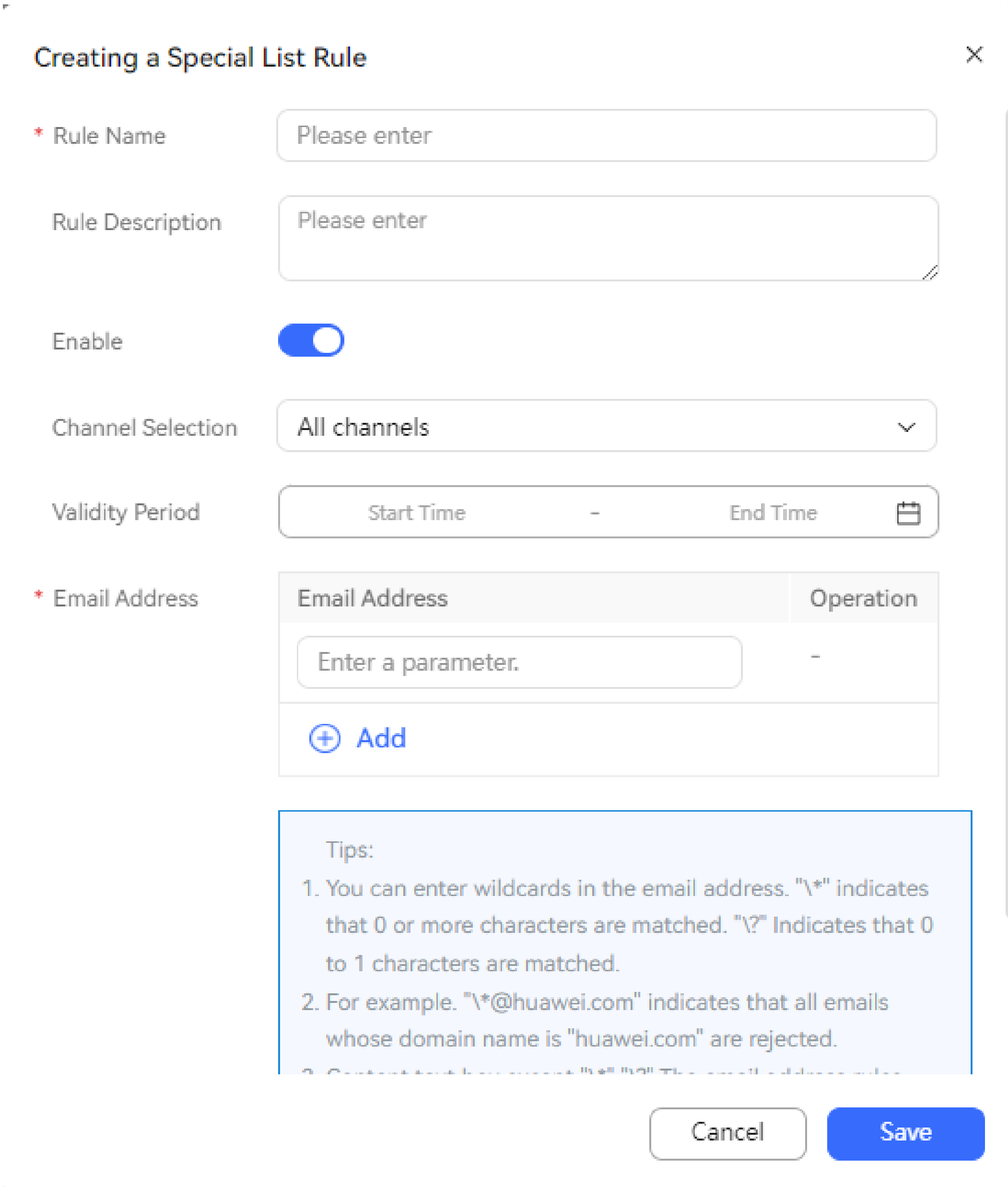


Table 2-195 Parameters for creating a special list rule

Parameter	Description
Rule Name	Enter a customized rule name.

Parameter	Description
Rule Description	Enter a description, which is optional.
Enable	Determine whether to enable the rule after the configuration is complete. This switch is turned on by default. Retain the default setting.
Channel Selection	Select the email channel to which the rule applies. ● Email channels configured for the tenant ● **All channels** (all email channels)
Validity Period	Set the validity period of the rule. ● At least one of the start time and end time must be set. ● If the end time is not set, the validity period is from the start time to the maximum expiration time, which is 2038-1-18 23:59:59. ● If the start time is not set, the validity period starts from the current time. ● By default, the rule takes effect immediately, and the validity period is set to the maximum value, which is from the current time to 2038-01-18 23:59:59.
Add	Add a blocklisted email address.
Email Address	Enter a blocklisted email address.
	Delete a blocklisted email address that has been added.

Step 3 Click **Save** to save the new email special list rule.

----End

2.17.8 Configuring SMS Special List Rules

A tenant administrator configures the SMS special list, that is, the mobile number blocklist, to block SMS messages that do not need to be received. Agents cannot send SMS messages to blocklisted mobile numbers.

Prerequisites

You have configured the SMS channel. For details, see **2.5.9 Configuring the SMS Channel**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **SMS Special List**.

Step 2 Click **Create**. In the **Creating a Special List Rule** dialog box, set rule parameters.

Figure 2-756 Creating a Special List Rule page

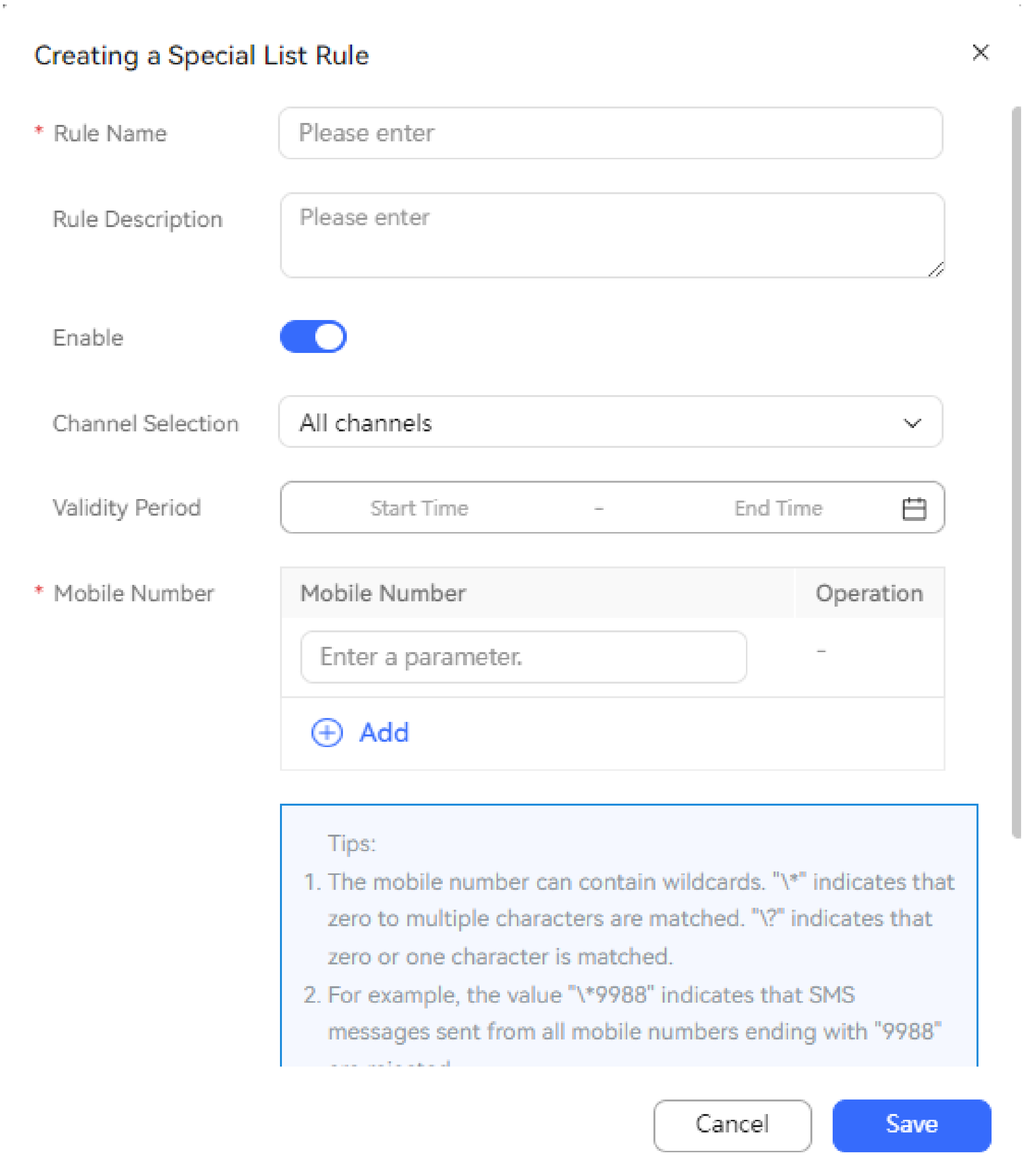


Table 2-196 Parameters for creating an SMS special list rule

Parameter	Description
Rule Name	Enter a customized rule name.
Rule Description	Enter a description, which is optional.

Parameter	Description
Enable	Determine whether to enable the rule after the configuration is complete. This switch is turned on by default. Retain the default setting.
Channel Selection	Select the SMS channel to which the rule applies. ● SMS channels configured for the tenant ● **All channels** (all SMS channels)
Validity Period	Set the validity period of the rule. ● At least one of the start time and end time must be set. ● If the end time is not set, the validity period is from the start time to the maximum expiration time, which is 2038-1-18 23:59:59. ● If the start time is not set, the validity period starts from the current time. ● By default, the rule takes effect immediately, and the validity period is set to the maximum value, which is from the current time to 2038-01-18 23:59:59.
Add	Add a blocklisted mobile number.
Mobile Number	Enter a blocklisted mobile number.
	Delete a blocklisted mobile number that has been added.

Step 3 Click **Save** to save the new SMS special list rule.

----End

2.17.9 Configuring Resource Dump Tasks

A tenant administrator creates resource dump tasks to transfer business resource data to specified locations.

Prerequisites

- You have enabled the **Resource Dump** feature for the tenant.
- You have purchased Object Storage Service (OBS) at **https://www.huaweicloud.com/intl/en-us/product/obs.html**.
- To use the function of querying dump resources online, you have enabled the **View dump resources online** feature.

  In addition, you have purchased Cloud Search Service (CSS) on Huawei Cloud at **https://www.huaweicloud.com/intl/en-us/product/css.html**, obtained the cloud search server certificate by referring to **https://support.huaweicloud.com/intl/en-us/css_faq/css_02_0106.html**, and uploaded the certificate to the system by referring to **2.17.6 Managing a Certificate**.

- An application has been submitted to the system administrator and approved to add the OBS address, OBS proxy address, CSS address, and CSS proxy address to the address trustlist.

Context

- If information, such as the AK, SK, and proxy user password, is changed on OBS, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **System Management** > **Resource Dump** and update OBS information, such as the AK, SK, and proxy server password.
- If the user password of CSS or the CSS proxy server is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **System Management** > **Resource Dump** and update the user password of CSS or the CSS proxy server.
- After a resource dump task or server is deleted, the corresponding dump resources cannot be queried online. You can query the dump resources on the purchased CSS.

Procedure

Step 1 Add a resource dump server.

1. Click the **Resource Dump Server** tab.
2. Click **New** in the upper right corner to add a resource dump server for storing resource data, including voice files, report data, CDR data, contact records, multimedia chat data, and AI inspection data.

   NOTE

   A maximum of 20 resource dump servers can be added for a tenant space.
3. Customize the server name and set **Type** to **OBS server**.

   The server name must be unique.
4. Enter information about the purchased OBS, including the OBS address, data bucket, AK, and SK.
5. (Optional) Configure the proxy. Enter the proxy server address, port, username, and password.

   NOTE

   If the server can directly access the external network, you do not need to configure the proxy.
6. Click **OK**.

Step 2 (Optional) Add a cloud search server.

1. Click the **Cloud Search Server Configuration** tab.
2. Click **New** in the upper right corner to add a cloud search server.

   NOTE

   Only one cloud search server can be added for a tenant space.
3. Customize the server name and set **Type** to **CSS server**.

   The server name must be unique.

4. Enter information about the purchased CSS, including the CSS address, CSS port, cluster login username, and password.
5. (Optional) Configure the proxy. Enter the proxy server address, port, username, and password.

   NOTE

   If the server can directly access the external network, you do not need to configure the proxy.
6. Select the cloud search server certificate that has been uploaded.

   NOTE

   If certificate verification is disabled, peer identity spoofing risks occur. You are advised to enable certificate verification.
7. Click **OK**.

Step 3 Click the **Resource Dump Task** tab to add a task for obtaining resource data.

NOTE

Only one voice file task, one report data task, one CDR data task, and one AI inspection data task can be created for the same dump data type and dump duration.

Step 4 Add a task for obtaining voice files.

1. Customize the task name and set **Dump Data Type** to **Voice file**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing voice files generated by the business side, for example, **/data/voicefile**.
3. (Optional) Set **Dump file retention period (month)**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
4. (Optional) Click to enable CSS.

   The keys for storing voice files in OBS are written to CSS.
5. Click **OK**.

Step 5 Add a task for obtaining report data.

1. Customize the task name and set **Dump Data Type** to **Report data**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing report data generated by the business side, for example, **/data/reportdata**.
3. Set the dump duration.
   - **Day**: Data of one day is uploaded for each task.
   - **Week**: Data of one week from Monday to Sunday is uploaded for each task.
   - **Month**: Data of one month from the beginning to the end is uploaded for each task.
4. (Optional) Set **Dump file retention period (month)**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.

5. Select one or more reports to be dumped. The options are as follows:
   - **VDN Performance Report**
   - **VDN Performance Statistics Report by Access Code**
   - **IVR Data Report**
   - **IVR Data Statistics Report by Access Code**
   - **Skill Queue Performance Report**
   - **Skill Queue Performance Statistics Report by Access Code**
   - **Agent Performance Summary Report**
   - **Skill Queue Summary Report**
   - **Agent Outbound Call Summary Report**
   - **Agent Connection Operation Report**
   - **Summary Report on Calls Abandoned During Ringing**
6. Click **OK**.
7. Click **Enable** to enable the task.

Step 6 Add a task for obtaining CDR data.

1. Customize the task name and set **Dump Data Type** to **CDR data**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing CDR data generated by the business side, for example, **/data/cdrdata**.
3. (Optional) Set **Dump file retention period (month)**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
4. Click **OK**.
5. Click **Enable** to enable the task.

Step 7 Add a task for obtaining contact records. A maximum of 20 contact record tasks can be added.

1. Customize the task name and set **Dump Data Type** to **Contact record**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing contact records generated by the business side, for example, **/data/contactrecord**.
3. Set the dump duration.
   - **Day**: Data of one day is uploaded for each task.
   - **Week**: Data of one week from Monday to Sunday is uploaded for each task.
   - **Month**: Data of one month from the beginning to the end is uploaded for each task.
4. Set the start day of the dump duration. When **Dump Duration** is set to **Week** or **Month**, you need to set this parameter to delete contact records.
   - When **Dump Duration** is set to **Week**, the value of **Dump Duration Start** ranges from Monday to Sunday.
   - When **Dump Duration** is set to **Week**, the value of **Dump Duration Start** is a positive integer ranging from 1 to 28.

5. (Optional) Set **Dump file retention period (month)**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
6. (Optional) Set filter criteria.
7. Set **Export data field**. The options are as follows:
   – **Fields in contact record list**: All data fields are exported and the value cannot be customized.
   – **Customized fields in contact record**: All fields are exported by default and the value can be customized.
8. Click **OK**.
9. Click **Enable** to enable the task.

Step 8 Add a task for obtaining multimedia chat data.

NOTE

For a single tenant, one channel can have only one dump task. If an omni-channel dump task exists, other dump tasks for storing multimedia chat data are not allowed. Discarded tasks are not counted.

1. Customize the task name and set **Dump Data Type** to **Multimedia chat data**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing multimedia chat data generated by the business side. The dump file path must start with a slash (/), for example, **/data/multimedia**.

   After the dump file path is set, the system automatically displays the path for storing dump files on OBS in **/ccfs/***Tenant space ID***/***Entered path* format.
3. (Optional) Set **Dump file retention period (month)**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
4. (Optional) Click to enable CSS.

   The keys for storing chat record index files in OBS are written to CSS.
5. Set **Chat Data Dump Duration (Day)**.

   The value is an integer ranging from 2 to 180. The default value is **30**.

   NOTE

   The current date is used as the date before which data is dumped. For example, if this parameter is set to **3**, data of the third day before is dumped, but data of the fourth day before and earlier is not dumped.

   In earlier versions, the value of **Chat Data Dump Duration (Day)** ranges from 1 to 180. When this parameter is set to **1**, if a multimedia chat crosses days, the chat data may be lost. In this case, you are advised to add a resource dump task again.
6. Select all channel types.
7. Click **OK**.

Step 9 Add a task for obtaining AI inspection data.

1. Customize the task name and set **Dump Data Type** to **AI inspection data**.

   The task name must be unique.

2. Select a configured dump server and set the dump file path for storing AI inspection data generated by the business side. The dump file path must start with a slash (/), for example, **/data/inspectiondata**.

   After the dump file path is set, the system automatically displays the path for storing dump files on OBS in **/ccfs/***Tenant space ID***/***Entered path* format.

3. (Optional) Set **Dump file retention period (month)**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.

4. Set **AI Inspection Data Dump Duration (Day)**.

   The value an integer ranging from 15 to 90. The default value is **60**.

   NOTE

   The current date is used as the date before which data is dumped. For example, if this parameter is set to **3**, data of the third day before is dumped, but data of the fourth day before and earlier is not dumped.

5. Click **OK**.

----End

Follow-up Procedure

- 5 minutes after a task is started, choose **Configuration Center** > **System Management** > **Resource Dump Task** to view the task execution record.
  - If a task fails to be executed, click **Re-execute** to execute the task again.
- After a task for which CSS is enabled is started, choose **Customer Contact History** > **Dump Resource** to view dump resources online.

2.17.10 Managing Menus

The preset menus in the system can be searched. In addition, a tenant administrator can create or delete customized menus.

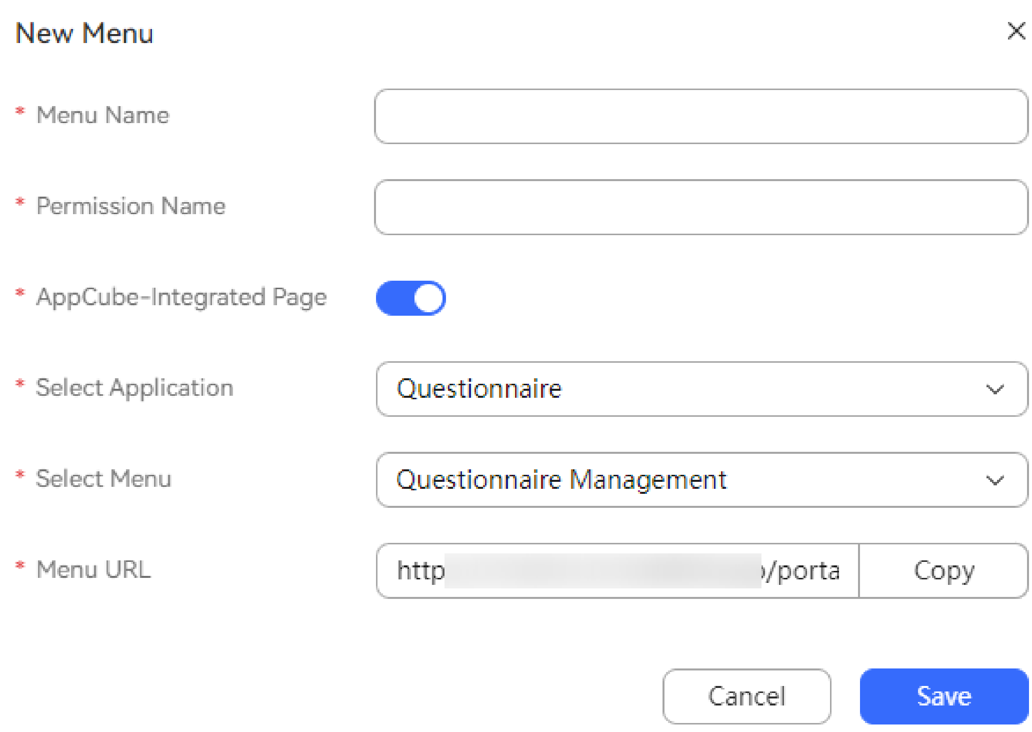
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Menu Management**.

Step 2 Click 

. The **New Menu** dialog box is displayed.

Figure 2-757 New Menu



- **Menu Name** (mandatory): Enter a customized menu name. The value can contain a maximum of 50 characters and cannot contain the following special characters: !#$%&()+:"{},\/'[]=
- **Permission Name** (mandatory): Enter the name of the permission associated with the current menu, which must be unique in the tenant space. The value can contain a maximum of 50 characters and cannot contain the following special characters: !#$%&()+:"{},\/'[]=
- **AppCube-Integrated Page** (mandatory): This parameter can be set when the AppCube feature is enabled for the tenant space and a non-AICC application is installed on AppCube.
- **Select Application** (mandatory if **AppCube-Integrated Page** is enabled): Select the software installed on the **Package Installation** page under the **Admin** menu on AppCube.
- **Select Menu** (mandatory if **AppCube-Integrated Page** is enabled): Select the menu of the software installed on AppCube.
- **Menu URL** (mandatory): Enter the detailed URL of the customized menu. For an external page, you need to contact the system administrator to add the URL to the address trustlist.

Step 3 Click 

. The customized menu is created successfully.

Step 4 (Optional) Click **Delete** corresponding to the new customized menu to delete it.

----End

2.17.11 Managing Email Signatures

After a tenant administrator adds an email signature, enables the email signature switch, and selects the email signature during email channel configuration, the configured email signature is carried when an agent replies to or forwards an email. This section describes how to add an email signature.

NOTICE

Before deleting an email signature, ensure that the email signature is not used by other businesses. Otherwise, the configured businesses will become invalid.

Determine the email signature application scenario based on the actual business configuration. The involved scenario is as follows:

Channel configuration: 2.5.6 Configuring the Email Channel

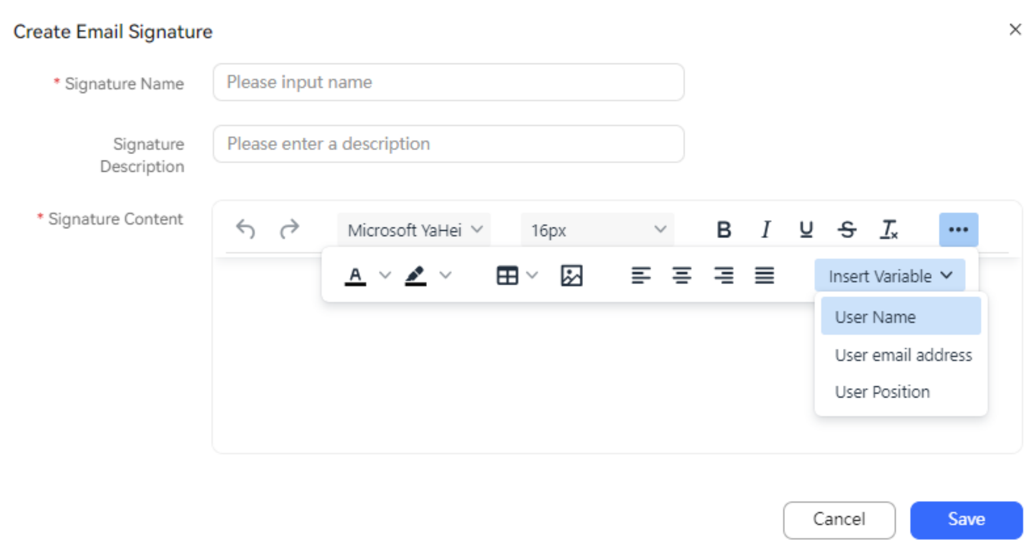
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Email Signature**.

Step 2 Click **New**. The page for creating an email signature is displayed.

Step 3 Configure an email signature.

Figure 2-758 Create Email Signature



- **Signature Name**: This parameter is mandatory. The signature name must be unique in the tenant space, and cannot contain **eval**, **exec**, or the following special characters: <=>/\"
- **Signature Content**
  - : Undo an operation.

- : Redo an operation.
- Microsoft YaHei : Select a font. The default value is **Microsoft YaHei**.
- 16px : Select a font size. The default value is **16px**.
- : Mark content in bold.
- : Mark content in italics.
- : Add an underscore (_).
- : Add a strikethrough.
- : Clear formatting.
- : Set the font color.
- : Set the background color.
- : Insert a table.
- : Insert an image.
- : Align content on the left.
- : Align content in the center.
- : Align content on the right.
- : Justify content.
- Insert Variable : Insert a variable. When a signature with a variable is used, the variable in the signature is replaced with the actual user information. The available variables are as follows:
  - **User Name**: **${employee.name}**
  - **User email address**: **${employee.email}**
  - **User Position**: **${employee.title}**

Step 4 After the configuration is complete, click **Complete** to create and save the email signature.

Step 5 (Optional) Click **Edit** or **Delete** in the **Operation** column corresponding to an email signature to edit or delete it.

(Optional) Select one or more email signatures and click **Delete** to delete them in batches.

----End

2.17.12 Configuring Message Flow Control Rules

A tenant administrator can configure message flow control rules to control WhatsApp and SMS messages.

Prerequisites

The tenant has available WhatsApp and SMS channels.

Context

The system performs flow control on WhatsApp and SMS messages sent by users. When the usage reaches a threshold, an alarm is triggered, and a system bulletin is automatically sent to users.

Procedure

Step 1 Sign in to AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Message Flow Control**.

Step 2 Click **New** to add a flow control rule.

A maximum of 20 flow control rules can be added by default. To add more rules, contact O&M personnel.

Step 3 Set parameters based on **Table 2-197**.

Table 2-197 Parameter description

Parameter	Description
Name	Customized name. The value can contain a maximum of 128 characters.
Description	Customized description. The value can contain a maximum of 256 characters.
Channel Type	Channel type. • **WhatsApp** • **SMS**
FC Object	Flow control object. The options are all the following channels of the current tenant: • WhatsApp channels • SMS channels
Period Range	Flow control period type. • **Daily** • **Weekly** • **Monthly** • **Customization**: Customize a time range.
Start time	Start time. This parameter is mandatory when **Period Range** is set to **Weekly** or **Monthly**. • **Weekly**: 1–7 • **Monthly**: 1–31

Parameter	Description
Start Time	Start time and end time. This parameter is mandatory when **Period Range** is set to **Customization**. The maximum time span is 90 days.
End Time	
Alarm Threshold (%)	Customized alarm threshold. The value ranges from 0 to 100. The default value is **80**.
Alarm Interval (min)	Customized alarm interval. The value can contain a maximum of 10 digits.
Prompt Message	Customized prompt message. The value can contain a maximum of 1024 characters.
Prompt Interval (min)	Customized prompt interval. ● 1–30 ● Digits
Max. Messages	Customized maximum of messages. ● 1–1000000000 ● Digits

Step 4 Click **Save**.

Step 5 Click to enable the rule.

----End

2.17.13 Configuring UC Integration

A tenant administrator can configure authentication information for the AICC to connect to Microsoft Teams and synchronize online experts of Microsoft Teams. AICC agents can initiate call transfer, help seeking, and three-party calls to experts of Microsoft Teams as required.

Prerequisites

- The AICC frontend has been connected to Microsoft Teams.
- The application is successfully registered with the Microsoft identity platform according to **https://docs.microsoft.com/en-us/graph/auth-register-app-v2**.

  The following information has been obtained:

  – Directory (tenant) ID

  – Application (client) ID

  – Application (client) password

Context

- Only Microsoft Teams can be connected.
- If the application (client) password is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Expansion and Integration** > **UC Integration** and update the value of **Application (Client) Password**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **UC Integration**.

Step 2 Click to enable **Microsoft Teams Integration**.

Step 3 Set **Directory (Tenant) ID**, **Application (Client) ID**, and **Application (Client) Password**.

Step 4 Click **Save**.

----End

2.17.14 Managing Emails

A tenant administrator can view and manage customer emails and forward emails to specified employees on the **Email** page.

Prerequisites

You have configured an available email channel and received customer emails.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Email**. All emails on the current day are displayed in the inbox by default.

NOTE

Click **Download** corresponding to an email and click **Yes** in the confirmation dialog box that is displayed to download the attachment.

The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

Step 2 Create an inbox catalog for employee A.

1. Hover the pointer over **Inbox**, click , and create a catalog named **Employee A**.
2. Click **Save**.

Step 3 Move emails to the **Employee A** catalog.

1. Select the emails to be moved.
2. Click **Batch Operation**, choose **Move**, and select the **Employee A** catalog.
3. Click **Confirm**.

Step 4 Assign an email to employee A.

1. Click the **Employee A** catalog in the inbox.
2. Select the check boxes of the emails to be assigned.
3. Click **Assign**. The configuration page is displayed.
4. Click the **Agent** tab and select employee A in a skill queue.

   NOTE

   If you select a skill queue on the **Skill Queue** tab page, the system randomly allocates a call to an agent in the skill queue.
5. Click **OK**.

   After the assignment is successful, employee A is the handler.

Step 5 View all email forwarding records of the tenant.

1. Click the **Forwarding Record** tab.
2. Click the email title to view the email details.

   The value cannot be modified.

----End

2.17.15 Configuring External Numbers

A tenant administrator can configure external numbers so that agents can select external numbers from the external number list during call transfer, consultation, and three-party calls.

Prerequisites

(Optional) To display the calling number (number of the user talking with the agent) on the external number side, the calling number anonymization feature has been enabled for the tenant.

Context

- External numbers apply to the following scenarios:
  - Call transfer (Calls can be transferred to external numbers only in **Success Transfer**, **Conversation Transfer**, or **Three-Party Transfer** mode.)
  - Consultation or help-seeking
  - Three-party calls
- A maximum of 10,000 external numbers can be added for a tenant.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **External number**.

Step 2 Click **New**. The configuration dialog box is displayed.

- **Number**: Enter an external number. The requirements are as follows:
  - The value is 0 or a positive integer.

- The value is a string of a maximum of 24 characters.

- **Name**: The value is a string of a maximum of 200 characters and must be unique.
- **User Number Forwarding**
  - : The number of the customer talking with the agent is displayed on the external number side.
  - : The default access code of the tenant is displayed on the external number side.
- (Optional) **Organization Unit**: Select an OU created in **2.2.1 Configuring OUs**.

Step 3 Click **Save**. To add more external numbers, repeat the preceding steps.

----End

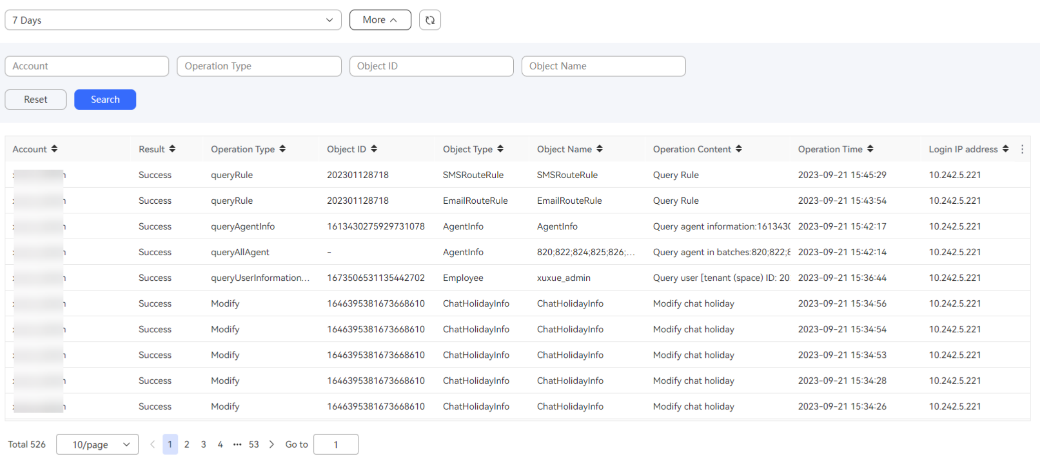
2.17.16 Querying Operation Logs

Operation logs are used for security audit of user operations. An administrator can query operation logs to view operation records.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Operation Log**.

Figure 2-759 Operation Log



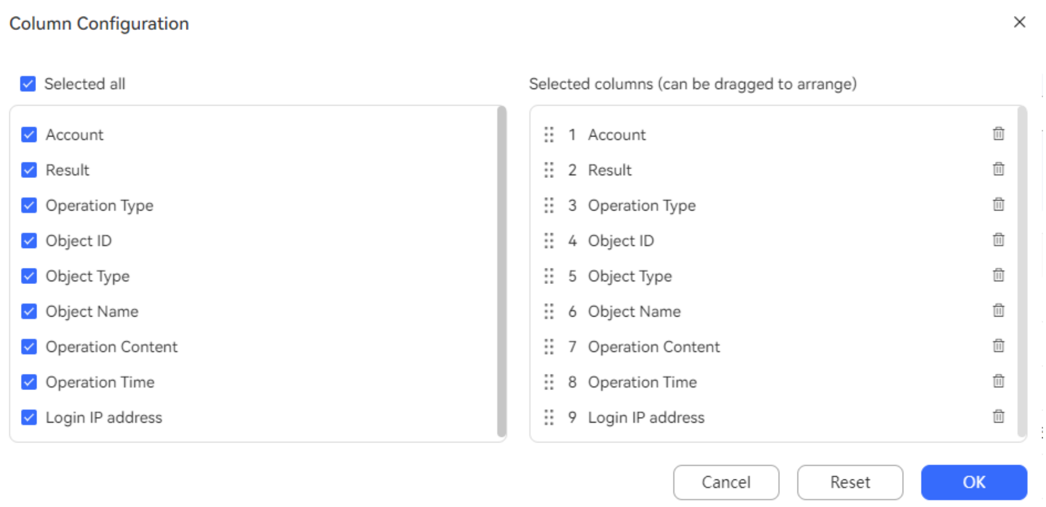
Step 2 Set data filter criteria.

- Select a time range to query operation logs. The time range can be **1 Day**, **3 Days**, **7 Days**, or **Customization**.
- Click **More**, set **Account**, **Operation Type**, **Object ID**, and **Object Name**, and click **Search** to filter detailed data. **Table 2-198** describes the options of **Operation Type**.

- Click to refresh real-time data.

Step 3 Click to set the table header.

Figure 2-760 Column Configuration



- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

----End

Reference

Table 2-198 Operation types

Operation Type	Definition
Activate	Activate a user.
Active	Activate.
actRolePerms	Modify the function permissions of a role.
actRoleUsers	Grant a role to users.
addContactInformation	Add contact and manager information.
applyTokenBySysAdmin	Provide token information as the system administrator.
autoClearExpiredLoginLog	Automatically clear expired sign-ins.

Operation Type	Definition
autoClearExpiredOperLog	Automatically clear expired operations.
autoClearExpiredRoleAuthLog	Automatically clear expired roles.
autoClearExpiredUserLog	Automatically clear expired users.
Batchdelete	Batch delete.
batchModifyEmployeeStatus	Update tenant space users in batches.
Batch_delete	Batch delete.
changeSelfPwd	Chang your own password.
checkUserLock	Check whether a user is locked.
Create	Add a contact, send an internal message, or create a deduplication rule.
createEmployee	Create employee information.
createEmployeeContact	Create an employee contact.
createOrg	Create an OU.
createOrgContact	Create an OU contact.
createPwdRuleGroup	Create a password rule group.
createRentPerm	Create a function permission.
createRole	Create a role.
createTenantSpaceV3	Create a tenant space.
Create_Record	Create a record.
Deactivate	Deactivate.
Deactive	Disable.
Delete	Delete.
deleteContactInformation	Delete contact information.
deleteEmployeeContact	Delete an employee contact.
deleteEmployeeInformation	Delete employee information.
deleteOrgByTenantSpaceIdAndOrgId	Delete an OU based on the tenant space ID and OU ID.
deletePermByAuthIds	Delete a function permission.
deletePwdRuleGroup	Delete a password rule group.
deleteRoleByRoleId	Delete a role.

Operation Type	Definition
deleteUserSessionBySysAdmin	Delete the user communication period as the system administrator.
Delete_Record	Delete a record.
deregisterMenusByMenus	Register a menu.
kickOutUserByAccount	Kick out a user based on the account.
lockUser	Lock a user.
lockUsersList	Lock users.
modifyEmployeeV2	Modify employee information.
Move	Move.
orgRelationRole	Associate a role or cancel a role association.
patchPwdRuleGroup	Create or modify a password rule group.
patchPwdRuleGroupRule	Create or modify a rule in a password rule group.
patchRoleByRoleId	Create or modify role information by role ID.
Publish	Publish.
queryEmployeeContact	Search for employee contacts.
queryOrgContact	Associate a role or cancel a role association.
refreshToken	Refresh a token.
registerMenu	Register a menu.
resetUsersPwdV2	Reset user passwords in batches.
unlockUser	Release a user.
unlockUsersList	Release users.
Update	Update a contact.
updateContactInformation	Update contact information.
updateEmployeeContact	Update an employee contact.
updateOrg	Update an OU.
updateUserSessionBySysAd-min	Update the user communication period as the system administrator.
updateUsersOfOrgByTenant-SpaceIdAndOrgId	Add or delete an employee.
Update_Record	Update a record.

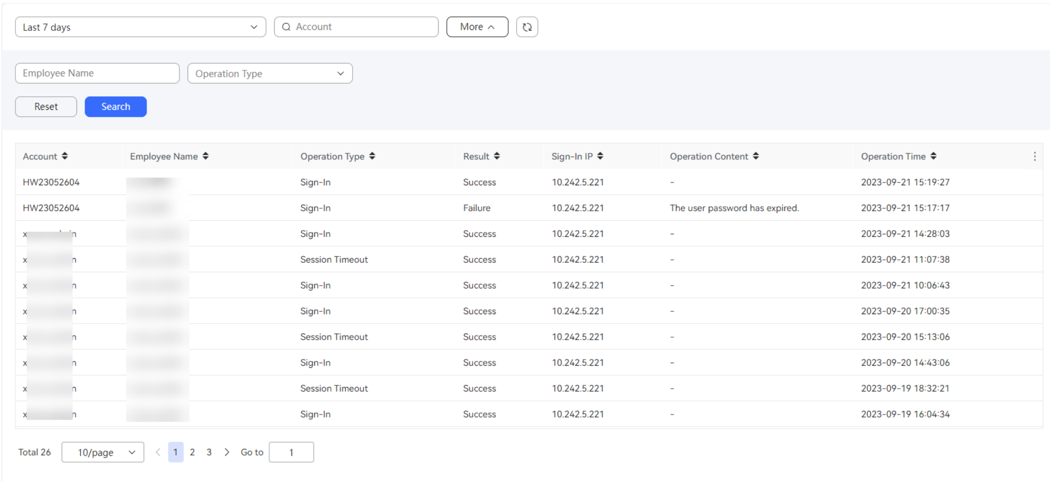
2.17.17 Querying Sign-in Logs

Sign-in logs are used to trace agent operations, facilitating fault locating. Agent sign-in records on a specified date can be queried.

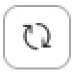
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Sign-In Log**.

Figure 2-761 Sign-In Log



Step 2 Set data filter criteria.

- Select a time range and enter a sign-in account to query sign-in logs. The time range can be **1 Day**, **3 Days**, **7 Days**, or **Customization**.
- Click **More**, enter an employee name, select an operation type, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

----End

2.18 Managing Business Fault Bypass

This section describes how to manage business fault bypass and how to handle emergency faults to ensure normal businesses for operators.

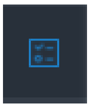
2.18.1 Agent Bypass

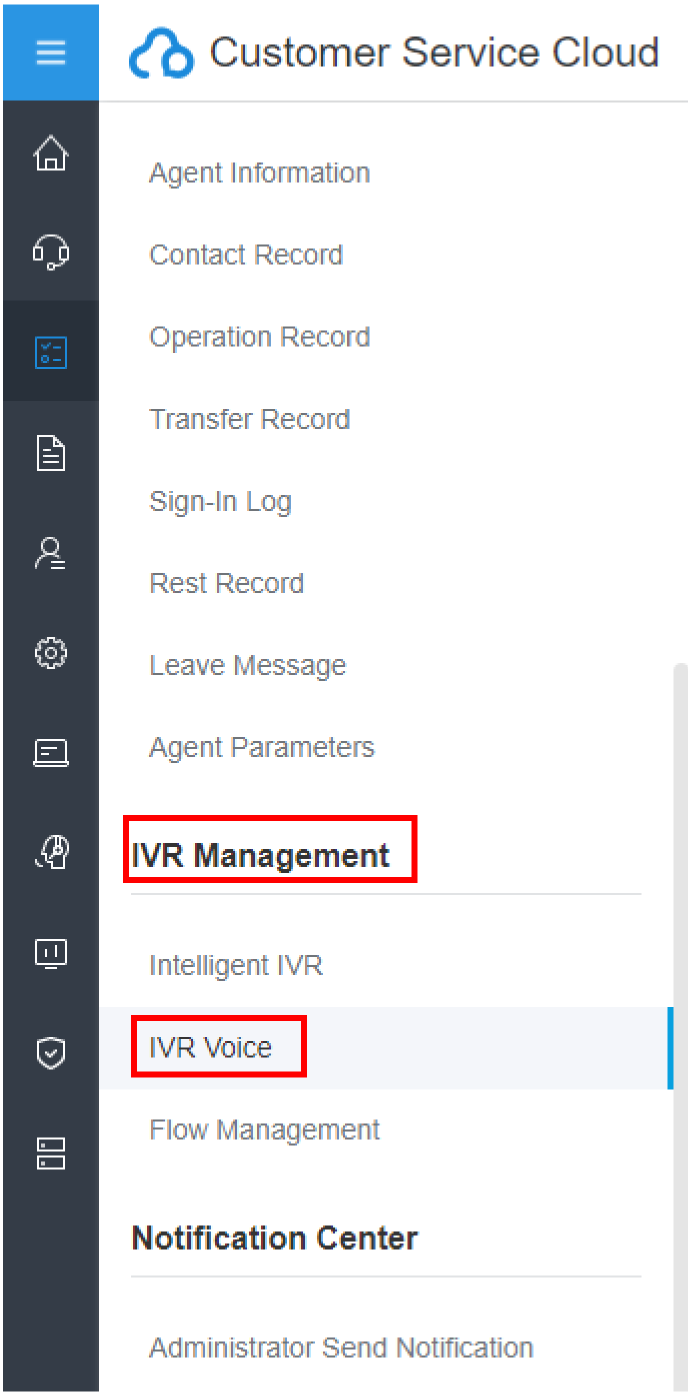
In fault mode, the AICC page cannot be signed in. You need to use the CCGatewayBar to access the AICC page. For details, see **2.18.3 CC-Gateway Emergency Connection Bar**.

2.18.2 Performing the IVR Bypass

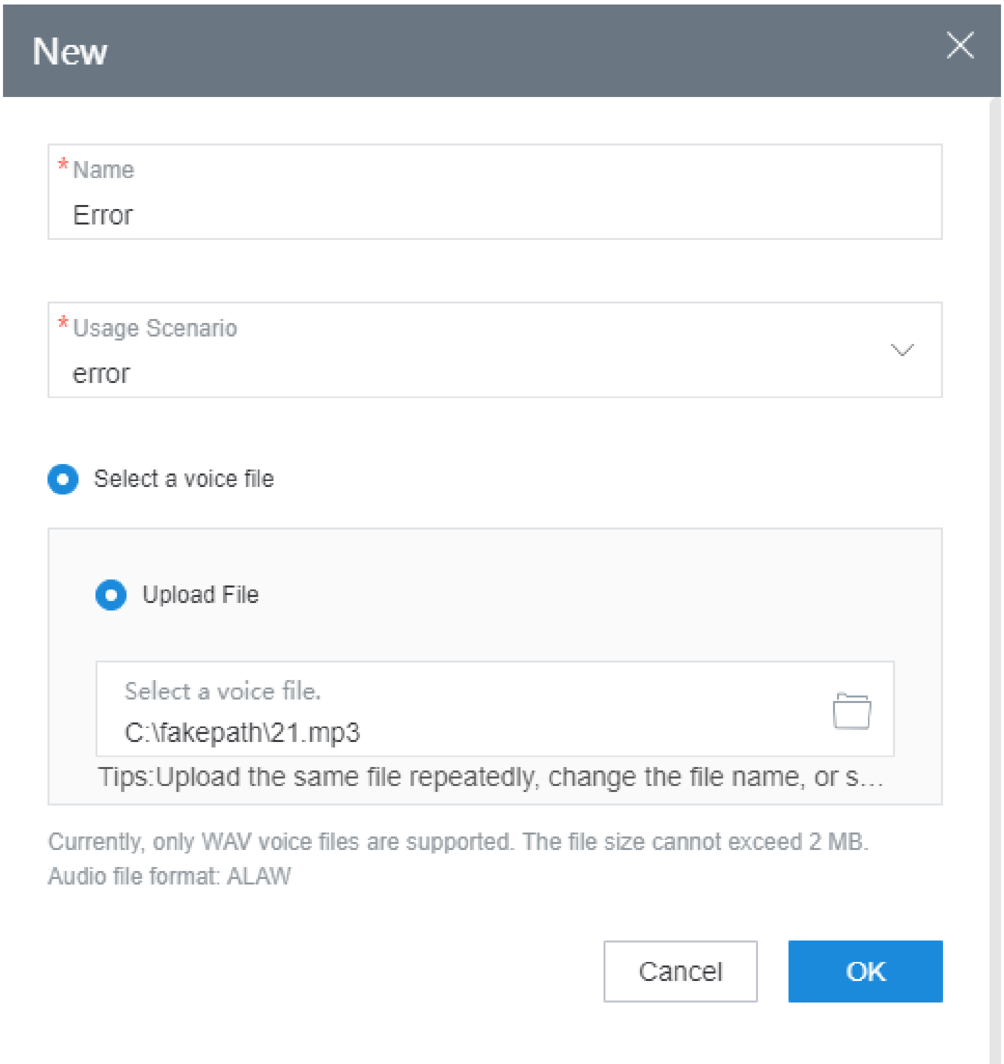
This section describes IVR business bypass.

Step 1 Sign in to the system as a tenant administrator and add a fault prompt tone.

1. Choose  > **IVR Management** > **IVR Voice**.

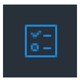


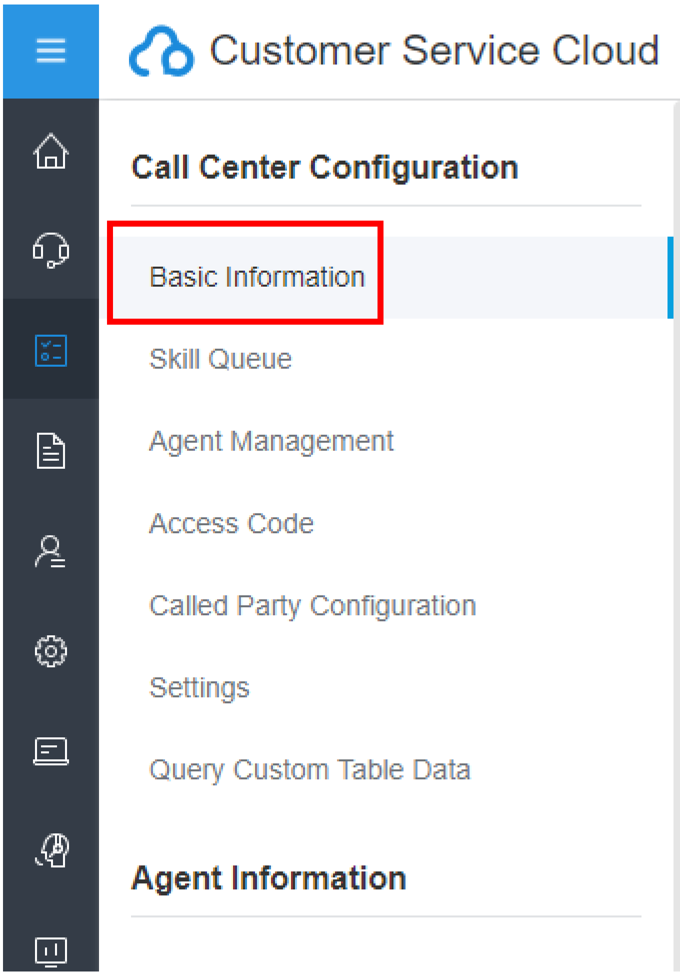
2. Upload a voice file and submit it for approval.



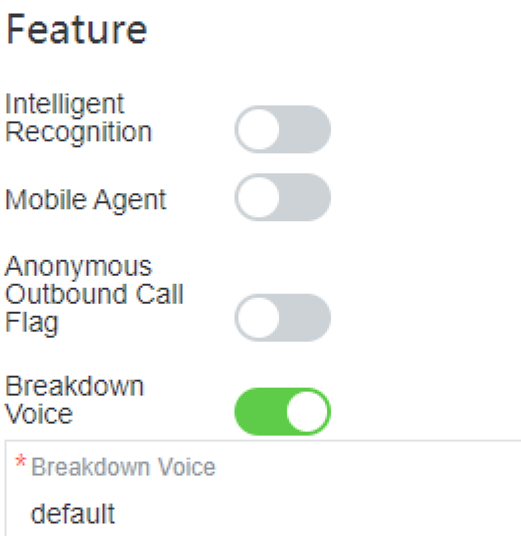
Step 2 After a voice file is uploaded, contact the system administrator for approval. After the file is approved, perform the following operations.

Step 3 Sign in to the system as a tenant administrator and set the fault prompt tone.

1. Choose  > **Call Center Configuration** > **Basic Information**.



2. Enable **Breakdown Voice** and select the uploaded voice file.



----End

If a call is transferred to an agent in a flow, the system plays the fault prompt tone and bypasses the call.

2.18.3 CC-Gateway Emergency Connection Bar

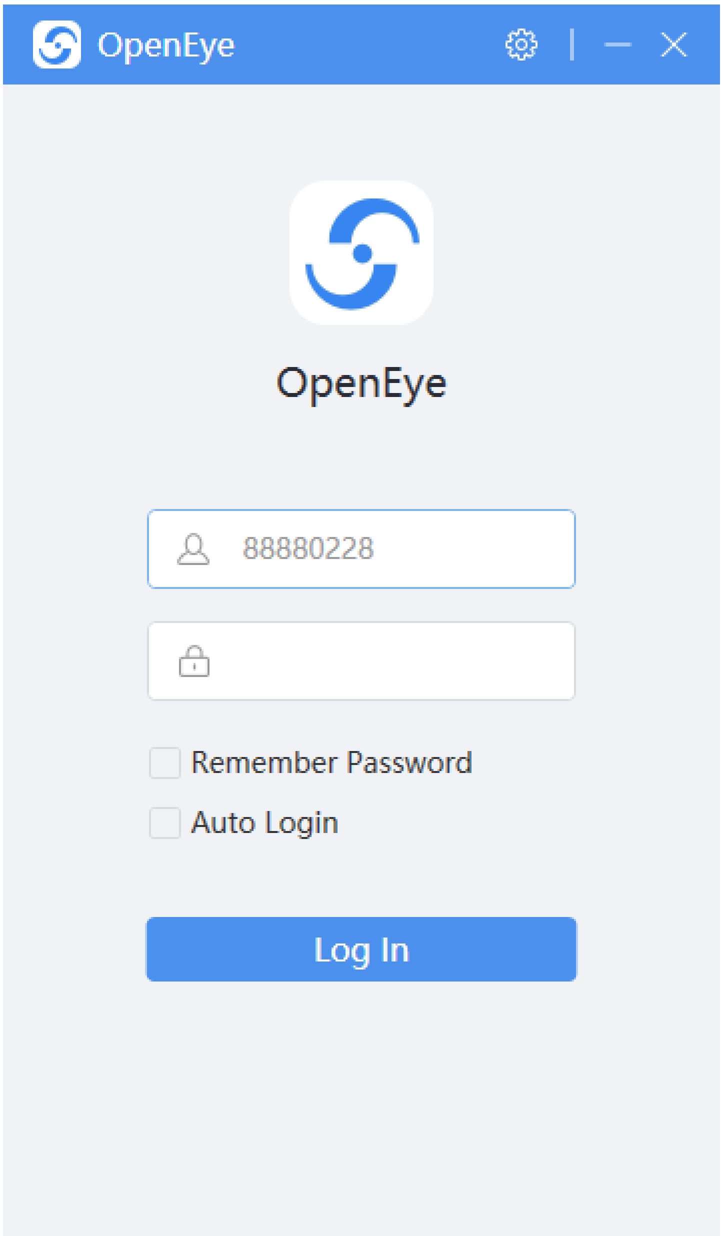
If a fault occurs in the AICC connection bar, tenant administrators can refer to this section to handle the fault bypass.

Procedure

Step 1 Log in to the CC-Gateway server and modify the configuration file.

The configuration file is stored in **/home/elpis/tomcat/webapps/agentgateway/WEB-INF/config/basic.properties**. Change the value of **SUPPORT_AGENT_FAULT_MODE** to **ON** in the configuration file and wait for 1 minute for the hot loading of the configuration item to take effect.

Step 2 Use the softphone number and password to log in to the OpenEye.



Step 3 Log in to the CC-Gateway emergency connection bar.

- Open a browser, enter **https://***IP address*:*Port number*/**agentgateway/resource/ccbar/index** in the address box, and press **Enter**.
- The IP address is the IP address of the CC-Gateway service. The port number is the HTTPS port number of the CC-Gateway service.

Step 4 Enter the agent ID, password, and softphone number, and click **Log In**.

Step 5 In the upper left corner of the emergency connection page, click to update the agent status.

An agent can choose one of the following states:

- If the agent needs to handle other businesses (for example, internal discussion), the agent can choose **Work** to enter the working state.
- If the agent needs to handle other businesses (for example, providing services), the agent can choose **Busy** to enter the busy state.

  Table 2-199 describes the results of choosing **Busy** in different agent states.

Table 2-199 Results of choosing Busy

Agent State	Result
Idle	The **Busy** state is entered successfully. The agent enters the **Busy** state.
Work	The **Busy** state is applied for successfully. The agent enters the **Busy** state after exiting the **Work** state.
Calling	The **Busy** state is applied for successfully. The agent enters the **Busy** state after ending the call.

- If the agent finishes handling other businesses (for example, internal discussion), the agent can choose **Exit Work** or **Idle** to continue to answer calls from customers.
- If the agent needs to take a break (for example, to drink water), the agent can choose **Exit Work** and does not answer calls from customers temporarily.

  Table 2-200 describes the results of choosing **Rest** in different agent states.

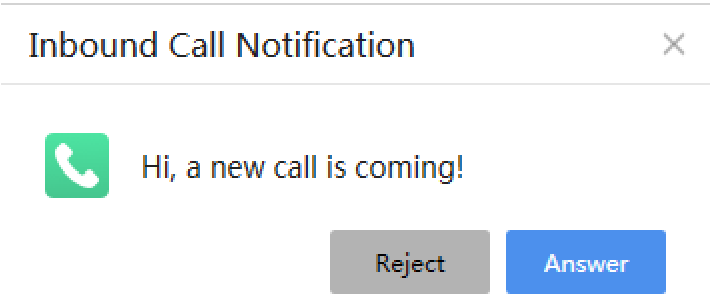
Table 2-200 Results of choosing Rest

Agent State	Result
Idle	The **Rest** state is entered successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after clicking **OK**.
Work	The **Rest** state is applied for successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after exiting the work state.

Agent State	Result
Calling	The **Rest** state is applied for successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after ending the call.

Step 6 In the upper left corner of the emergency connection page, click to view information about the current agent.

Step 7 When a call comes in, the softphone of the agent rings, and the call is automatically connected. The agent can also click **Answer** before the call is automatically connected.



Step 8 After a call is connected, the agent can perform the following operations:

- Hold or unhold a call.

  To make another call (for consultation or discussion), click to hold the current call and stop voice transmission. The agent and customer cannot hear each other, and the customer hears the call hold tone.

  After the consultation or discussion ends, click to unhold the call and resume voice transmission.

- Mute or unmute a call.

  Click to mute the call so that the customer cannot hear the agent, but the agent can hear the customer.

  Click to unmute the call so that the agent and customer can hear and talk with each other.

- Transfer a call.
  a. Click to open the page for transferring a call.
  b. Select a third party to which the current call needs to be transferred. The third party can be a skill queue, an agent, or an IVR.
  c. Click **OK**.

- Transfer out a call.
  a. Click to open the page for transferring a call.

b. Select a third party to which the current call needs to be transferred, that is, an external number, and select a transfer type.

c. Click **OK**. The agent can transfer the current call to a third-party expert.

- Initiate an internal help request.

  a. Click to open the page for making an internal help call.

  b. Configure an internal help call.

     ■ Help-seeking object: The agent can seek help from a skill queue or an agent.

     ■ Help-seeking type

       ○ Two-party help-seeking: The call with the customer is held, and the current agent and requested agent are in a call. If the requested agent releases the call, the current agent continues to talk with the customer.

       ○ Three-party help-seeking: The customer, current agent, and requested agent are in a call. If any party releases the call, the call continues between the other two parties.

       An agent can make an internal help call to a specified agent or a skill queue. If a skill queue is requested, the system specifies an agent.

  c. Click **OK**. An agent can make an internal help call to another agent during a call with a customer.

- Connect a held call.

  During a voice call with a customer, click to hold the call, call a third party, and connect the held call to the third party.

- Make an internal call.

  a. Click to open the page for making an internal call.

  b. Select an agent in idle state based on the agent ID.

  c. Click **OK**. When agents (including inspectors) need to communicate with each other, they can make internal calls to each other.

- Make a three-party call.

  During a voice call with a customer, click to call a third party (agent or external expert) to join the call. In this way, a three-party call is set up and the three parties can communicate with each other.

  During a call with a customer, an agent holds the call, calls an external phone, and clicks **Third Party**. In this way, the agent starts a three-party call with the customer and external phone.

- Make an outbound call.

  Click , enter an outbound number, and click . If an agent needs to call back a customer or perform proactive marketing, the agent can specify a customer number and manually make an outbound call.

- Set call-associated data.

a. Click to open the page for configuring call-associated data.

b. After call-associated data is configured, click **OK**. An agent can configure call-associated data during a voice call.

- Query call information.

  Click to open the call information page. An agent can view the calling number, called number, media type, and call-associated data of the current call.

Step 9 After the current call ends, click to release the call and enter the idle state.

Step 10 After finishing work, click to sign out of the current agent account.

----End

2.19 Co-browsing

2.19.1 Creating Co-browsing Rules

A tenant administrator can configure rules. When a customer shares a page with an agent during co-browsing, some sensitive information on the customer page is shielded based on the configured co-browsing rules to protect customer information.

Context

When creating co-browsing rules, you need to use the CSS selector syntax. You are advised to familiarize yourself with the syntax in advance.

Prerequisites

The **Co-browsing** feature has been enabled for the tenant.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Co-browsing**.

Step 2 Click **New**.

Step 3 Set **Rule name**.

The value must:

- Contain only letters, digits, and underscores (_).
- Contain a maximum of 128 characters.

Step 4 Set **Page Match Type** as required.

- **Generic Matching**: The rule takes effect for all pages that are browsed collaboratively under the tenant.

  For example, all password text boxes and the **Submit** button are shielded.

- **Match by URL path**: The pattern of the URL accessed by the browser can be configured. The rule is the same as that of **AntPathMatcher** of Spring.

  ?: matches a single character.

  *****: matches zero or more characters.

  ******: matches zero or more paths (multi-level paths separated by slashes).

  Example: **https://localhost:63343/****
- **Match by page ID**: **Generic Matching** and **Match by URL path** cannot exactly match a page. In this case, **Match by page ID** can be used.

  The page ID matching mode requires customized development of the page URL. The **cobrowse_page_id** parameter is passed in the page URL for exact matching.

Step 5 (Optional) Set **Page Match Config**. This step is required when **Page Match Type** is set to **Match by URL path** or **Match by page ID**.

The value can contain a maximum of 1024 characters.

Step 6 Set **Page Element Selector**. The selected page elements are shielded during co-browsing.

The value must:

- Be in a format that meets the syntax requirements of the CSS selector.
- Contain a maximum of 1024 characters.

Example: **#input**

Step 7 Click **Save**.

----End

Follow-up Procedure

You can perform the following operations on the new rule:

- **Edit**
- **Delete**

2.19.2 Viewing Co-browsing Session Records

An agent can view operation records related to co-browsing, including the room number, agent number, calling party information, start time, and end time.

Prerequisites

1. The co-browsing feature has been enabled for the tenant.
2. The agent has the permission on the **Co-browsing** menu.

Context

After the first subscriber joins a room, a record is generated, in which the start time is updated. After the room is released, the end time is updated.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Co-browsing** to view co-browsing session records.

----End

2.20 Social Media Operations

Connect to social media (publishing Facebook posts, X (Twitter) tweets, and YouTube videos) for social media operations.

2.20.1 Operating Enterprise Accounts

2.20.1.1 Creating a YouTube Channel

Prerequisites

The connection to YouTube has been completed. If the connection has not been completed, perform the following steps to complete the connection:

1. Apply for a developer account.
   a. Access **Google Cloud**, register a Google account, and sign in.
   b. Click **Select a project**, click **NEW PROJECT**, and create a project.

Figure 2-762 Select a project

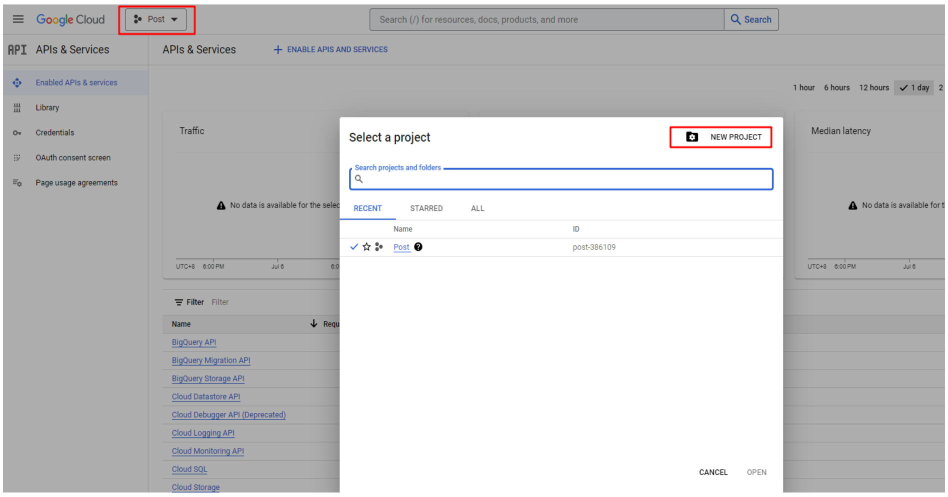
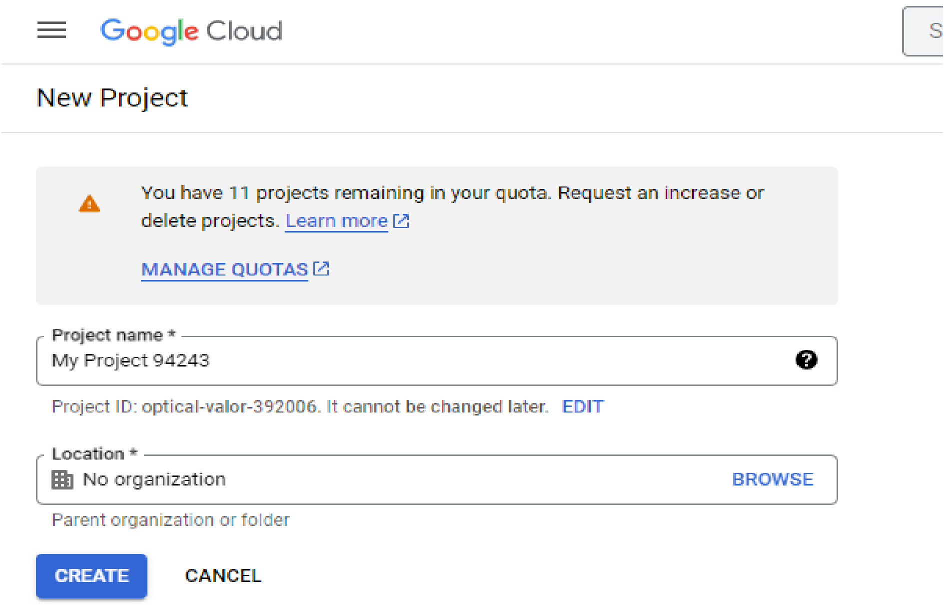


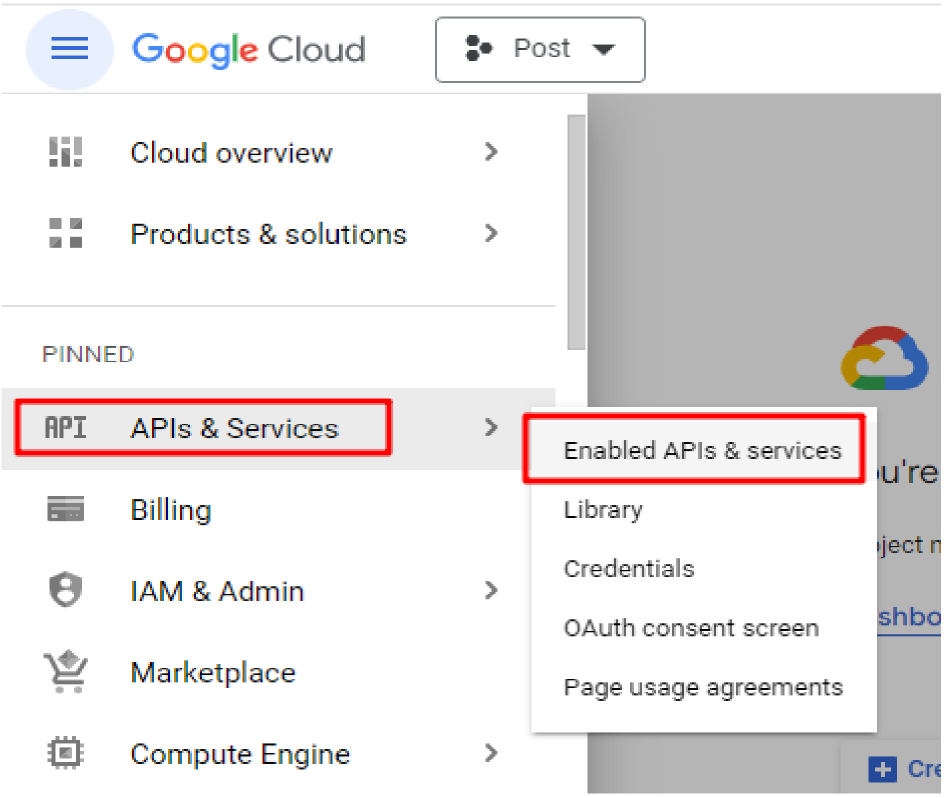
Figure 2-763 New Project



2. Enable YouTube.

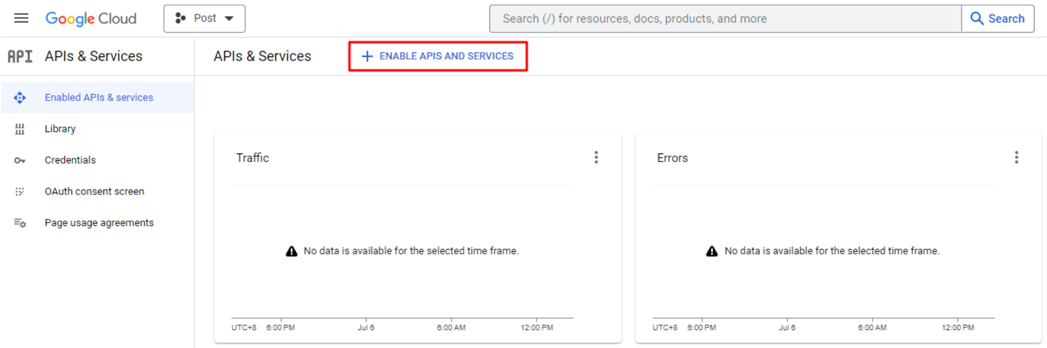
   a. In the navigation pane of Google Cloud, choose **APIs & Services** > **Enabled APIs & services**.

   Figure 2-764 Enabled APIs & services

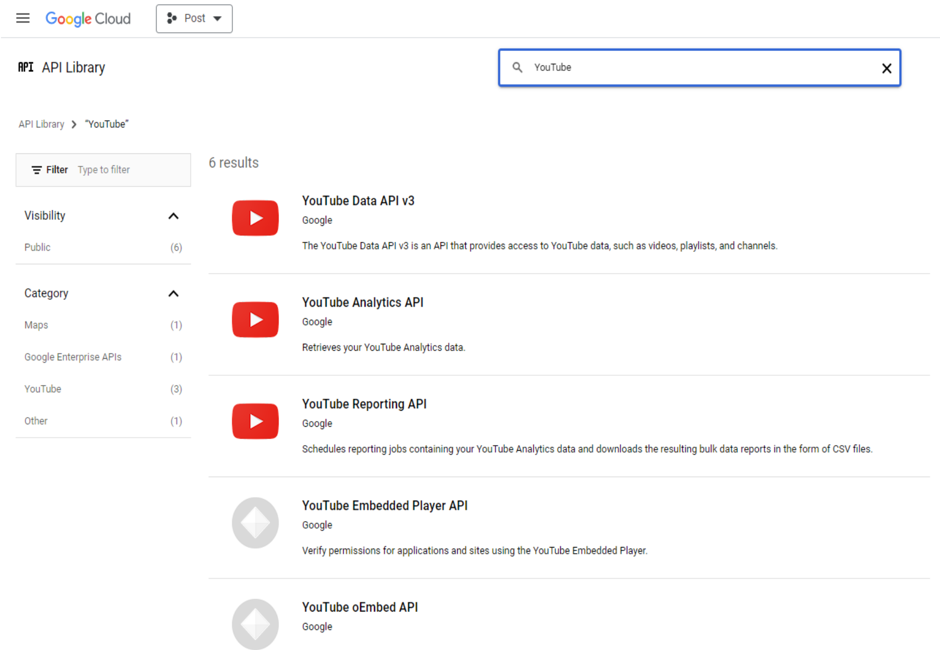
   b. Click **ENABLE APIS AND SERVICES**.

Figure 2-765 ENABLE APIS AND SERVICES



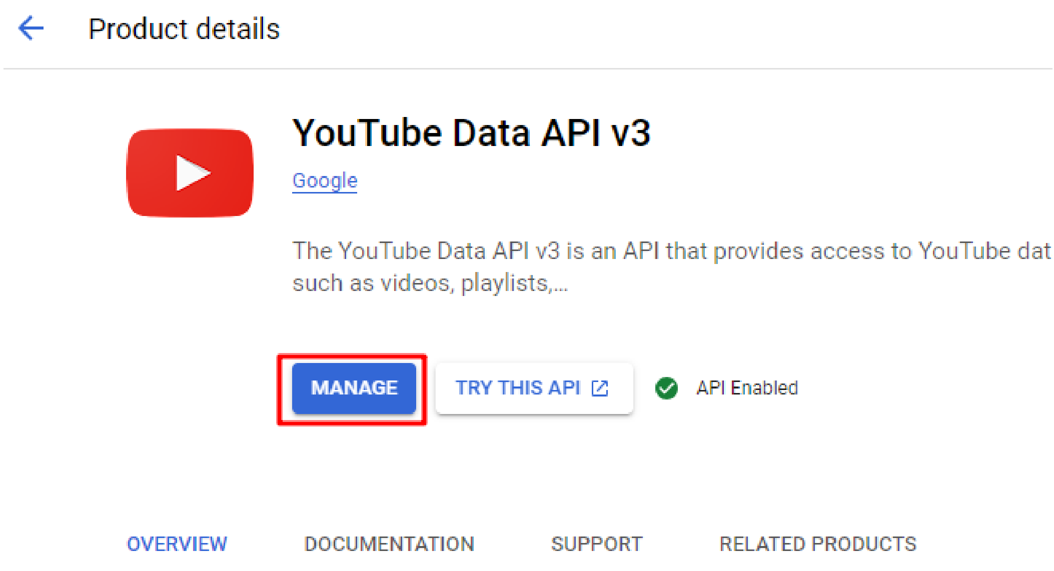
c. Search for YouTube.

Figure 2-766 Searching for YouTube



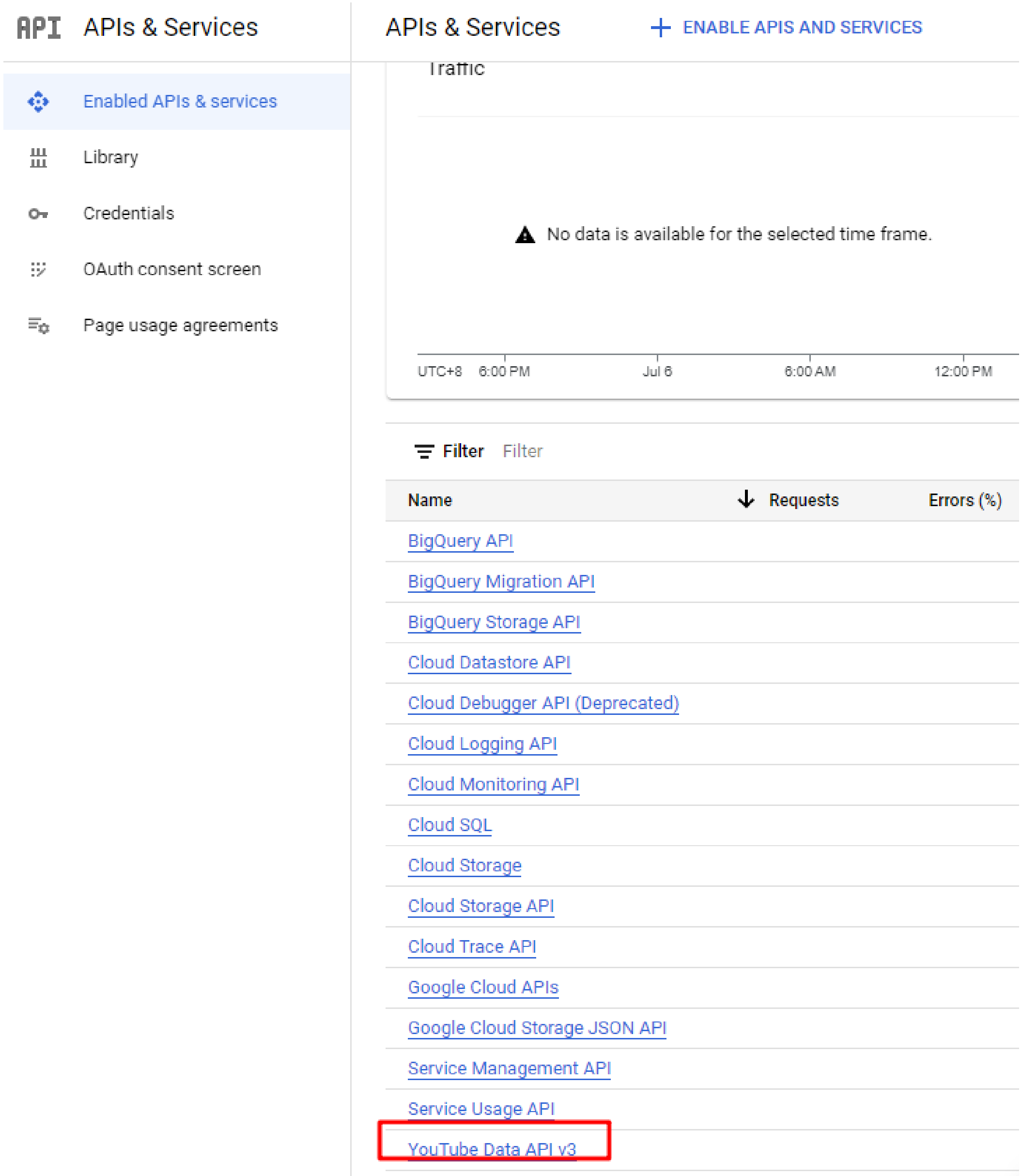
d. Find and enable **YouTube Data API v3**.

Figure 2-767 Enabling the API



If the following page is displayed, the API is enabled successfully.

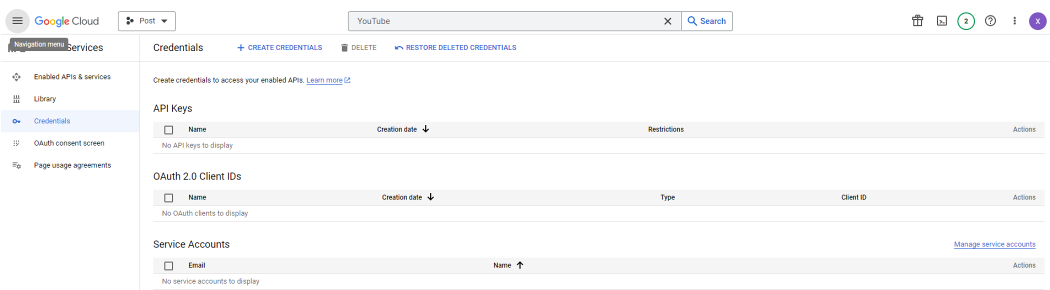
Figure 2-768 API enabled successfully



3. Create a credential.

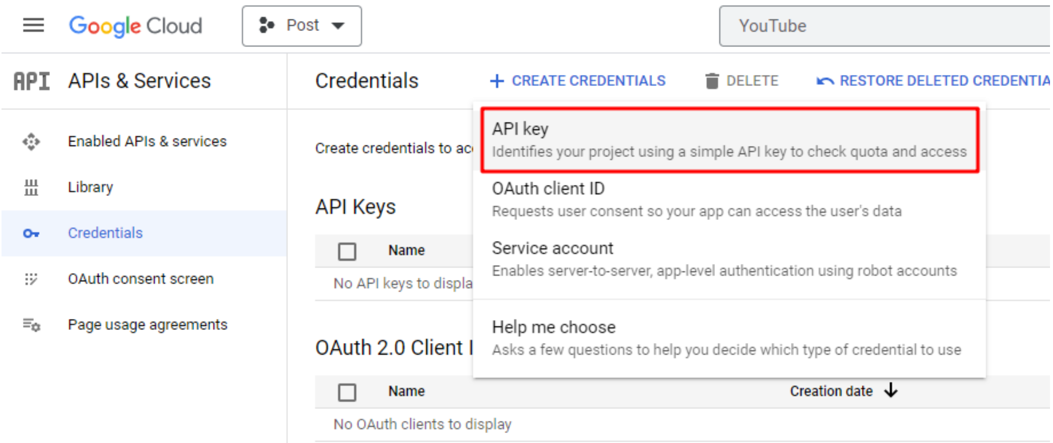
   a. In the navigation pane of Google Cloud, choose **Credentials**, and click **CREATE CREDENTIALS**.

Figure 2-769 Creating a credential



b. Create a key.

Figure 2-770 Creating a key



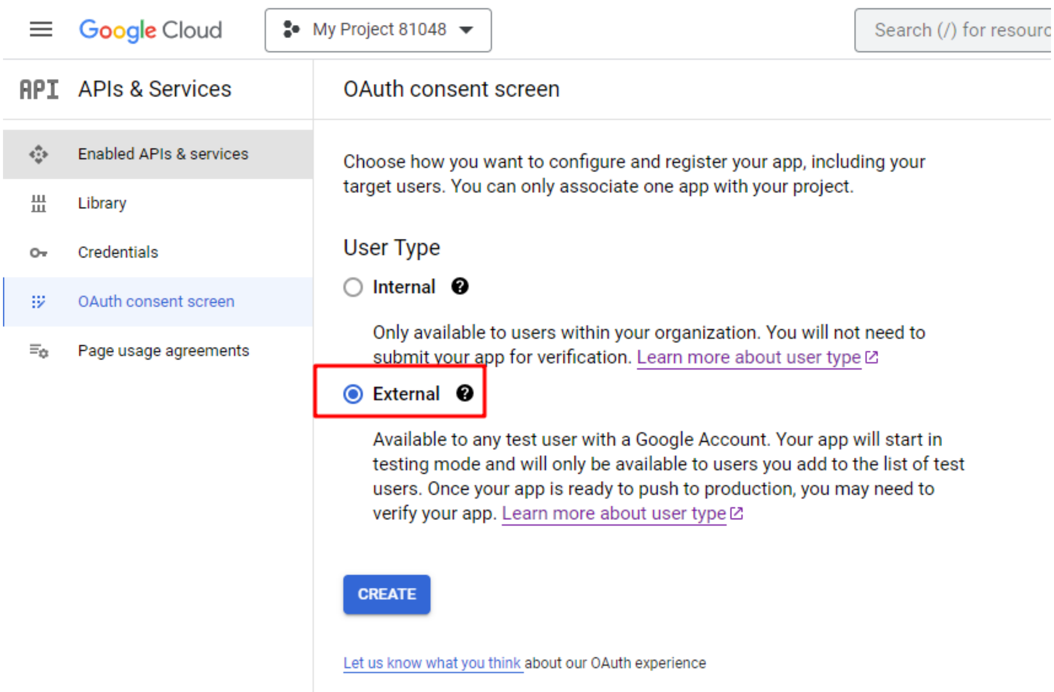
The value corresponds to the API key in the AICC.

4. Create an OAuth consent screen.

   a. In the navigation pane of Google Cloud, choose **OAuth consent screen**.

   b. Select **External** and click **CREATE**.

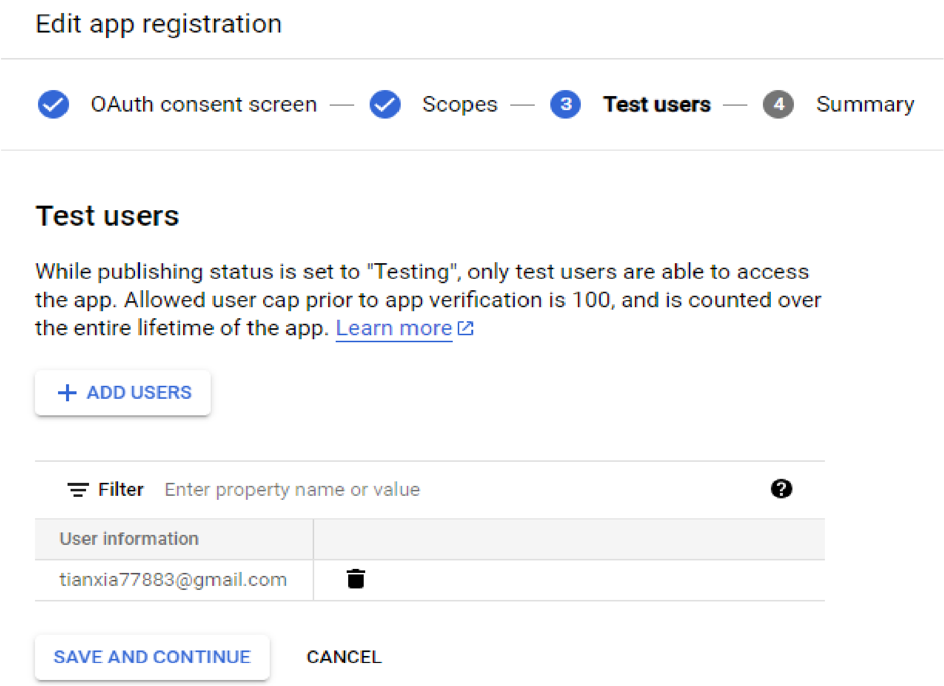
Figure 2-771 Creating an OAuth consent screen



Set all mandatory parameters and retain the default values for other parameters until the **3 Test users** page is displayed.

   c. Click **ADD USERS** and add a test user.

Figure 2-772 Adding a test user



d. Click **SAVE AND CONTINUE** to complete the configuration.

e. In the navigation pane of Google Cloud, choose **Credentials**, click **CREATE CREDENTIALS**, and choose **OAuth client ID**.

Figure 2-773 Choosing OAuth client ID

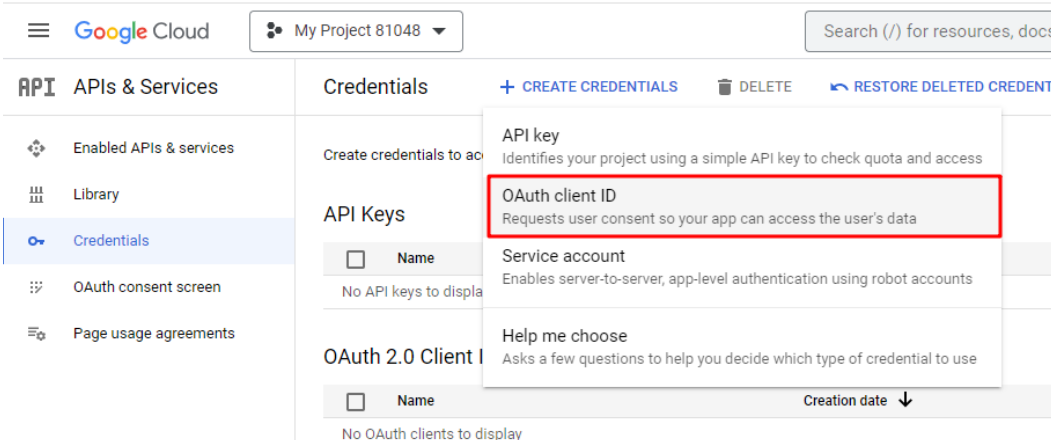
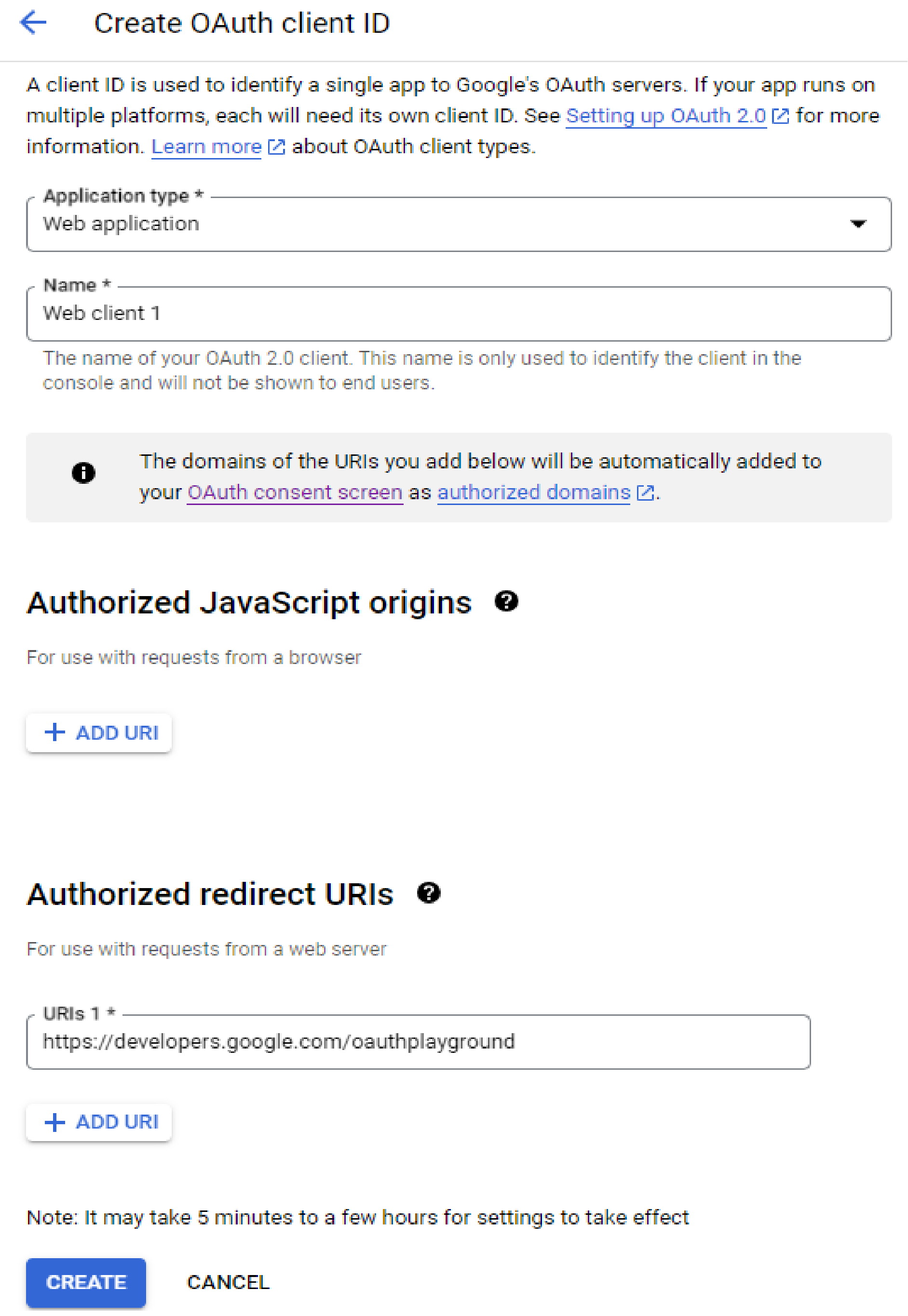


Figure 2-774 Creating an OAuth client ID



Add the redirection URI **https://developers.google.com/oauthplayground**. Note that the URI cannot end with a slash (/).

After you click **CREATE**, obtain the values of **OAuth Client ID** and **OAuth Client secret** that are generated automatically. The values correspond to the values of **Client ID** and **appKey** in the AICC, respectively.

5. Access **Google Developers**, select all APIs under the YouTube Data API v3, and enter the obtained OAuth client ID and secret to generate an API.

Figure 2-775 Generating an API

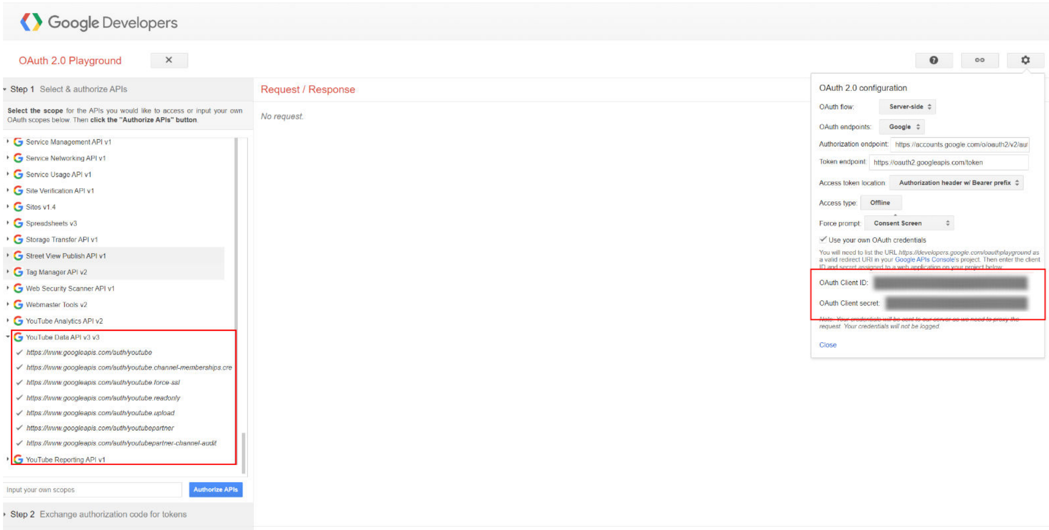
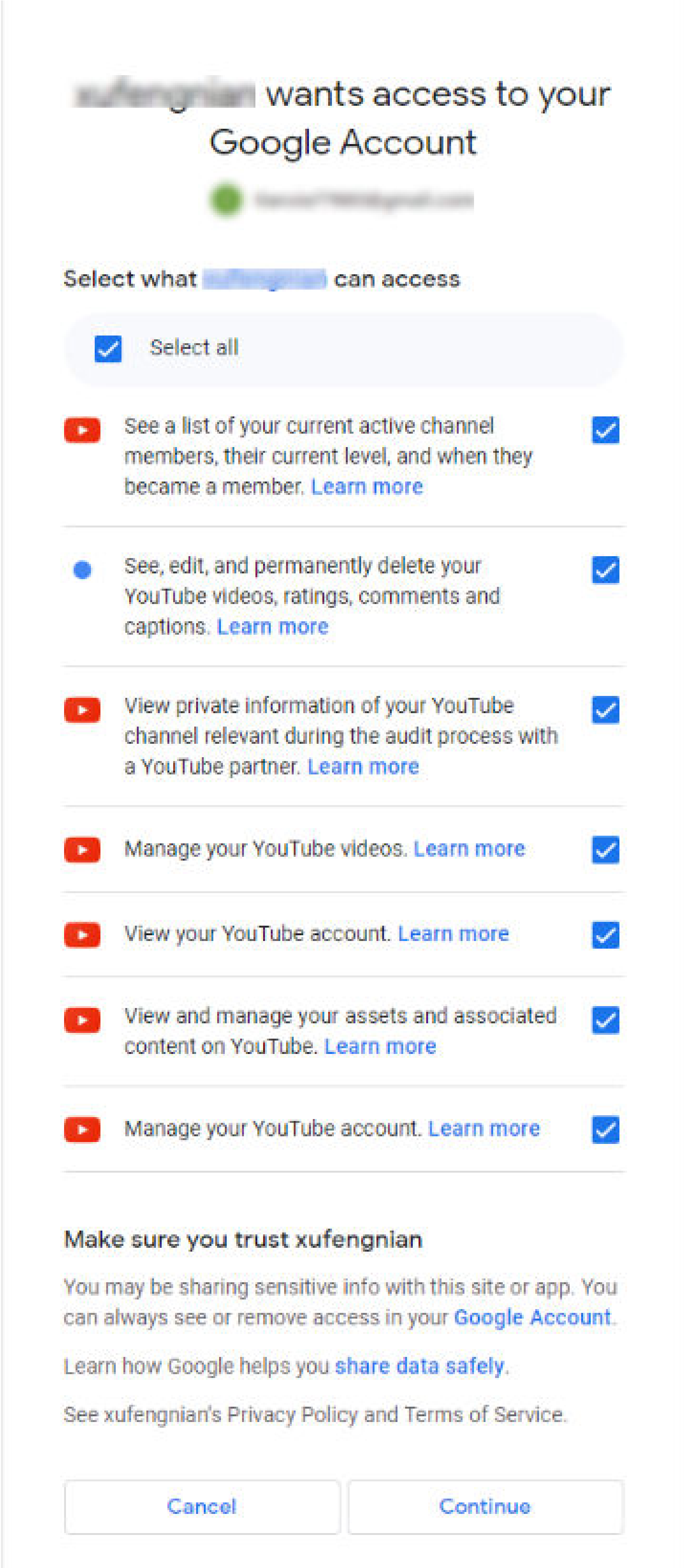


Figure 2-776 Obtaining the generated access token and refresh token

6. Use the developer account to sign in to Google. Select **Select all** to assign all permissions to the developer account.



7. Create a channel on YouTube.

Figure 2-777 Creating a channel

Go to the YouTube home page and choose **Your channel**. The last segment of the URL is the channel ID, which corresponds to the channel ID in the AICC.

Context

None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Outbound Call > **Account Post**.

Step 2 Click **Configure Channel** and then click **New**.

Step 3 In the **Create Channel** dialog box, set parameters based on **Table 2-201**.

Table 2-201 Parameters for creating a channel

Parameter	Description
Channel Name	Enter a customized value.
Channel Configuration	Select **YouTube**.
Channel ID	ID of the channel created in **Figure 2-777**.
apiKey	Key created in **Figure 2-770**.
Client ID	Client ID generated in **Figure 2-774**.
appKey	Client key generated in **Figure 2-774**.
accessToken	Access token and refresh token generated in **Figure 2-776**.
refreshToken	
ApiFabricAK	Contact the system administrator to obtain the app key of the app that has subscribed to the refreshNorth API and bound to the tenant space for which the YouTube channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app key here.

Parameter	Description
ApiFabricSK	Contact the system administrator to obtain the app secret of the app that has subscribed to the refreshNorth API and bound to the tenant space for which the YouTube channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret here.

Step 4 Click **Save**.

----End

2.20.1.2 Creating a Facebook Channel

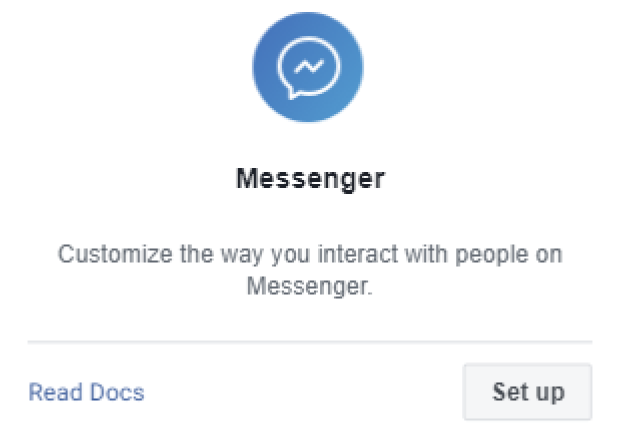
Prerequisites

The connection to Facebook has been completed. If the connection has not been completed, perform the following steps to complete the connection:

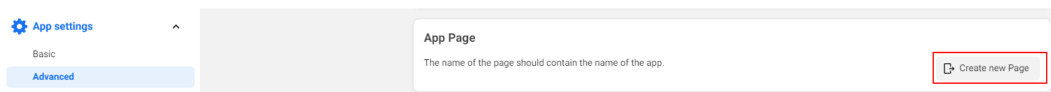
1. Visit **https://developers.facebook.com/apps** and use a Meta for Developers account to log in.

   If no Meta for Developers account is available, create one.

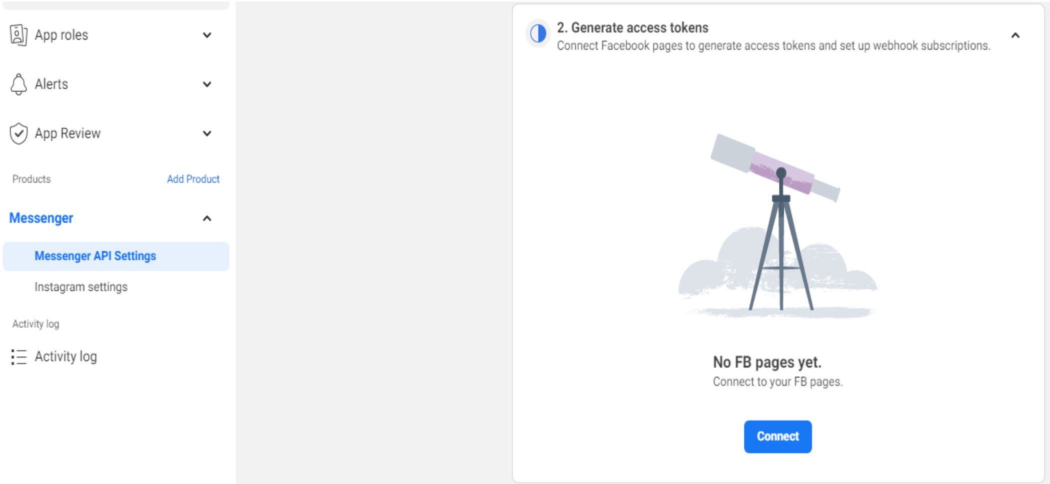
2. Create an app.
   a. Click **Other**, select the **Business** type, customize the app name, and retain other default settings.
   b. Click **Set up** corresponding to the Messenger product to add it to the app.



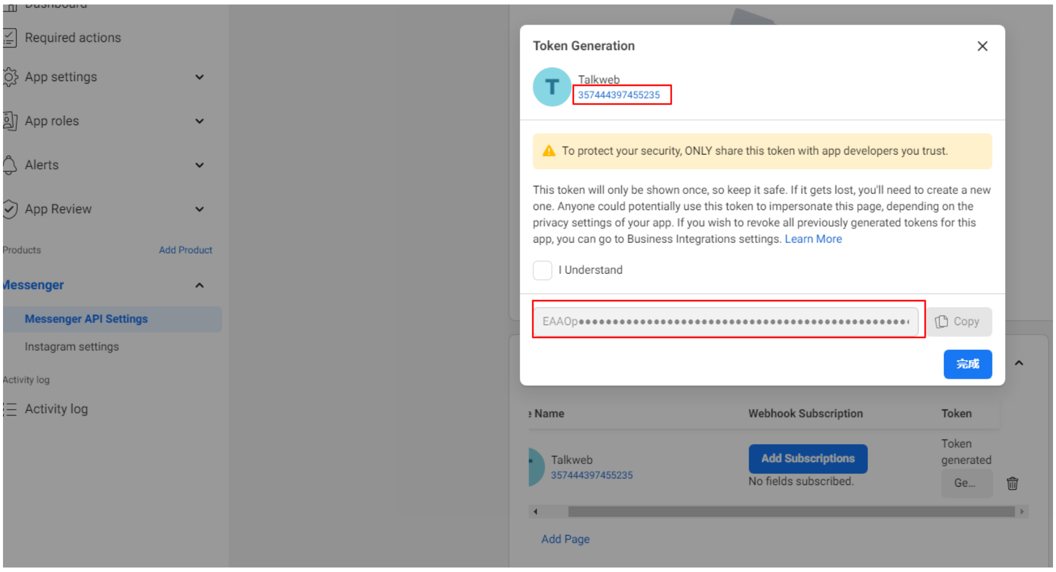
3. Create a public home page.



4. Bind the new public home page.



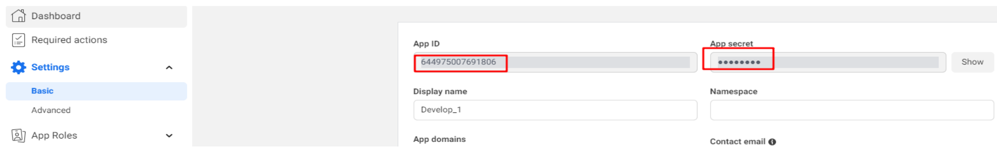
5. Refresh the application page to obtain the bound home page ID and password.



– The number in the red box is the ID of the public home page, which corresponds to the value of **Channel ID** in the AICC.

– The tokens correspond to the values of **accessToken** and **refreshToken** in the AICC.

6. Obtain the ID and secret of the created app.



– The value of **App ID** corresponds to the value of **Client ID** in the AICC.

– The value of **App secret** corresponds to the value of **appKey** in the AICC.

7. Set access permissions.

a. Access **https://developers.facebook.com/tools/explorer/**.

b. Set the parameter on the top of the page to **me?fields=id,name**.

c. Set **Meta App** to the app created in **2**.

d. Add the following permissions under **Permission**:

- **pages_show_list**
- **pages_messaging**
- **pages_read_engagement**
- **pages_manage_metadata**
- **pages_read_user_content**
- **pages_manage_posts**
- **pages_manage_engagement**

e. Set **User or Page**.

i. Click and choose **Get Page Access Token**. The public home page is displayed.

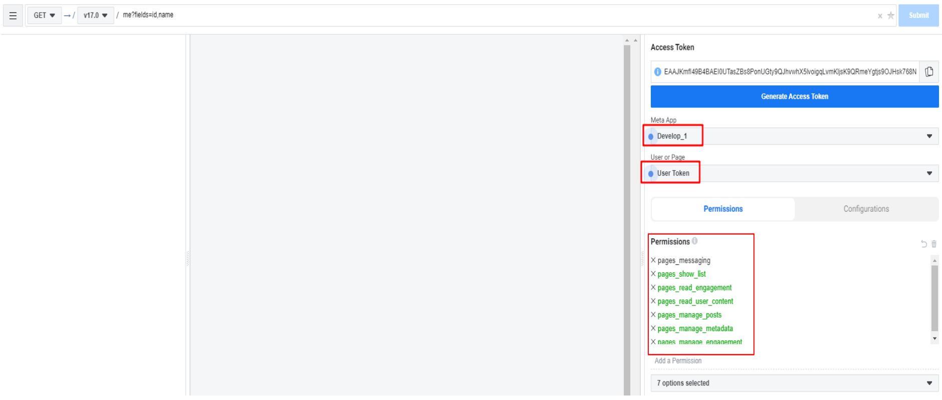
ii. Click **Continue as** *XXX*, and select the public home page created in **3**.

iii. Click **Continue**.

iv. Click **Save**.

v. Click again and select the new public home page.

f. Click **Submit**. The permissions are added successfully.



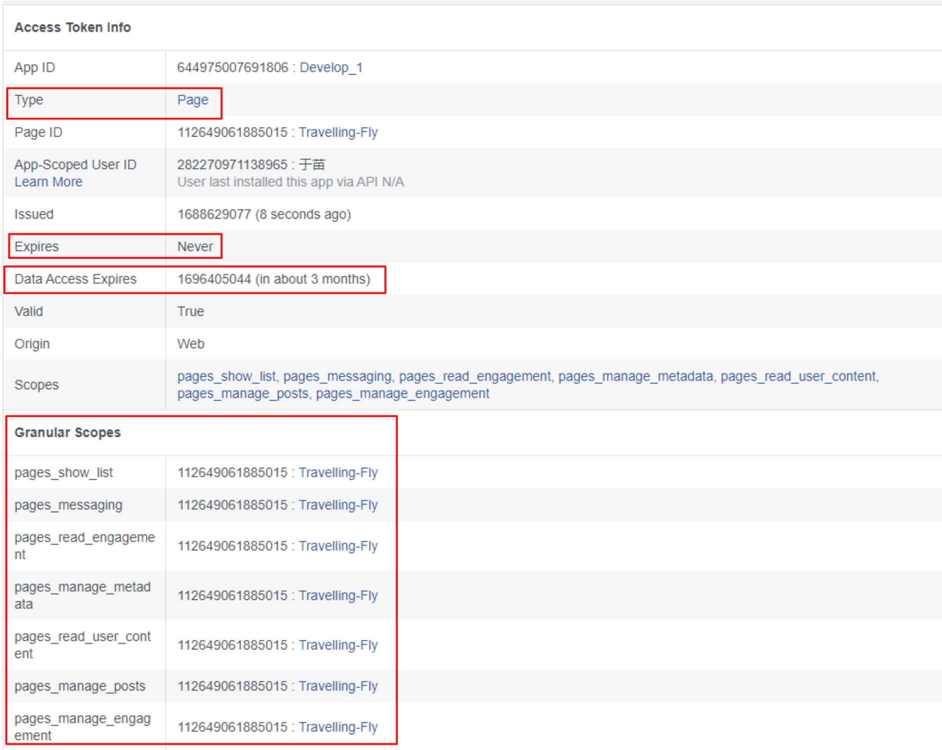
8. Set the validity period of the access token to three months.

a. Access **https://developers.facebook.com/tools/debug/accesstoken**.

b. Enter the access token obtained in **4** and click **Debug**.

If the debugging is successful, the following information is displayed:

- The value of **Type** is **Page**, not **User**.
- The value of **Expires** is **Never**.
- The value of **Data Access Expires** is about three months later.
- The permissions under **Granular Scopes** contain at least the permissions added in **6**.



Access Token Info	
App ID	644975007691806 : Develop_1
Type	Page
Page ID	112649061885015 : Travelling-Fly
App-Scoped User ID Learn More	282270971138965 : 于苗 User last installed this app via API N/A
Issued	1688629077 (8 seconds ago)
Expires	Never
Data Access Expires	1696405044 (in about 3 months)
Valid	True
Origin	Web
Scopes	pages_show_list, pages_messaging, pages_read_engagement, pages_manage_metadata, pages_read_user_content, pages_manage_posts, pages_manage_engagement

Granular Scopes	
pages_show_list	112649061885015 : Travelling-Fly
pages_messaging	112649061885015 : Travelling-Fly
pages_read_engagement	112649061885015 : Travelling-Fly
pages_manage_metadata	112649061885015 : Travelling-Fly
pages_read_user_content	112649061885015 : Travelling-Fly
pages_manage_posts	112649061885015 : Travelling-Fly
pages_manage_engagement	112649061885015 : Travelling-Fly

Context

None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Outbound Call > **Account Post**.

Step 2 Click **Configure Channel** and then click **New**.

Step 3 In the **Create Channel** dialog box, set parameters based on **Table 2-201**.

Table 2-202 Parameters for creating a channel

Parameter	Description
Channel Name	Enter a customized value.
Channel Configuration	Select **Facebook**.
Channel ID	Public home page ID obtained in **5**.
Client ID	App ID generated in **6**.
appKey	App key generated in **6**.
accessToken	Tokens generated in **5**.
refreshToken	

Parameter	Description
ApiFabricAK	Contact the system administrator to obtain the app secret of the app that has subscribed to the **facebookNorth**, **facebookRefresh-Noth**, and **facebookReplyNorth** APIs and bound to the tenant space for which the Facebook channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app ID here.
ApiFabricSK	Contact the system administrator to obtain the app secret of the app that has subscribed to the **facebookNorth**, **facebookRefresh-Noth**, and **facebookReplyNorth** APIs and bound to the tenant space for which the Facebook channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret here.
Operation personnel	Assign employees of the tenant to maintain the publish channel. A maximum of 10 operations personnel can be assigned to a channel.

Step 4 Click **Save**.

----End

2.20.1.3 Publishing a YouTube Post

Prerequisites

A YouTube channel has been created. For details, see **2.20.1.1 Creating a YouTube Channel**.

Context

- By default, approval is not required for publishing a YouTube post or deleting a published YouTube post. If the tenant parameter **Social Media Approver Account** is set, posts can be published or deleted only after being approved by the approver.
- When you publish a YouTube post, the maximum size of a video that can be uploaded is specified by the tenant parameter **Social Media Video Upload Size Limit**. The parameter unit is MB. The default value is **200**, and the maximum value is **500**.
- Only videos can be uploaded through the YouTube channel.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Outbound Call > **Account Post**.

Step 2 Click **Post**.

Step 3 Configure basic information based on **Table 2-203**.

Table 2-203 Parameters for configuring basic information

Parameter	Description
Theme	Enter a customized value. The value can contain a maximum of 100 characters.
Contents	Enter a customized value. The value can contain a maximum of 5000 characters.
Image	Currently, this function is not supported.
(Mandatory) Video	Upload a local video. The video size cannot exceed the value of the tenant parameter **Social Media Video Upload Size Limit**. The video must be in MP4 format.
Release Channel	Select **YouTube**.
Channel Information - YouTube	
(Mandatory) Audience	Set these parameters as required.
(Optional) Label	
(Mandatory) License	
(Mandatory) Category	
(Mandatory) Public Scope	

Step 4 Click **Next**.

Step 5 Configure publishment information based on **Table 2-204**.

Table 2-204 Parameters for configuring publishment information

Parameter	Description
Release a channel/Page	Select the YouTube channel created in **2.20.1.1 Creating a YouTube Channel**.
Publication Type	The options are as follows: ● **Real-Time Release** ● **Scheduled Release**

Parameter	Description
Estimated Release Time	This parameter is mandatory when **Publication Type** is set to **Scheduled Release**. Set a future time.
Approver	An approver is automatically displayed. This parameter is displayed only when the tenant parameter **Social Media Approver Account** is set.
Remarks	Enter remarks. The value can contain a maximum of 500 characters.

To publish the post through multiple channels, click **Create** to add multiple channels.

Step 6 Click **Submit**.

After you click **Submit**, the post is automatically published by default. If the tenant parameter **Social Media Approver Account** is set, the post can be published only after the approver approves the post.

----End

Follow-up Procedure

After a YouTube video post is published, choose Social media and click the **Enterprise Account Message Processing** tab to view the post publishment details. For details, see **2.20.3 Handling Enterprise Account Messages**.

2.20.1.4 Publishing a Facebook Post

Prerequisites

A Facebook channel has been created. For details, see **2.20.1.2 Creating a Facebook Channel**.

Context

- By default, approval is not required for publishing a Facebook post or deleting a published Facebook post. If the tenant parameter **Social Media Approver Account** is set, posts can be published or deleted only after being approved by the approver.
- When you publish a Facebook post, the maximum size of a video that can be uploaded is specified by the tenant parameter **Social Media Video Upload Size Limit**. The parameter unit is MB. The default value is **200**, and the maximum value is **500**.
- When you publish a Facebook post, the maximum size of an image that can be uploaded is specified by the tenant parameter **Maximum size of uploaded**

social media images. The parameter unit is MB. The default value is **1**, and the maximum value is **4**.

- The validity duration of the URL used by a customer to access a resource is controlled by the tenant parameter **Validity duration of the URL used by a customer to access a resource**. The value is in minutes and ranges from 5 to 10080 (at most seven days). The default value is **1440** (equals one day).
- Blank posts cannot be published through the Facebook channel. You need to set at least one of **Contents**, **Image**, and **Video**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Outbound Call > **Account Post**.

Step 2 Click **Post**.

Step 3 Configure basic information based on **Table 2-203**.

Table 2-205 Parameters for configuring basic information

Parameter	Description
Theme	Enter a customized value. The value can contain a maximum of 100 characters.
Contents	Enter a customized value. The value can contain a maximum of 5000 characters.
Image	Upload a local image. A maximum of nine images can be uploaded. The size of an image cannot exceed the value of the tenant parameter **Maximum size of uploaded social media images**. The image must be in either of the following formats: ● PNG ● JPG ● GIF ● BMP ● TIFF
Video	Upload a local video. Only one video can be uploaded. The video size cannot exceed the value of the tenant parameter **Social Media Video Upload Size Limit**. The video must be in MP4 format.
Release Channel	Select **Facebook**.
Channel Information - Facebook	

Parameter	Description
Allow embedding	The check box is selected by default. Select or deselect the check box based on site requirements.

Step 4 Click **Next**.

Step 5 Configure publishment information based on **Table 2-204**.

Table 2-206 Parameters for configuring publishment information

Parameter	Description
Release a channel/Page	Select the Facebook channel created in **2.20.1.2 Creating a Facebook Channel**.
Publication Type	The options are as follows: ● **Real-Time Release** ● **Scheduled Release**
Estimated Release Time	This parameter is mandatory when **Publication Type** is set to **Scheduled Release**. Set a future time.
Approver	An approver is automatically displayed. This parameter is displayed only when the tenant parameter **Social Media Approver Account** is set.
Remarks	Enter remarks. The value can contain a maximum of 500 characters.

To publish the post through multiple channels, click **Create** to add multiple channels.

Step 6 Click **Submit**.

After you click **Submit**, the post is automatically published by default. If the tenant parameter **Social Media Approver Account** is set, the post can be published only after the approver approves the post.

----End

2.20.1.5 Approving a Post

Prerequisites

- The tenant parameter **Social Media Approver Account** has been set.
- The approver account has the **Enterprise account operation** menu permission.

Context

None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Outbound Call > **Account Post**.

Step 2 Click the **to be approved** tab and click **Approval** in the **Operation** column corresponding to a post in the **to be approved** state.

Step 3 After reading the post, click **Passed** or **Reject**.

----End

Follow-up Procedure

Choose Outbound Call > **Account Post** and click the **Approval History** tab to view the approval history.

2.20.2 Handling Multimedia Messages

When a publish channel managed by an operator is mentioned (@) by others, operations personnel can receive notifications and make responses.

Prerequisites

1. A poster has mentioned the public home page, and the publish channel has been assigned to operations personnel.
2. The operations personnel must be employees of the current tenant and have the **Social Media Operations** and **Offline Message Processing** menu permissions.

Context

- Currently, only Facebook messages can be handled.
- A message is considered handled when it is opened. On the page, an operator can only click the link of a post to go to the post. After the list is refreshed, the handled message is no longer displayed.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose Social media, and click the **Multimedia message processing** tab.

Posts that mention the operations personnel are displayed in the list. All posters are displayed as **Anonymous User**.

Step 2 In the list, click a post to view the post content.

- Click **Visit the original text** to go to the social media platform and read the original text.

- The function is not supported currently.
- Click to end the message.

----End

2.20.3 Handling Enterprise Account Messages

Operations personnel can maintain published posts, including viewing the number of likes and comments on a post and replying to comments.

Prerequisites

- The tenant administrator has published YouTube videos and Facebook posts on the Outbound Call > **Account Post** page.
- The operations personnel must be employees of the current tenant and have the **Social Media Operations** and **Enterprise account operation** menu permissions.

Context

Data on the page is automatically refreshed every 30 minutes. Posts that are just published can be displayed in the list only after being manually queried.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Social media > **Enterprise Account Message Processing**.

Step 2 In the list, click a published post to view the post details.

Manage posts by referring to **Table 2-207**.

Table 2-207 Post operation buttons

Button	Description
Batch Reply	Click this button to reply to posts of a poster in batches. Click it again to cancel the batch reply.
Comment on	Comment on a post.
All Reply	This button is displayed when the total number of comments under a commenter is greater than 1. Click this button to display all comments. Click it again to hide the comments.
Reply	Reply to a single post.

NOTE

- Video posts can be played.
- Currently, only texts and emojis are supported.

----End

2.21 Performance Management

2.21.1 Performance Configuration

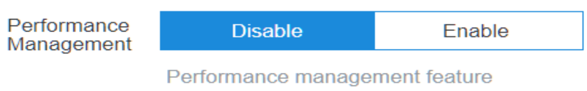
2.21.1.1 Performance Algorithm

Before creating a performance plan, the tenant administrator need to configure the corresponding performance algorithm.

Prerequisites

- The performance management feature has been enabled for the tenant space.
  a. Sign in to the AICC as the system administrator.
  b. Choose **Call Center** > **Tenant Management**.
  c. Click **Edit** in the row containing the current tenant.
  d. Click the **Virtual Call Center** tab. In the **Feature Selection** area, enable the **Performance Management** feature.

  Figure 2-778 Enabling the performance management feature

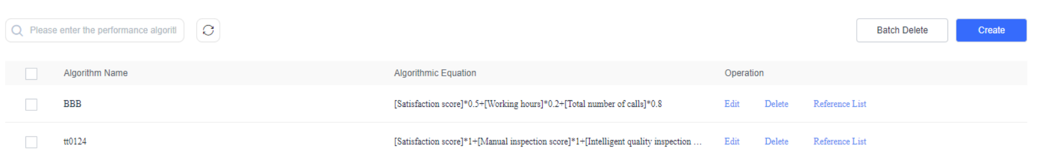
  

  The performance management feature depends on the AppCube feature. Before enabling the performance management feature, enable the AppCube feature.

Procedure

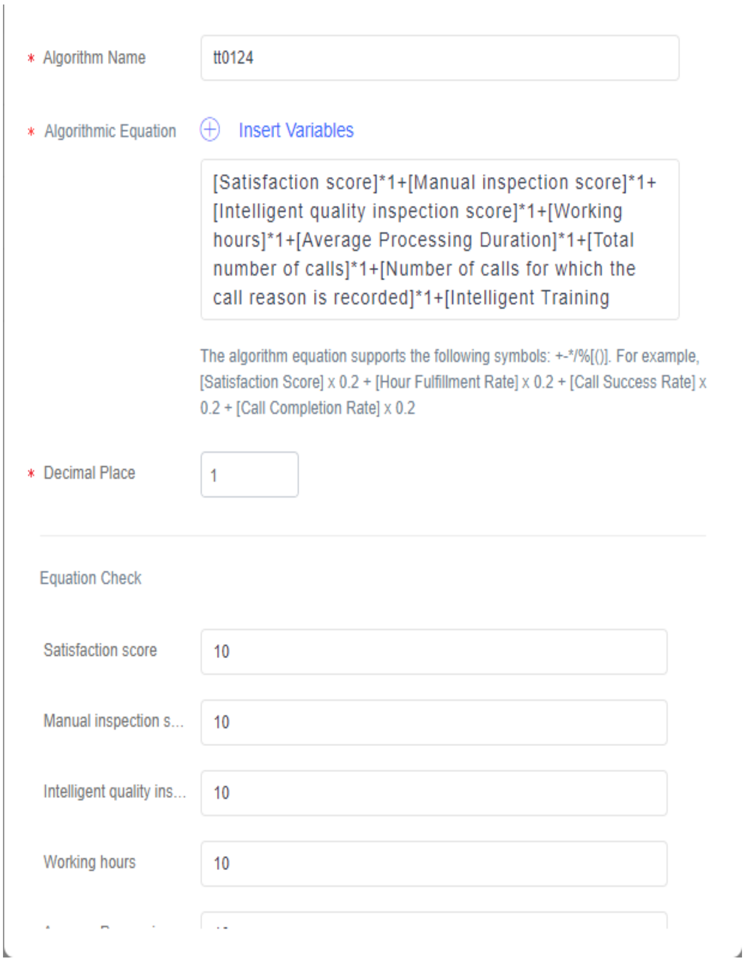
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Performance management** > **Performance configuration**, and choose **Performance Algorithm**.

Figure 2-779 Performance algorithm page



Step 2 Click **Create** and create a performance algorithm.

Figure 2-780 Creating a performance algorithm



1. **Algorithm Name**: Customize a value with a maximum of 100 characters.
2. **Algorithmic Equation**: Insert variables to create an algorithm equation. The algorithm equation supports the following symbols: +–%*/[](). Example: [Satisfaction score]*0.2+[Working hour fulfillment rate]*0.2+[Call success rate]*0.2+[Call completion rate]*0.2 Variables that can be inserted into the algorithm equation are as follows:
   – Satisfaction score
   – Manual inspection score
   – Intelligent quality inspection score
   – Working hours
   – Average Processing Duration
   – Total number of calls
   – Number of calls for which the call reason is recorded
   – Intelligent Training Score
3. **Decimal Place**: Enter the number of decimal places to be retained in the final performance score. The default value is **1**.

4. **Equation Check**: Set a simulated test based on the algorithm equation. Click **Start verification**. The calculation is performed based on the selected indicators.

Step 3 After all the preceding information is configured, click **Save**.

Step 4 In the **Operation** column, click **Edit**, **Delete**, or **Reference List** for the current performance algorithm as required. If a performance algorithm is referenced by a performance plan, the performance algorithm cannot be deleted but can be modified.

----End

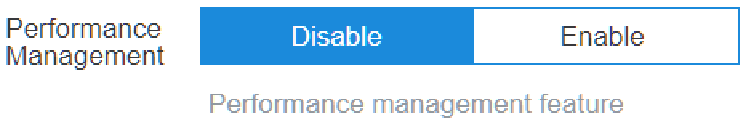
2.21.1.2 Performance Plan

The tenant administrator can configure a performance plan for performance management and employee training guide.

Prerequisites

- The performance management feature has been enabled for the tenant space.
  a. Sign in to the AICC as the system administrator.
  b. Choose **Call Center** > **Tenant Management**.
  c. Click **Edit** in the row containing the current tenant.
  d. Click the **Virtual Call Center** tab. In the **Feature Selection** area, enable the **Performance Management** feature.

  Figure 2-781 Enabling the performance management feature

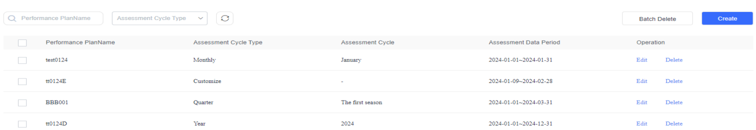
  

  The performance management feature depends on the AppCube feature. Before enabling the performance management feature, enable the AppCube feature.
- The performance algorithm has been configured.

Procedure

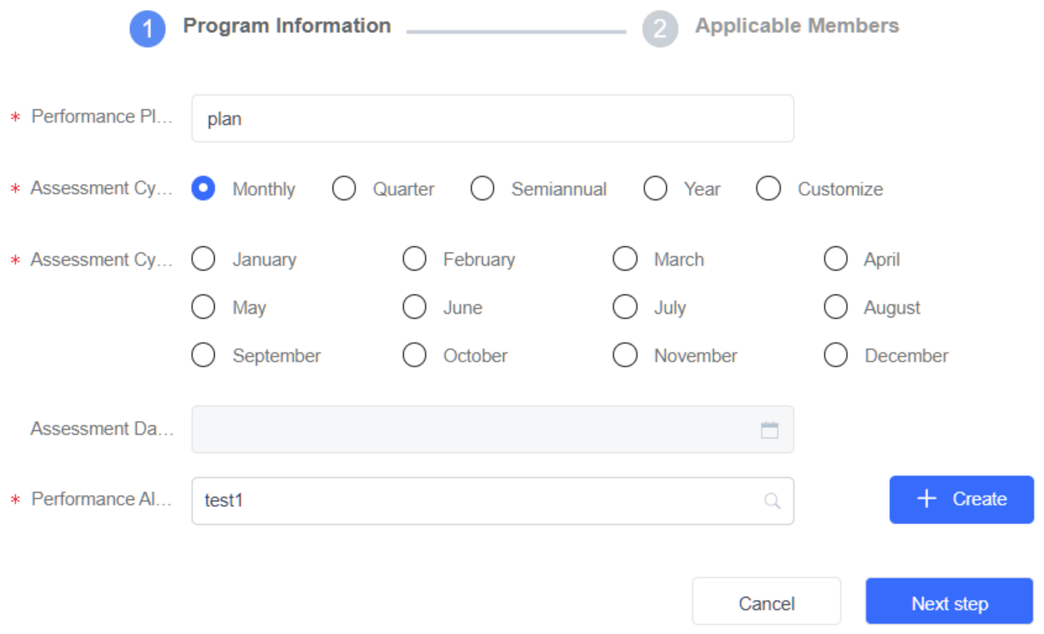
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Performance management** > **Performance configuration**, and choose **Performance Plan**.

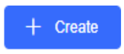
Figure 2-782 Performance plan page



Step 2 Click **Create** and create a performance plan. Configure **Program Information** first.

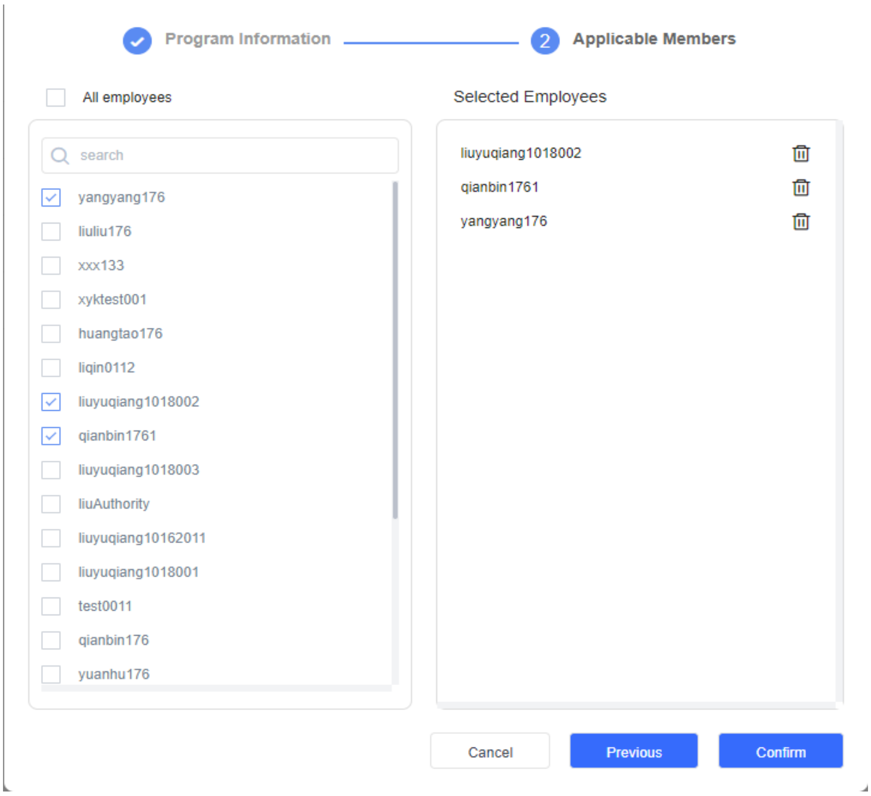
Figure 2-783 Creating a performance plan - Program Information page



1. **Performance PlanName**: Customize a value with a maximum of 100 characters.
2. **Assessment Cycle Type**: Select an appraisal period type.
   - **Monthly**
   - **Quarter**
   - **Semiannual**
   - **Year**
   - **Customize**: If you select **Customize**, the time span cannot exceed 366 days but can cross years.
3. **Assessment Cycle**: Select an appraisal period based on the appraisal period type.
4. **Assessment Data Period**: Set a specific appraisal time period.
5. **Performance Algorithm**: Select an existing performance algorithm. If no algorithm is available, click  to create an algorithm for the current performance plan.

Step 3 Click **Next step**, select applicable members for the performance plan.

Figure 2-784 Creating a performance plan - Applicable Members page



Step 4 After all the preceding information is configured, click **Confirm**.

Step 5 In the **Operation** column, click **Edit** or **Delete** for the current performance plan as required. A performance period that has been carried forward (that is, the appraisal is completed) cannot be edited.

----End

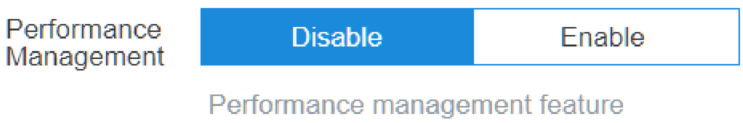
2.21.2 Performance Scoring

Performance score details of the current agent can be viewed or deleted based on the specified performance plan.

Prerequisites

- The performance management feature has been enabled for the tenant space.
  a. Sign in to the AICC as the system administrator.
  b. Choose **Call Center** > **Tenant Management**.
  c. Click **Edit** in the row containing the current tenant.
  d. Click the **Virtual Call Center** tab. In the **Feature Selection** area, enable the **Performance Management** feature.

Figure 2-785 Enabling the performance management feature



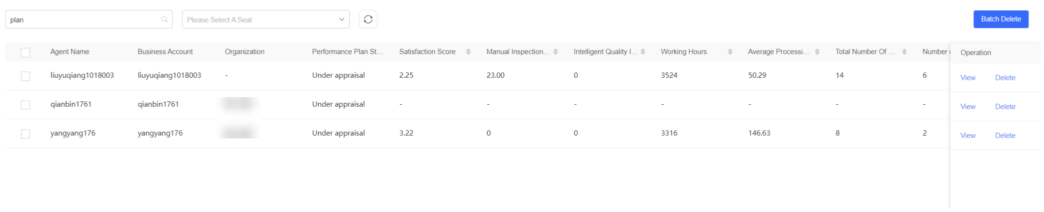
The performance management feature depends on the AppCube feature. Before enabling the performance management feature, enable the AppCube feature.

- The **performance algorithm** and **performance plan** have been configured.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Performance** > **Performance Scoring**.

Figure 2-786 Performance Scoring page



Step 2 Click

and enter a performance plan name to view the corresponding performance score.

This field is mandatory. If no performance plan is selected, no content is displayed in the list by default. After a performance plan is selected, the system dynamically determines the involved performance indicators based on the performance algorithm corresponding to the plan and displays the indicators in the list.

Step 3 Check the queried performance indicators based on the following table.

Table 2-208 Performance indicators

Indicator	Description
Performance Plan Status	Performance plan status. The value can be **Under appraisal** or **Completed**.
Satisfaction Score	Average satisfaction score calculated based on the appraisal period.
Manual Inspection Score	Average score of manual inspection calculated based on the appraisal period.
Intelligent Quality Inspection Score	Average score of intelligent inspection calculated based on the appraisal period.
Working Hours	Sum of working duration based on the appraisal period, in seconds.
Average Processing Duration	Average processing duration calculated based on the appraisal period, in seconds.
Total Number Of Calls	Total number of calls calculated based on the appraisal period.

Indicator	Description
Number of calls for which the call reason is recorded	Number of calls for which the call reason is recorded based on the appraisal period.
Intelligent Training Score	Average intelligent training score calculated based on the appraisal period.
Performance Score	Performance score calculated based on the performance algorithm.
Performance Score Update Time	Time when a performance score is updated.

Step 4 In the **Operation** column, click **View** or **Delete** for the current performance score as required.

----End

3 Agent Guide(AICC)

This document provides guidance for agents to perform operations so that agents can use the AICC business platform.

3.1 Introducing Agent Workbenches
The AICC provides a workbench page where basic agent operations are integrated so that agents can perform operations without switching the menus. Workbenches are classified into the audio and video workbench and online chat workbench.

3.2 Switching the Agent Status
An agent can switch the agent status using the connection bar on the top of the page for the system to better assign businesses.

3.3 Allowing Browser Pop-up Notifications

3.4 Handling Voice Businesses
This section describes how to handle voice businesses as an agent.

3.5 Handling Video Businesses
This section describes how to handle video businesses as an agent.

3.6 Handling Multimedia Chat Businesses
This section describes how to handle multimedia businesses as an agent.

3.7 Performing Other Agent Operations
This section describes other operations performed by an agent.

3.8 Managing Inspection Results
This section describes inspection management. An agent can manage inspection results.

3.9 Typical Scenarios
This section describes some typical scenarios of operations performed by an agent.

3.10 Viewing Training Tasks
Intelligent training tasks can be used to periodically train and test agents through IVR flows to check the business skills of the agents.

3.11 Intelligent Outbound Call Tasks
Based on the assigned outbound call tasks, agents make outbound calls and configure outbound call results.

3.12 OpenEye Help Document

3.1 Introducing Agent Workbenches

The AICC provides a workbench page where basic agent operations are integrated so that agents can perform operations without switching the menus. Workbenches are classified into the audio and video workbench and online chat workbench.

3.1.1 Voice and Video Workbench

An agent uses the voice and video workbench to handle customer businesses through inbound and outbound voice calls.

An agent can open the voice and video workbench in either of the following ways:

- Choose **Call**.
- After an agent signs in, the voice and video workbench is automatically opened. Alternatively, you can make an inbound or outbound call through the connection bar. After the call is connected, the voice and video workbench is automatically opened.

3.1.1 Voice and Video Workbench shows the voice and video workbench GUI.

Figure 3-1 Voice and video workbench

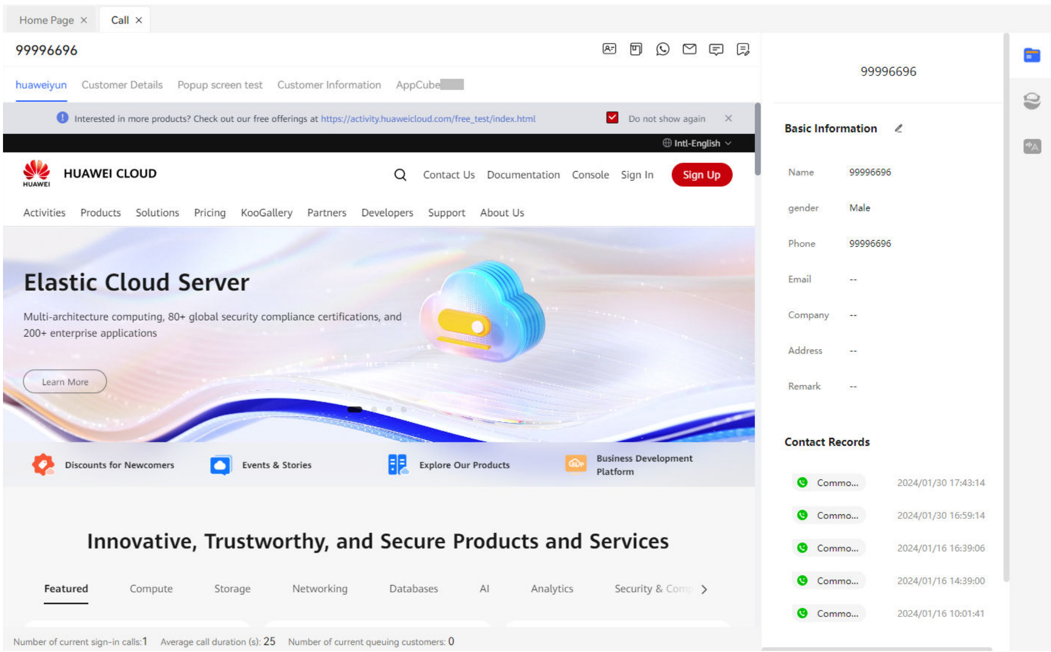


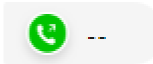
Table 3-1 describes the GUI.

Table 3-1 Voice and video workbench

Content	Description
	Help an agent handle businesses during a call. This button is displayed only when the **Agent Business Process Visualization** feature is enabled and the **Service Guidance** menu permission is assigned to an agent. For details about how to configure a visualized service guidance flow, see **2.3.3.14 Configuring Service Guidance**.
	Create cases in one-click mode. For details, see **3.7.20 Creating a Case by One Click**.
	Perform intelligent case filling and create a SmartCare in-depth demarcation task. For details, see **3.7.19 Intelligent Case Filling** and **3.7.18 SmartCare Fault Demarcation**.
	Create a harassment record for a customer during a two-party call with the customer. For details about how to create a harassment record, see **3.7.14 Creating Harassment Records**.
	Identify and display the call reason of a customer. You can add call remarks as required. A remark can contain a maximum of 300 characters. For details, see **3.7.5 Setting Call Reasons**. For details about how to configure a call reason, see **2.3.2.1 Configuring Call Reasons**. After the **Automatic Conversation Summary** feature has been enabled for the tenant and an agent, the  icon is displayed when the agent configures the call reason on the workbench.

Content	Description
Third-party page provided by the customer	Display the multimedia inbound call screen pop-up that has been enabled in the system. Configure the tab page name based on site requirements. For details about how to configure a screen pop-up, see **2.3.2.6 Configuring Screen Pop-ups**.
	Send an email notification to a customer during a call with the customer. For details about how to send a notification, see **3.7.8 Sending Notifications**.
	Send a WhatsApp notification to a customer during a call with the customer. For details about how to send a notification, see **3.7.8 Sending Notifications**.
	Send an SMS notification to a customer during a call with the customer. For details about how to send a notification, see **3.7.8 Sending Notifications**.
	Authenticate the customer identity during a call with a customer. For details about how to perform identity authentication, see **3.7.11 Performing Identity Authentication**.
	This button is displayed only when the **Customer Center** feature is disabled. When the call between an agent and a customer is abnormally disconnected, the agent can proactively initiate a callback by clicking **Callback** to improve customer experience.

Content	Description
Call Message	This area is displayed only when the **Customer Center** feature is disabled. Display session information, including the calling and called numbers of an inbound call, handled number, skill queue, and smart voice recording information. Click to set a handled number of up to 24 characters to identify the service object. If no handled number is set, the handled number is the same as the customer number. Click the link next to **Business Request** to view the visualized flow.
Customer Information	This area is displayed only when the **Customer Center** feature is disabled. Display information about the customer who makes the inbound call. Configure the style of each field in this area to display different field values in different styles.
	To view the **Agent Assistant** tab on the voice and video workbench, you need to enable the intelligent recognition function. Display script recommendations, FAQ recommendations, and forbidden word prompts for agents.
	Real-time transcription. Display the converted conversations between customers and agents in real time in text format. When **Only Customer** is selected, only converted speeches of the customer are displayed. After the large model engine feature is enabled, the system can display customers' emotions and intents to agents based on large models. To view the **Real-time transfer** tab page, you need to enable the intelligent recognition function. For details, see "Manual Service FAQs > How Do I Enable Real-Time ASR?" in *AICC Operation Guide - FAQs*.

Content	Description
History contacts	This area is displayed only when the **Customer Center** feature is disabled. Display the latest three contact records. Contact records can only be displayed by time. ● Click  to go to the **Contact Details** page. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer. **NOTE** The agent is in a conversation with the handled number. ● Click **More** to go to the **History contacts** page, showing the contact records generated for the current handled number within the number of days specified by the tenant parameter **Time Span for Contact Record Query**. Click a call SN and play the voice or video of a contact record. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer. **NOTE** The agent is in a conversation with the handled number.

Content	Description
Contact Records	This area is displayed only when the **Customer Center** feature is enabled and the tenant parameter **Display Unified Customer Contact Information** is set to **Yes**. Display the latest five contact records. Contact records can only be displayed by time. Click **More** to go to the **History contacts** page, showing the contact records generated for the current handled number within the number of days specified by the tenant parameter **Time Span for Contact Record Query**. Click a call SN and play the voice or video of a contact record. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer. **NOTE** The agent is in a conversation with the handled number.
Basic Information	This area is displayed only when the **Customer Center** feature is enabled and the tenant parameter **Display Unified Customer Contact Information** is set to **Yes**. ● If information about the customer exists on the **Customer Center** > **Customer Center Management** page, the customer information is displayed. ● If information about the customer does not exist on the **Customer Center** > **Customer Center Management** page, an agent can click to edit customer information. For details, see **3.7.15 Editing Customer Information**.
Call Information	This area is displayed only when the **Customer Center** feature is enabled and the tenant parameter **Display Unified Customer Contact Information** is set to **Yes**. The information includes the calling number, called number, and skill queue.

Content	Description
	SmartCare fault demarcation. The SmartCare tab is displayed on the audio and video workbench only when the SmartCare feature is enabled for the tenant and the language for the tenant is within the value range of the system parameter **Languages supported by the SmartCare**. For details, see **3.7.18 SmartCare Fault Demarcation**.

3.1.2 Online Chat Workbench

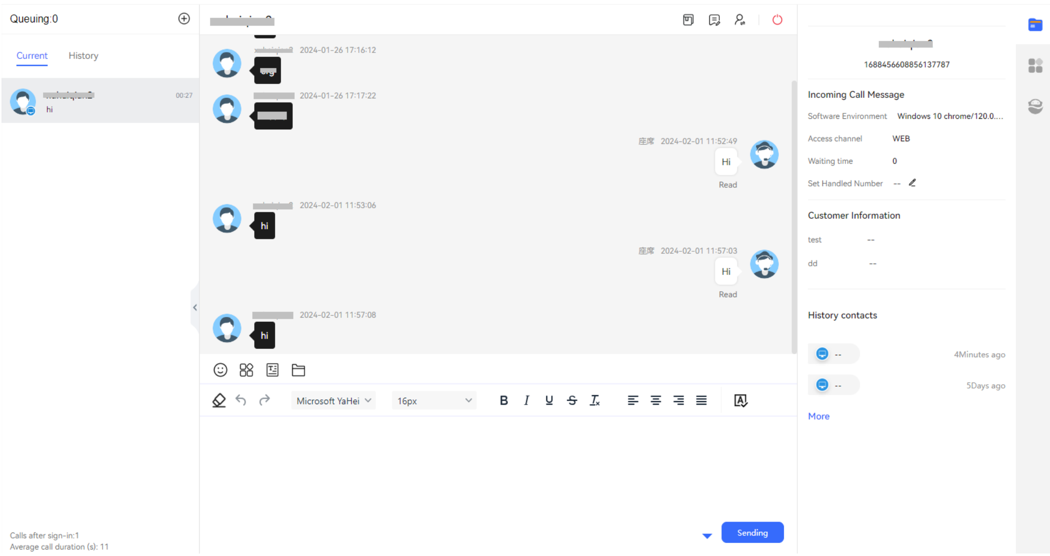
An agent can use the online chat workbench to handle customer businesses through multimedia channels.

An agent can open the online chat workbench in either of the following ways:

- Choose **Online Chat Workbench**.
- After an agent signs in to a multimedia skill queue, the online chat workbench is automatically opened.

Figure 3-2 shows the online chat workbench GUI.

Figure 3-2 Online chat workbench



NOTE

During a web chat on the online chat workbench, if the customer sends an attachment, the agent can click **Receive** to download the attachment.

During an email chat on the online chat workbench, select an email, click **Download**, and then click **YES** in the confirmation dialog box to download the email attachment.

Downloaded data contains personal data. Exercise caution when handling the downloaded data to prevent personal data leakage and abuse.

- During an SMS or email chat with a customer, click to create a harassment record.
- In the SMS or email session history on the online chat workbench, click to create a harassment record.
- Click to access a visualized service guidance flow when the **Agent Business Process Visualization** feature is enabled and the **Service Guidance** menu permission is assigned to the agent.
- Click the link next to **Business Request** to view the visualized flow.
- The **Incoming Call Message** area displays information such as the customer name, customer number, client software environment, customer access channel, waiting time, and handled number. You can set a handled number to identify the service object. The handled number can contain a maximum of 50 characters.

The SmartCare tab is displayed on the workbench only when the SmartCare feature is enabled for the tenant and the language for the tenant is within the value range of the system parameter **Languages supported by the SmartCare**. For details, see **3.7.18 SmartCare Fault Demarcation**.

The **Call Information** area is displayed only when the **Customer Center** feature is enabled and the tenant parameter **Display Unified Customer Contact Information** is set to **Yes**. For a current session, the information includes the channel, user ID, and skill queue. For a historical session, the information includes the channel and user ID.

During a chat with a customer, an agent can click on the workbench to create intelligent case filling and SmartCare in-depth demarcation tasks. For details, see **3.7.19 Intelligent Case Filling** and **3.7.18 SmartCare Fault Demarcation**.

During a chat with a customer, an agent can click on the workbench to create a case. For details, see **3.7.20 Creating a Case by One Click**.

During a chat with a customer, an agent can click to configure the call reason. If the **Automatic Conversation Summary** feature has been enabled for the tenant and an agent, the icon is displayed when the agent configures the call reason on the workbench. For details, see **3.7.5 Setting Call Reasons**

3.2 Switching the Agent Status

An agent can switch the agent status using the connection bar on the top of the page for the system to better assign businesses.

Context

An agent can control the connection status by using the connection bar provided by the connection framework.

The connection status refers to the status of a signed-in agent, which can be **Idle**, **Talking**, **Wrap-up**, **Busy**, or **Rest**, as described in **Table 3-2**. The system determines whether to assign an inbound call to an agent based on the agent status.

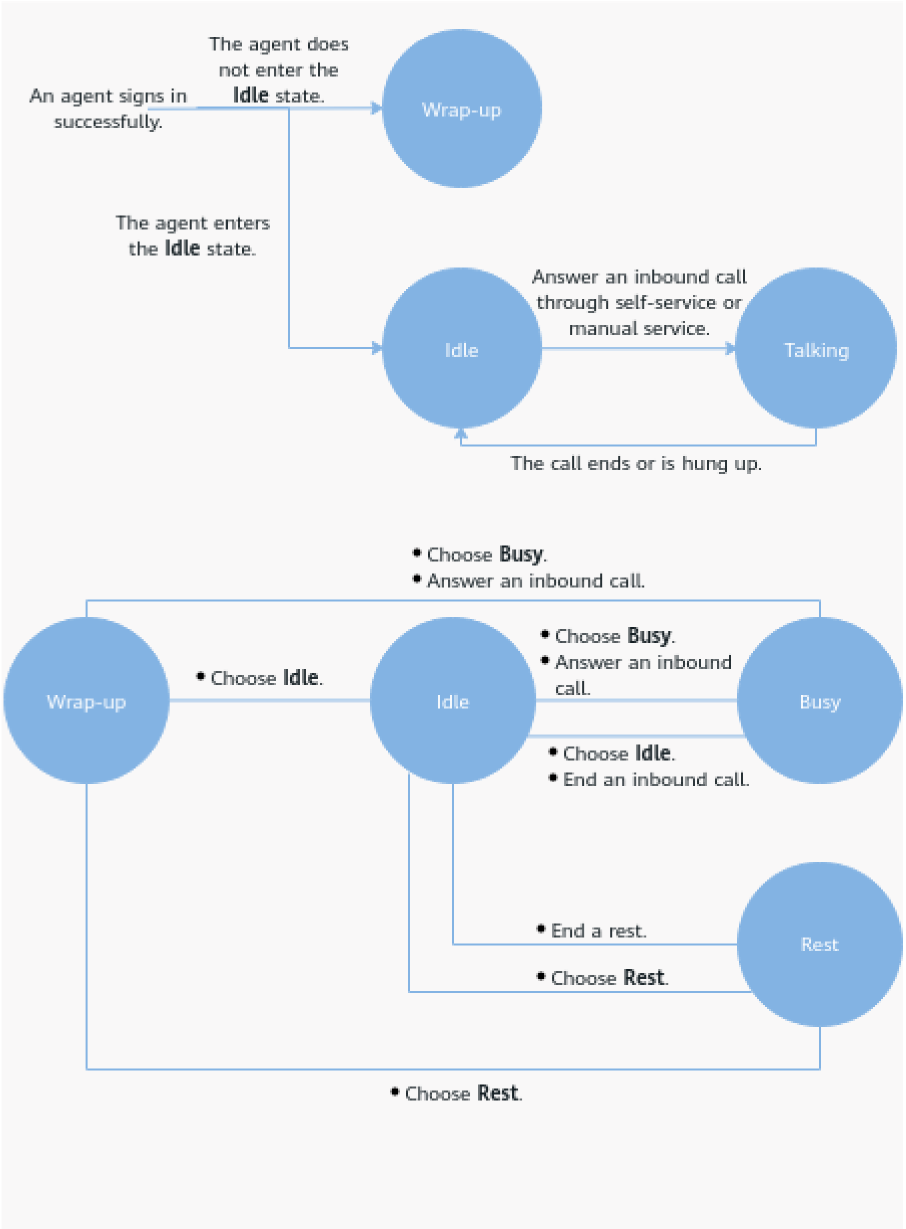
Table 3-2 Connection status description

Agent Status	Description
Idle	An agent waits for the system to assign an inbound call.
Talking	An agent is processing a voice or video call.
Occupied	An agent is processing a multimedia inbound call, an agent does not answer a voice or video call, or a customer does not answer a voice or video call.
Wrap-up	An agent handles a call-related business (for example, filling in the customer inbound call information) after the customer hangs up.
Busy	An agent is busy.
Rest	An agent takes a rest. ● The countdown time is displayed when an agent is in the **Rest** state. ● If the remaining rest time is 5 minutes and the tenant parameter **Forcibly End Agent Rest After Timeout** is set to **Yes**, the "You will be working in *XX* minutes. Please reserve time in advance!" message is displayed in the lower right corner of the page every minute. ● If the rest ends and the tenant parameter **Forcibly End Agent Rest After Timeout** is set to **No**, the time elapsed after the rest is displayed in red on the connection bar. The message "The rest has expired for *XX* minutes. Please work as soon as possible." is displayed in the lower right corner every minute.

An agent performs connection operations, such as answering calls, taking a rest, and showing busy, to switch the connection status. **Figure 3-3** shows the connection status switchover relationships.

A dialog box is displayed in the lower right corner of the browser, indicating the corresponding call connection event.

Figure 3-3 Connection status switchover



Procedure

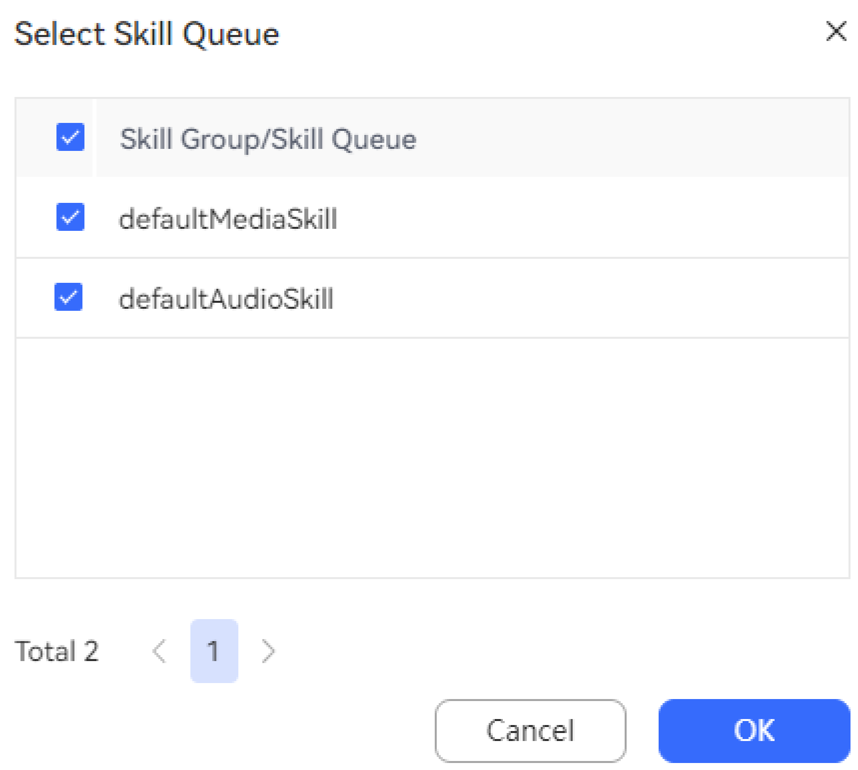
Step 1 Sign in to the AICC as an agent.

Step 2 Click  on the top to sign in to the platform.

- The system parameter **Agent status after sign-in** specifies the agent status after sign-in. The agent states after sign-in are as follows:
  - **Idle**
  - **Wrap-up**
  - **Busy**

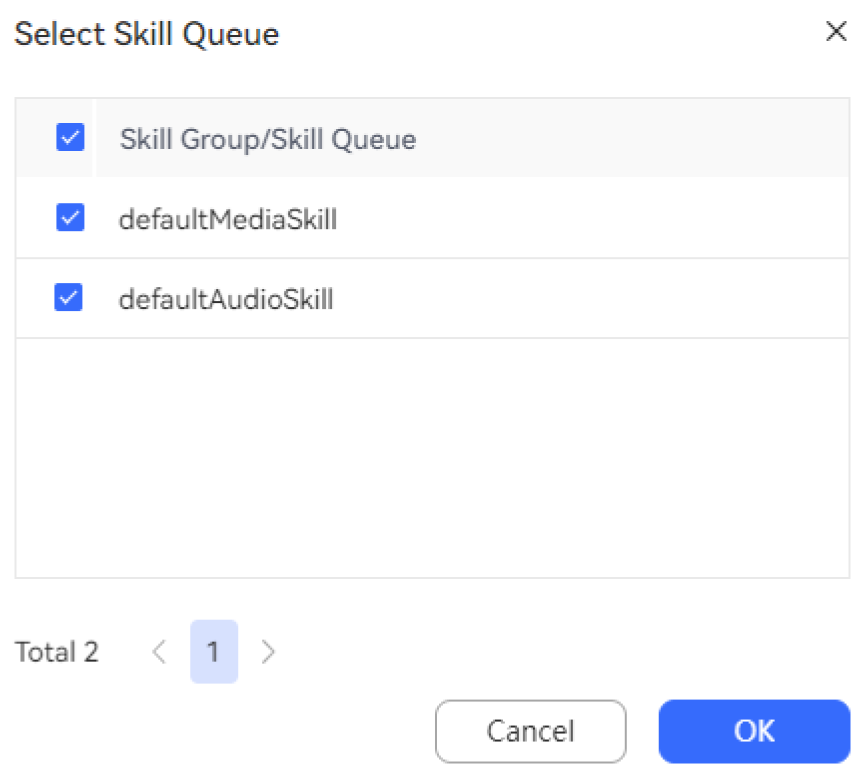
- The tenant parameter **Mode in Which an Agent Signs In to a Skill Queue** and agent parameter with the same name specify the mode in which an agent signs in to a skill queue.
  – The options of the tenant parameter **Mode in Which an Agent Signs In to a Skill Queue** are as follows:
    - **Agent-defined**
    - **Automatic**: When an agent signs in, the agent automatically signs in to all skill queues bound to the agent.
    - **Specified**: When an agent signs in, the agent can specify skill queues bound to the agent to sign in. The capabilities of an agent depend on the skill queues that the agent has signed in to. Select a skill queue to sign in as required.

      Figure 3-4 Specifying skill queues

    The default value is **Agent-defined**. The parameter modification takes effect after the page is refreshed.
  – The options of the agent parameter **Mode in Which an Agent Signs In to a Skill Queue** are as follows:
    - **Automatic**: When an agent signs in, the agent automatically signs in to all skill queues bound to the agent.
    - **Specified**: When an agent signs in, the agent can specify skill queues bound to the agent to sign in. The capabilities of an agent depend on the skill queues that the agent has signed in to. Select a skill queue to sign in as required.

Figure 3-5 Specifying skill queues



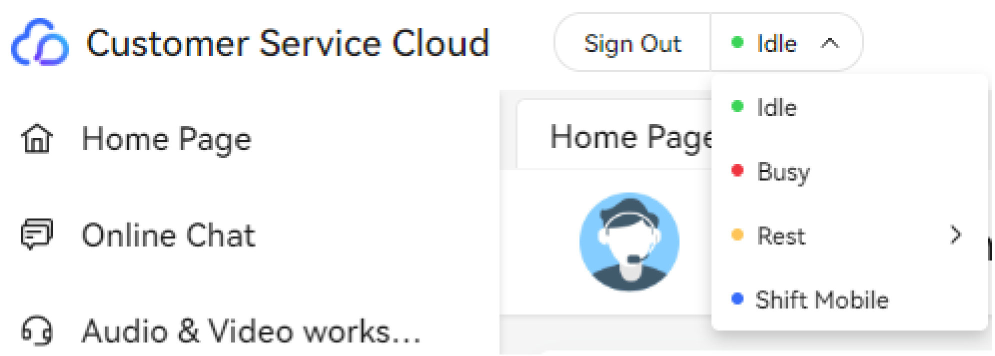
The default value is **Automatic**. The parameter modification takes effect after the page is refreshed.

If the tenant parameter is set to **Agent-defined**, the value of the agent parameter **Mode in Which an Agent Signs In to a Skill Queue** is used.

If the tenant parameter is set to **Automatic** or **Specified**, its value is used.

Step 3 Click on the top and select a state as required.

Figure 3-6 Switching the agent status



----End

Follow-up Procedure

After signing in, an agent can click in the upper right corner and choose **Reset Skills** to reselect the skill queue to which the agent needs to sign in. The capabilities of the agent change with the skill queue to which the agent signs in. For example, if a versatile agent has signed in to a voice or video skill queue and a multimedia skill queue, after the agent clicks **Reset Skills**, selects only the voice or video skill queue, and saves the configuration, the agent can handle only voice or video calls but cannot handle multimedia chats.

Figure 3-7 Expanding the shortcut menu

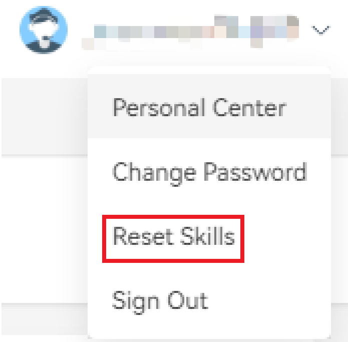
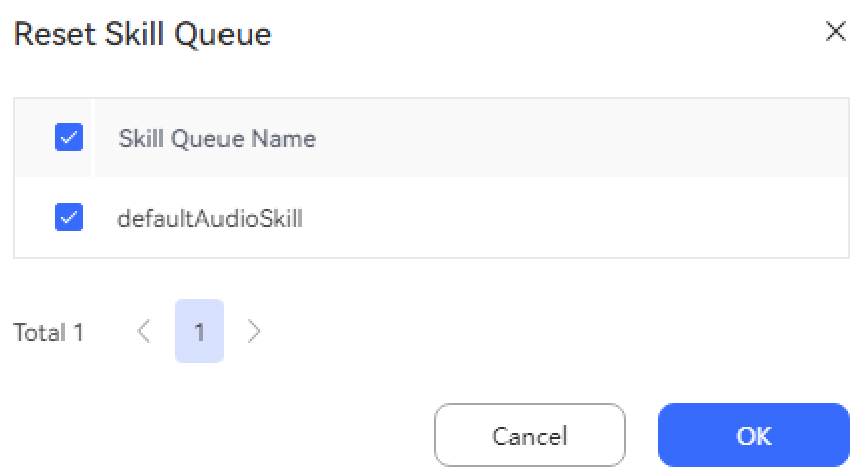


Figure 3-8 Reset Skill Queue



NOTE

The agent must have the **Reset Skills** operation permission.

Common agents in a new tenant space have the permission by default.

Common agents in an old tenant do not have the permission by default. To add the permission, contact the tenant administrator.

3.3 Allowing Browser Pop-up Notifications

Prerequisites

The tenant administrator has enabled **Pop-up dialog box reminder** on the **Page Message Notification Configuration** tab page of the **Prompt Tone** page.

Context

Voice, video, and multimedia inbound call notifications support only manual call answering.

Procedure

Step 1 Sign in an agent. The browser displays a dialog box asking whether to allow notifications.

Step 2 Click **Allow**.

----End

3.4 Handling Voice Businesses

This section describes how to handle voice businesses as an agent.

3.4.1 Answering Inbound Calls Automatically

An agent can automatically answer an inbound call from a customer.

Context

An agent can answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

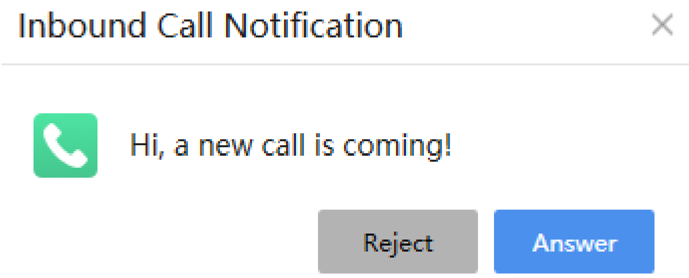
Prerequisites

- The agent has signed in and is in idle state.
- Automatic call answering has been configured in either of the following methods:
  - A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** and sets **Agent Answering Mode** to **Automatic**.
  - A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** and sets **Agent Answering Mode** to **Custom**. An agent clicks , chooses **Personal Center**, clicks the **Agent parameters** tab, and sets **Agent answer mode** to **Automatic answer**.

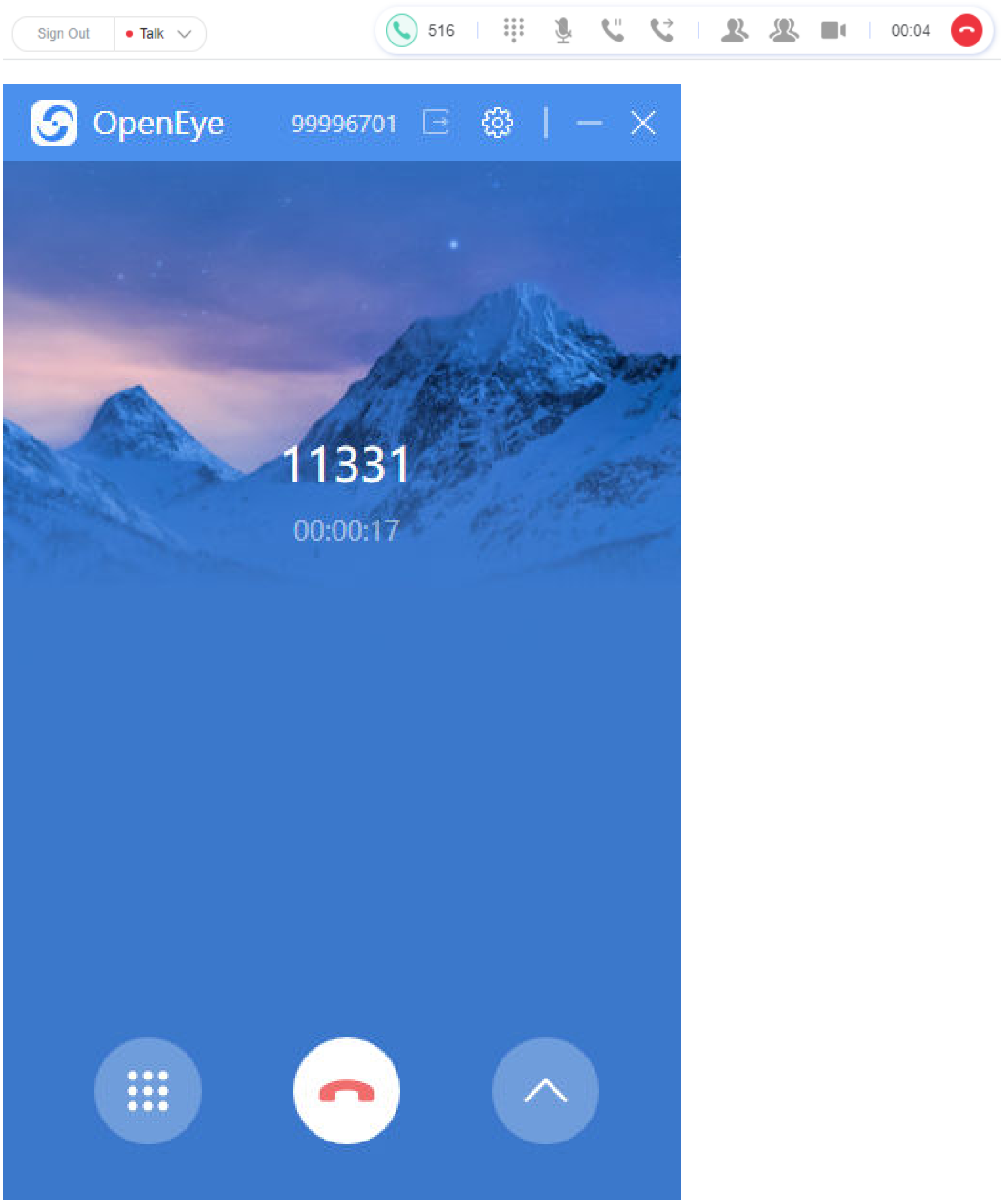
Procedure

When a new inbound call arrives, the softphone on the agent side rings and the call will be automatically connected. The agent can also click **Answer** before the call is automatically connected. The process is described as follows:

Step 1 After a new inbound call arrives, the softphone of the agent rings.



Step 2 The agent clicks **Answer** or waits for the call to be automatically connected. The agent enters the **Talking** state, and the softphone shows that the agent is answering a call.



----End

3.4.2 Answering Inbound Calls Manually

An agent can manually answer an inbound call from a customer.

Context

An agent can manually answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

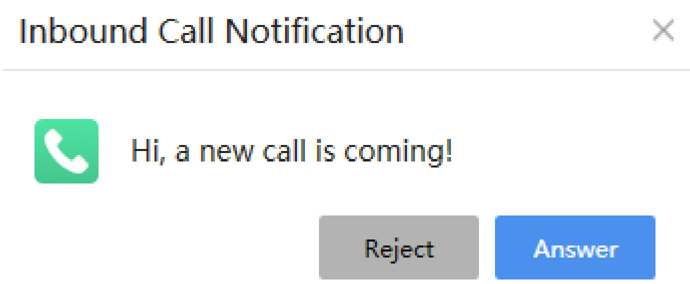
Prerequisites

- The agent has signed in.
- The agent is in idle state.
- Manual call answering has been configured in either of the following methods:
  - A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** and sets **Agent Answering Mode** to **Manual**.
  - A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** and sets **Agent Answering Mode** to **Custom**. An agent clicks , chooses **Personal Center**, clicks the **Agent parameters** tab, and sets **Agent answer mode** to **Manual response**.

Procedure

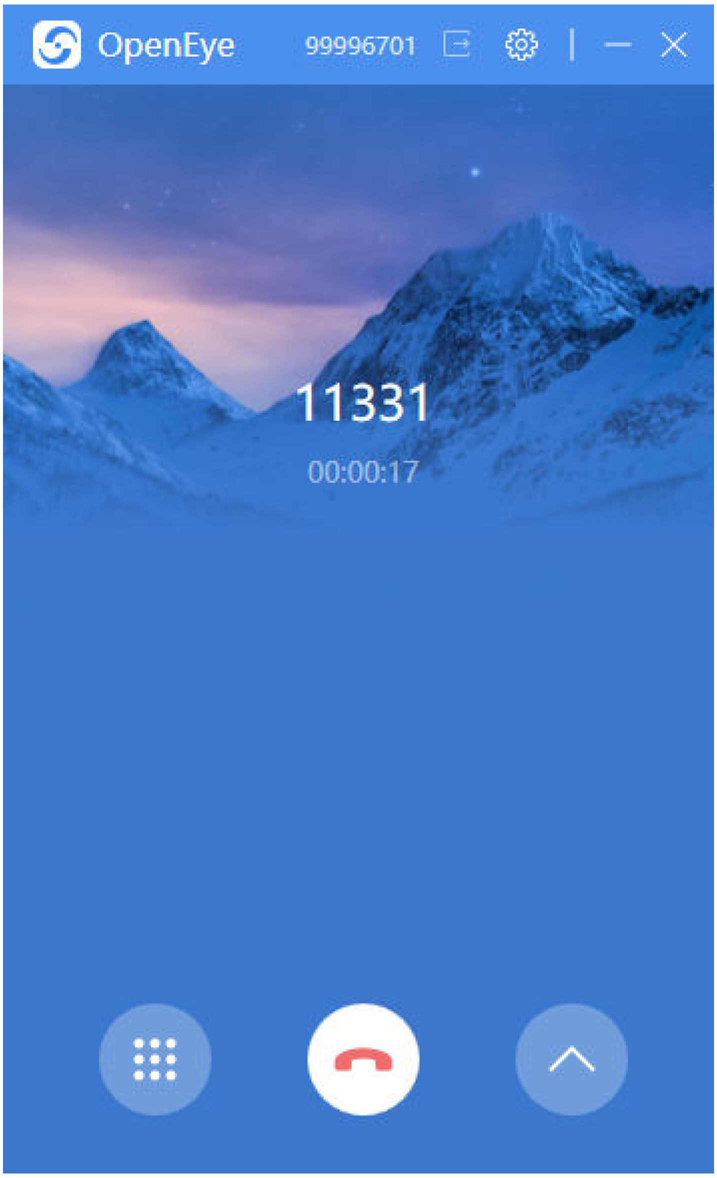
When a new inbound call arrives, the softphone of the agent rings. The agent can click **Answer** to answer the call.

Step 1 After a new inbound call arrives, the softphone of the agent rings. Click **Answer**.



At this time, the call is still not connected and the agent is in the **Occupied** state.

Step 2 After clicking , the agent enters the **Talking** state, and the softphone shows that the agent is answering a call.



----End

3.4.3 Transferring Calls

An agent can transfer a call to another skill queue, a third-party system, another agent, or an IVR to handle customer businesses.

Context

A call can be transferred to an external number, another agent, a skill queue, or an IVR. After an inbound call is transferred, the call-related information is also transferred.

Following describes the transfer types for transferring a call to a skill queue or another agent.

Table 3-3 Call transfer types

Transfer Type	Description
Success Transfer	After an agent transfers a call, the agent releases the call only after the transferred-to agent answers the call. Otherwise, the system displays a message indicating that the transfer fails and the agent continues to talk with the customer.
Release Transfer	After an agent transfers a call, the agent releases the call immediately, regardless of whether the transferred-to agent answers the call. However, if an agent transfers the call to a skill queue, the agent releases the call only after the transfer is successful.
Conversation Transfer	This mode can be selected only when a call is transferred to an external number. After an agent transfers a call, the system monitors the call transfer process. After the called party answers the call and talks with the customer, the agent can release the call.
Hang-up Transfer	After an agent transfers a call to an automatic flow, the agent is in waiting state. After handling the call, the flow transfers the call back to the agent. A transfer diagram element cannot be configured in the IVR flow to further transfer the call to another device.

Prerequisites

The agent is in talking state.

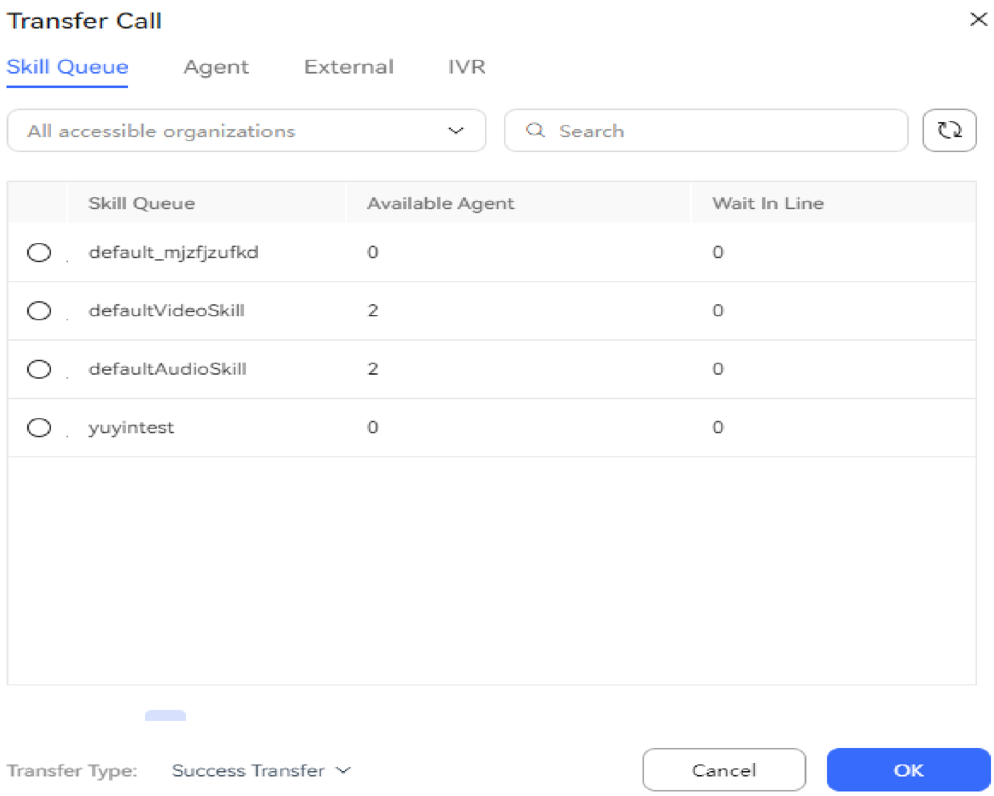
Procedure

After answering an inbound call, the agent finds that the call needs to be transferred.

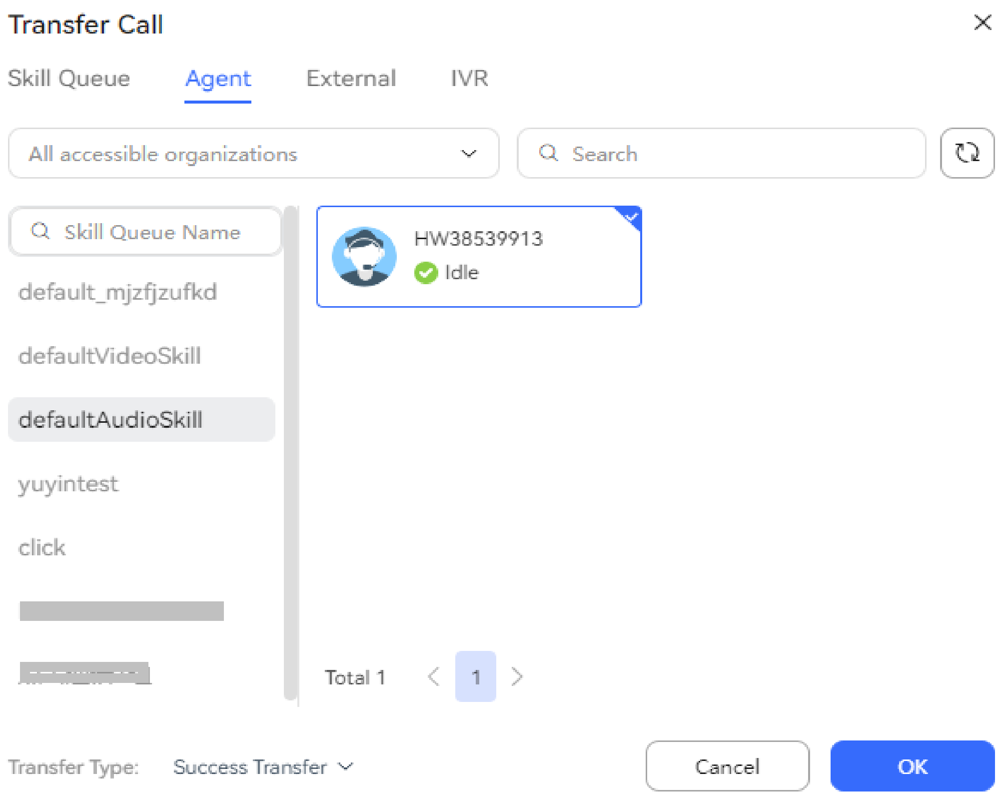
Step 1 Click  on the connection bar.

Step 2 Click the tab corresponding to the transferred-to object.

- Transfer to a skill queue



- Transfer to an agent



Idle : The agent is idle.

Busy : The agent is busy.

Rest: The agent is taking a rest.

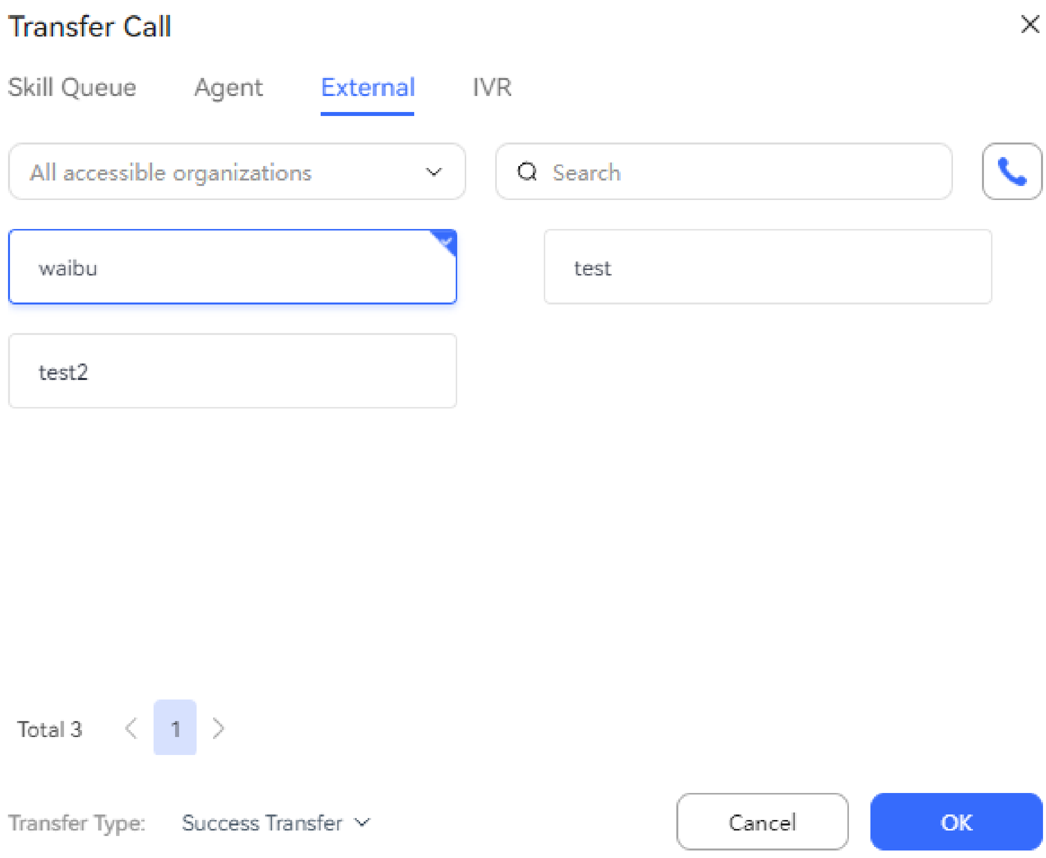
Talk: The agent is in a voice or video call.

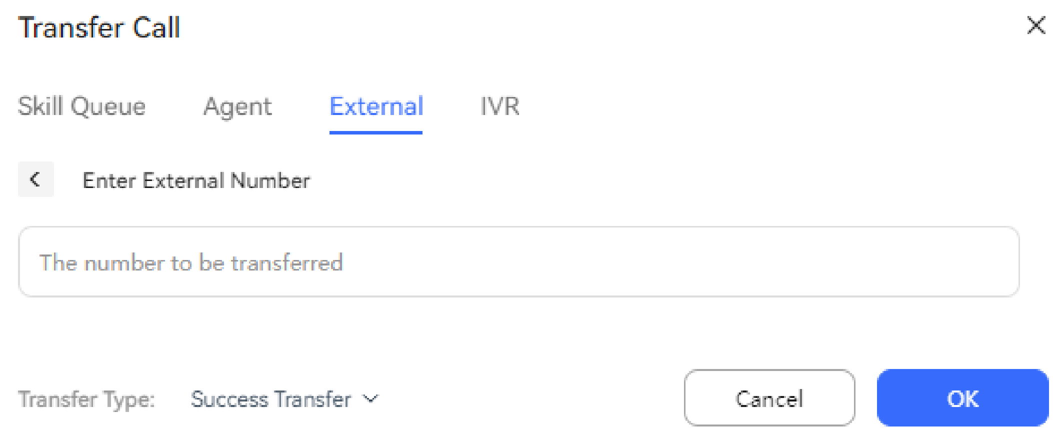
Talk: The agent is in an online chat.

- Transfer to an external number

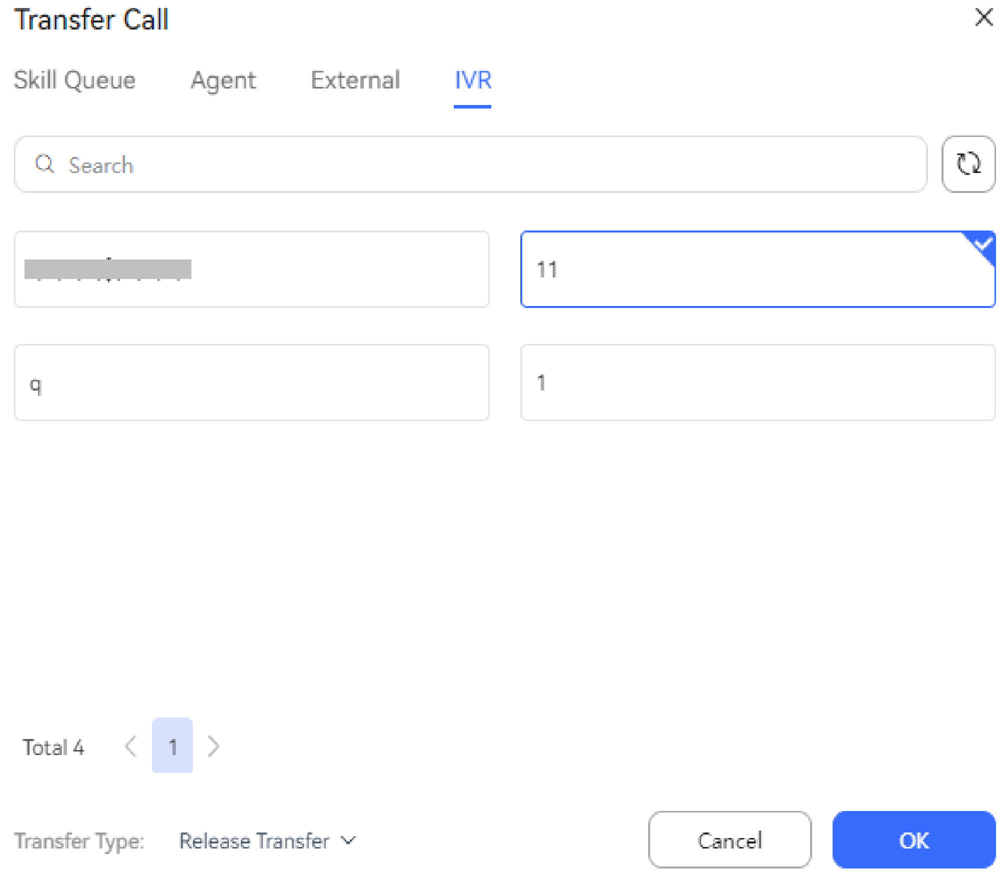
NOTE

- An agent can directly select an external number configured on the **Configuration Center** > **Resource Management** > **External number** page.
- When **User Number Forwarding** is set to **Yes** for the selected external number, only **Success Transfer** and **Conversation Transfer** are supported.
- When **User Number Forwarding** is set to **No** for the selected external number, **Release Transfer** is supported for an inbound call and is not supported for the agent's outbound call.
- If the agent enters an external number, **Release Transfer** is supported for an inbound call and is not supported for the agent's outbound call.
- During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 1 hangs up, the agent cannot further transfer the call to an external number.
- During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 2 hangs up, the agent can further transfer the call to an external number.





- Transfer to an IVR



When the Redis is faulty and the Redis emergency mode is enabled, the function of transferring calls to the IVR is unavailable.

Step 3 Select an idle agent, a skill queue, or an IVR or enter an external number, and then click **OK**.

----End

After the transfer, the current agent enters the **Idle** state.

3.4.4 Making Outbound Calls

An agent can initiate a call to a customer for business operations.

Context

An outbound call refers to a call initiated by an agent after the agent enters the phone number of a customer.

An agent needs to make an outbound call to talk with a colleague outside the customer service center or a customer.

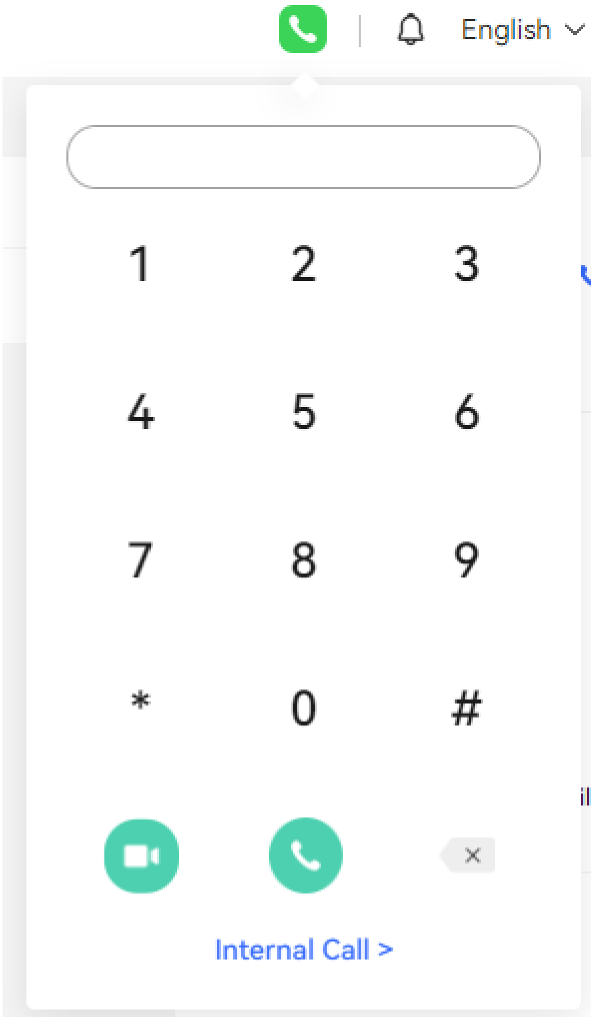
Prerequisites

- The agent has set the answering mode to manual answering in the agent parameters.
- The agent has signed in.
- The agent is not in talking state.

Procedure

An agent can make outbound calls in all connection states except the wrap-up, rest, and talking states.

An agent clicks , enters the called number in the keyboard area, and clicks .



3.4.5 Making Three-Party Calls

An agent can connect to a third party to jointly handle the business during a call with a customer.

Context

An agent can initiate a three-party call during a call with a customer for help-seeking. In this scenario, a three-party call is set up among the customer, agent who initiates the help-seeking request, and agent who accepts the help-seeking request. If one party hangs up, the other two parties can still talk with each other.

A three-party call supports three help-seeking modes: help-seeking from a skill queue, help-seeking from an agent, and help-seeking from an external number.

- If an agent does not know where to seek help, the agent can select a skill queue for the system to specify an agent in the skill queue as the requested agent.
- If an agent knows to whom a help-seeking request can be sent, the agent can directly enter the agent ID of the requested agent to seek help.

Prerequisites

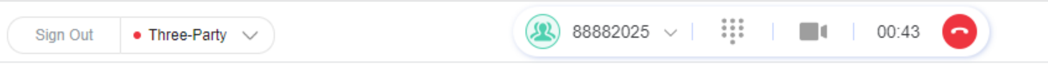
- The agent has signed in.
- The agent is in a two-party conversation.

Procedure

A three-party call supports three help-seeking modes: help-seeking from a skill queue, help-seeking from an agent, and help-seeking from an external number.

When an agent clicks **Three-Party** during a call:

- If an agent does not know where to seek help, the agent can select a skill queue for the system to specify an agent in the skill queue as the requested agent.
- If an agent needs to seek help from another agent, the agent can select the agent for the system to specify the agent as the requested agent.
- If an agent knows to whom a help-seeking request can be sent, the agent can click  to select or enter an external number.



3.4.6 Holding Calls

An agent can hold a call with a customer and continue to talk with the customer after handling other businesses.

Context

The call holding service enables an agent to hold an ongoing call. When the call is held, the customer can hear a prompt tone indicating that the call is held. After an agent completes other tasks, the agent can cancel the call holding to continue to talk with the customer. When the call is held, the agent can perform other operations but cannot answer a new inbound call.

Procedure

After answering a call, an agent needs to suspend the current call to complete other operations.

Click  on the connection bar to hold a call or click  to unhold a call.

A held call cannot be released by the agent. The agent cannot sign out if the call is held. In this case, the agent can unhold the call.

> **NOTE**
>
> Differences between call holding and muting are as follows:
>
> When a call is held, the customer can hear the call holding background music played by the system. When a call is muted, the customer hears no tone from the receiver.

3.4.7 Consulting

An agent can initiate a consultation request during a call with a customer. During consultation, the call channel of the customer is held, and the agent who initiates the consultation request talks with the agent who accepts the consultation request.

Context

During consultation, the call between the agent and customer is held, and the agent talks with another agent or an external party who accepts the consultation request. After the consultation call ends, the current agent can continue to talk with the customer.

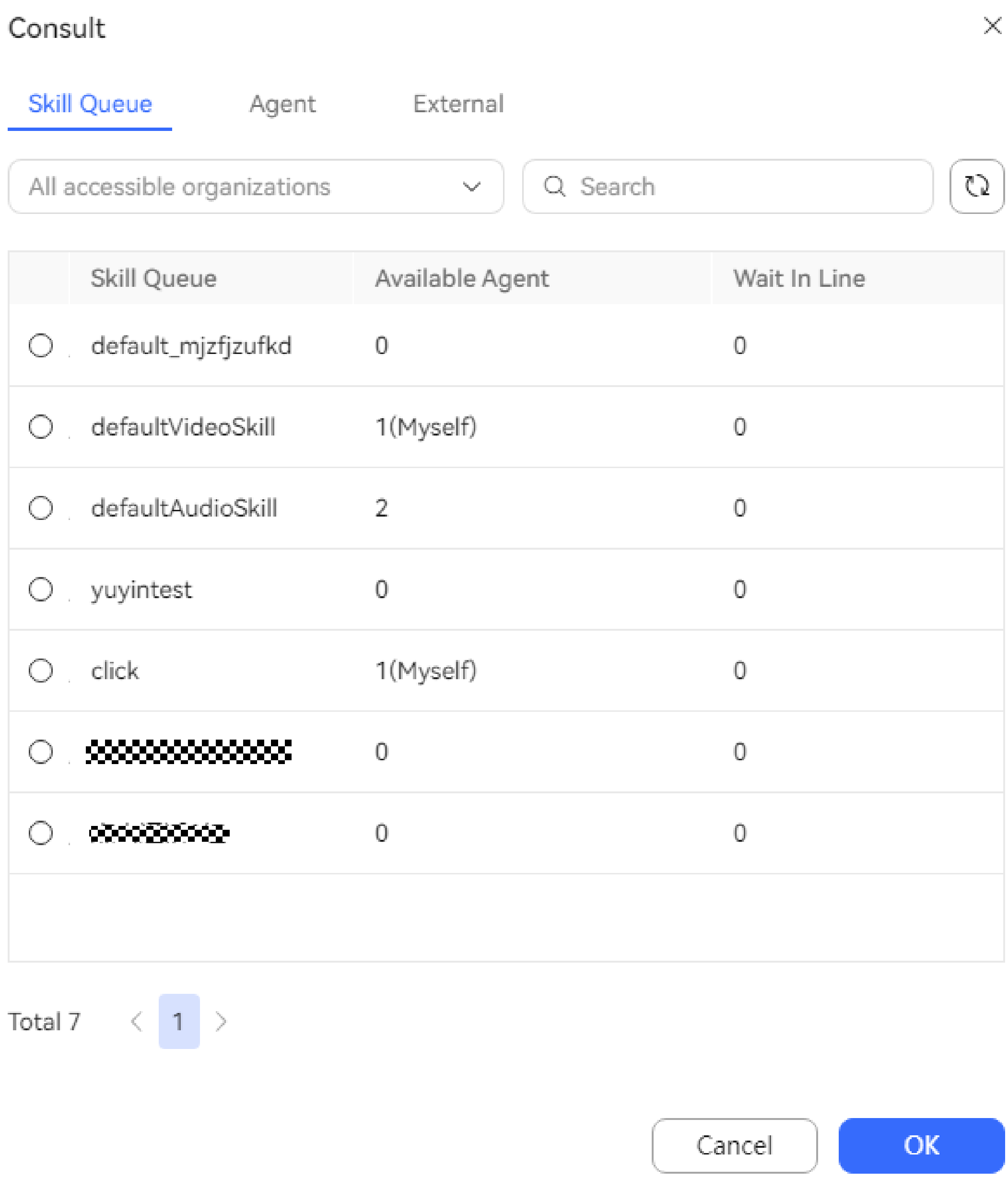
During consultation, if the consulted agent does not answer the call for a long time, the agent who initiates the consultation request can cancel the consultation.

Procedure

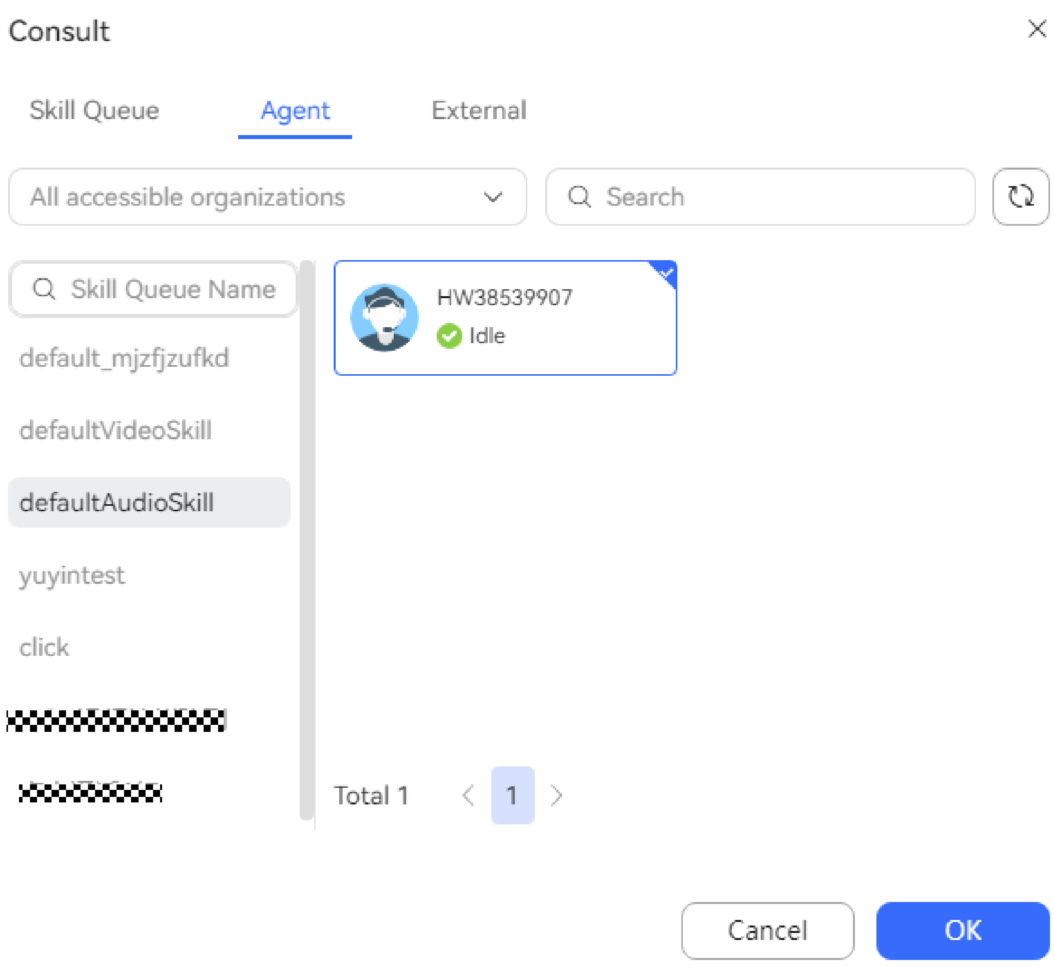
An agent in talking state clicks  on the connection bar to open the consultation page.

Consultation supports three modes: skill queue, agent, and external number.

- Consultation with a skill queue



- Consultation with an agent



Idle : The agent is idle.

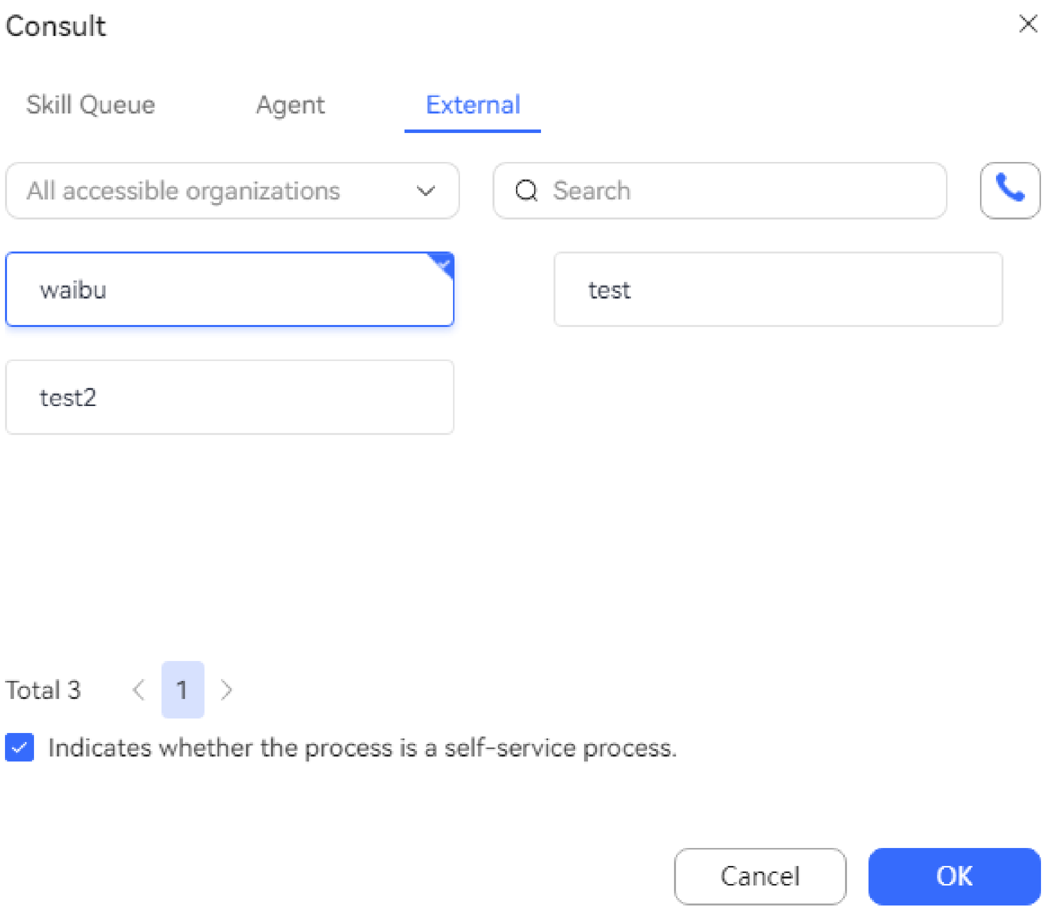
Busy : The agent is busy.

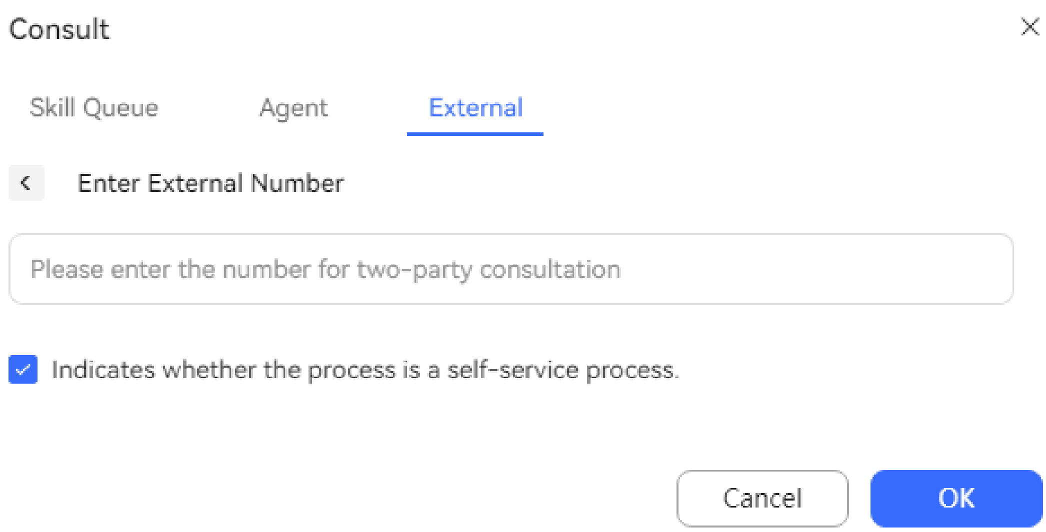
Rest : The agent is taking a rest.

Talk : The agent is in a voice or video call.

Talk: The agent is in an online chat.

- Consultation with an external number





If the outbound call object is a third-party IVR flow and the keys pressed by the customer or agent need to be transferred to the IVR flow in a three-party call later, select **Indicates whether the process is a self-service process.**

This check box is controlled by the tenant parameter **Three-party Conference Number Transfer**. The default value is **not supported**, indicating that this check box is not displayed. This check box is displayed only when the tenant administrator sets the parameter to **supported**.

3.4.8 Making Internal Calls

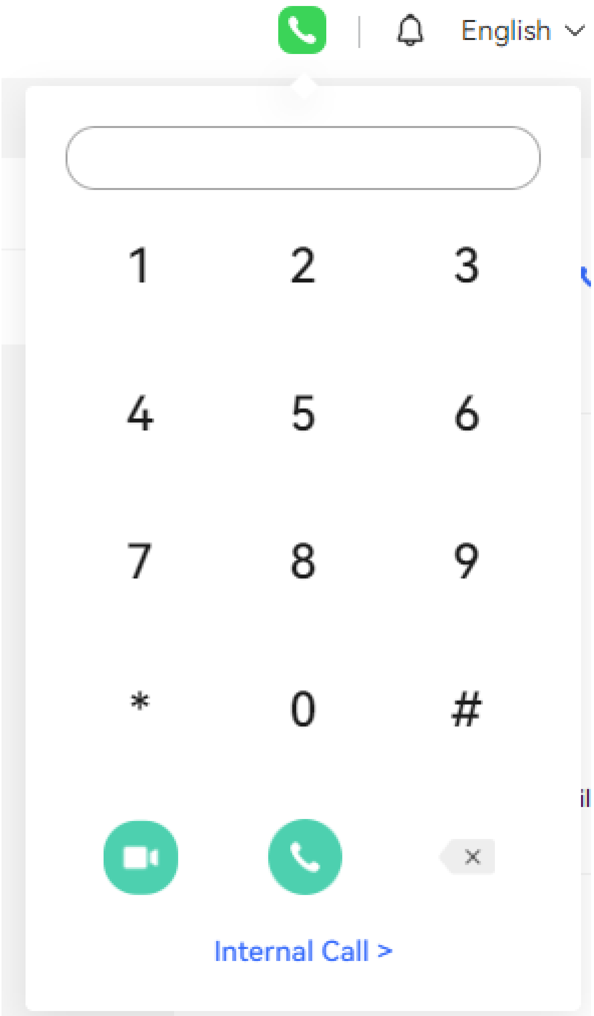
An agent can also call other agents.

Context

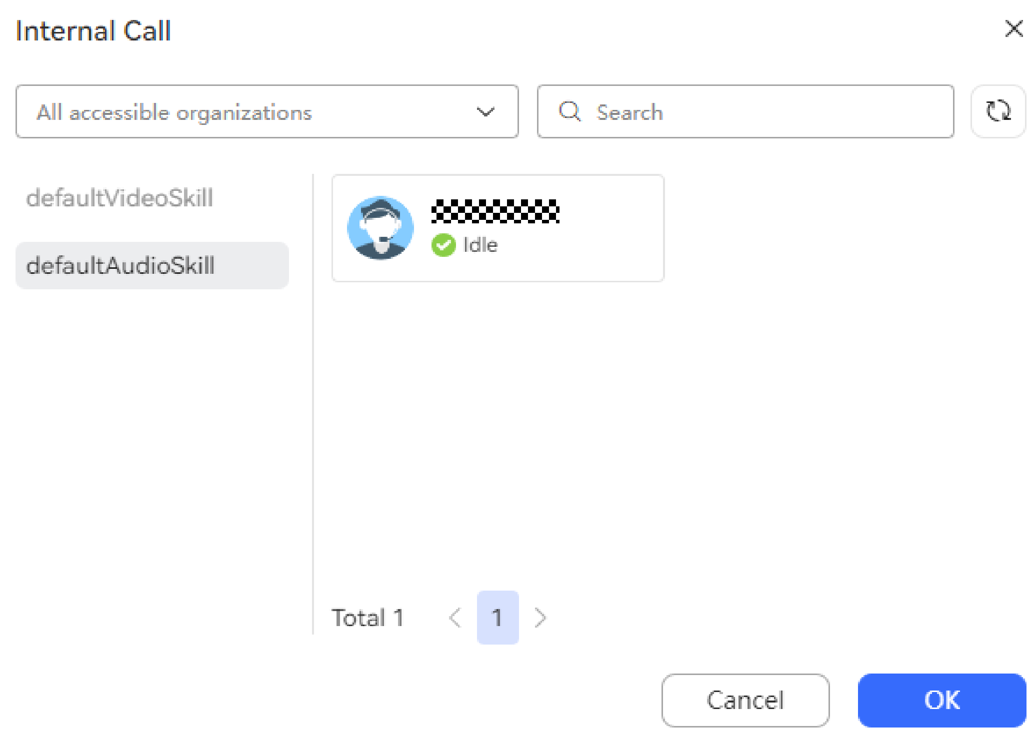
Internal calls refer to the calls between agents in the AICC. For example, when no inbound call is available, frontend agents can make internal calls to relevant personnel for consultation.

Procedure

Step 1 An agent in idle, busy, or wrap-up state clicks  on the connection bar and then clicks Internal Call > to open the internal call page.



Step 2 Select another agent in idle or wrap-up state.



Idle : The agent is idle.

Busy : The agent is busy.

Rest : The agent is taking a rest.

Talk : The agent is in a voice or video call.

Talk: The agent is in an online chat.

----End

3.4.9 Releasing Calls

An agent can release a call after the call ends.

Context

After an agent finishes a service, the agent can proactively end the call if the customer does not proactively hang up first. After the call ends, the agent switches to the **Idle** state on the connection bar.

Procedure

An agent clicks  to end a call.

3.4.10 Configuring the Agent Assistant

An agent can use the agent assistant to better communicate with customers.

Context

On the voice and video workbench, the system converts the interaction records between agents and customers into text in quasi real time. The text content is matched with sensitive words and keywords through the OIAP intelligent services, and the system can send scripts to agents, improving the service quality of agents.

Procedure

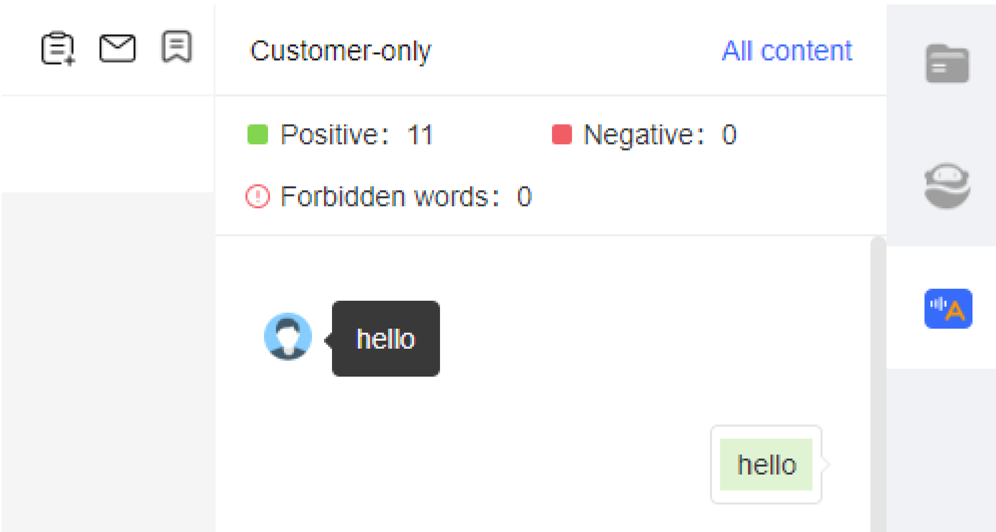
When **Only Customer** is selected, the system can display only converted speeches of the customer.

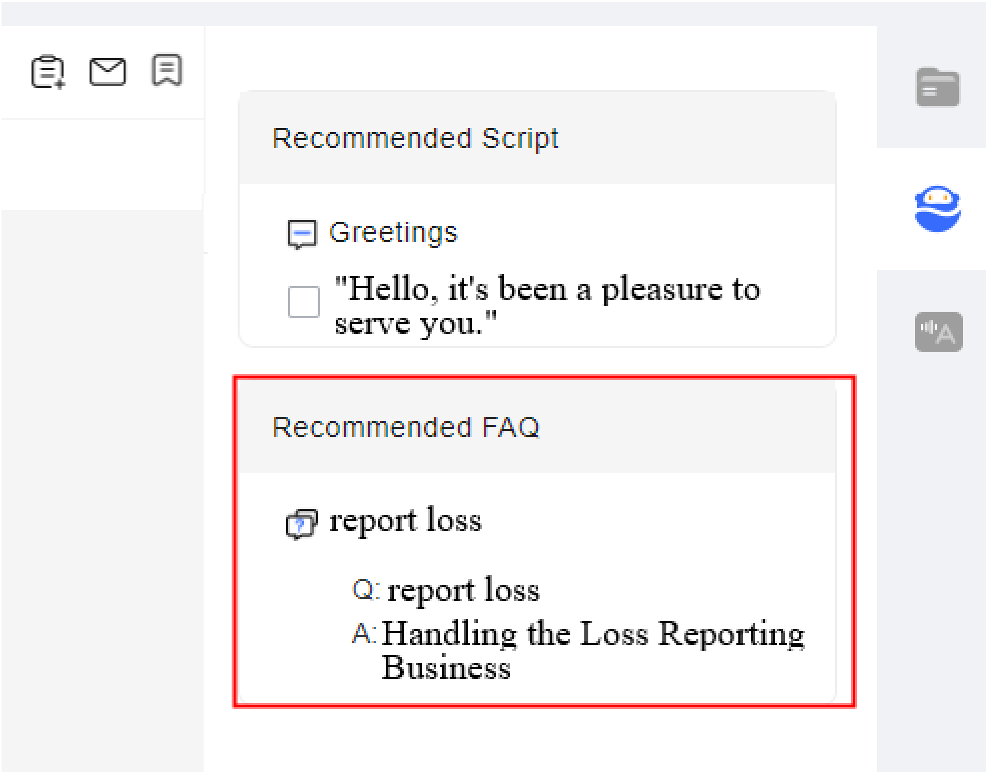
FAQ details are displayed based on keywords in the conversation, providing knowledge support for agents. You can click the URL in the script guidance page to go to the corresponding page.

Associated intentions and scripts are displayed based on keywords in the conversation, providing script guidance for agents.

The number of matched sensitive words is displayed and such words are highlighted in the real-time transcription window to remind agents to correct it in a timely manner.

A visualized service guidance flow can be displayed based on keywords in the conversation.





3.4.11 Initiating Callbacks

An agent can proactively initiate a callback to a customer for completing a business which is interrupted abnormally.

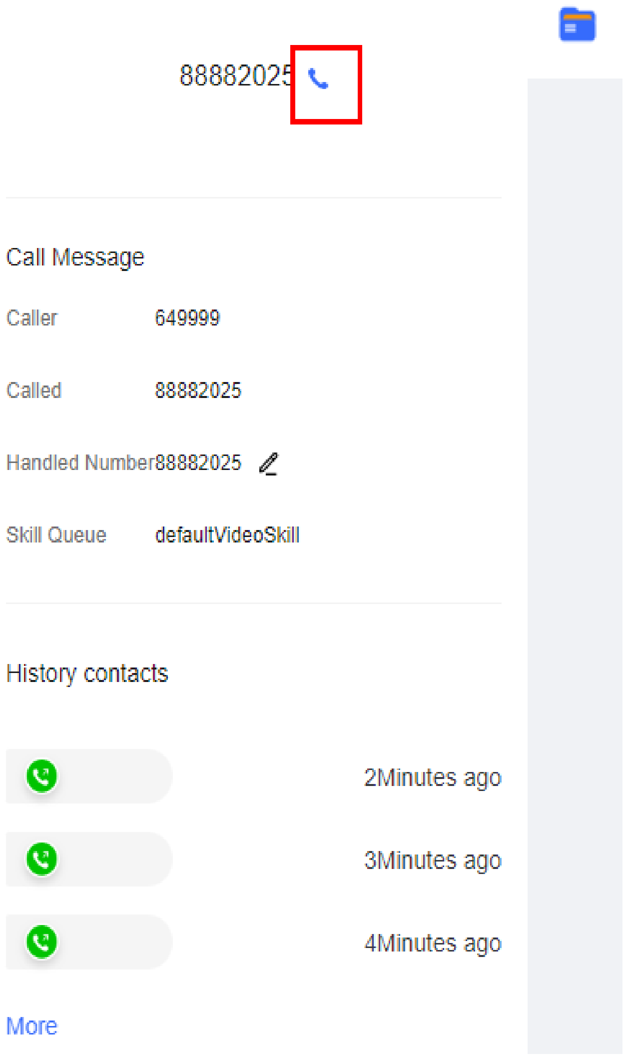
Context

When a call between an agent and a customer is interrupted unexpectedly, the agent can proactively initiate a callback to improve customer experience.

- An agent can initiate a callback only when the agent is in idle or busy state.
- A callback can be initiated only when the call type is calling party or called party.
- Anonymous calls do not support callback.
- Multimedia agents cannot initiate a callback.

Procedure

If the call between an agent and a customer is interrupted unexpectedly, the agent can call back the customer by one click and continue to talk with the customer.



3.5 Handling Video Businesses

This section describes how to handle video businesses as an agent.

3.5.1 Answering Inbound Calls Automatically

An agent can automatically answer an inbound call from a customer.

Context

An agent can answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

Prerequisites

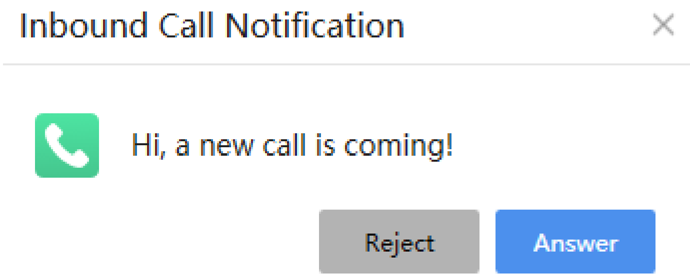
- The agent has signed in and is in idle state.
- Automatic call answering has been configured in either of the following methods:

- A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** and sets **Agent Answering Mode** to **Automatic**.
- A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** and sets **Agent Answering Mode** to **Custom**. An agent clicks , chooses **Personal Center**, clicks the **Agent parameters** tab, and sets **Agent answer mode** to **Automatic answer**.

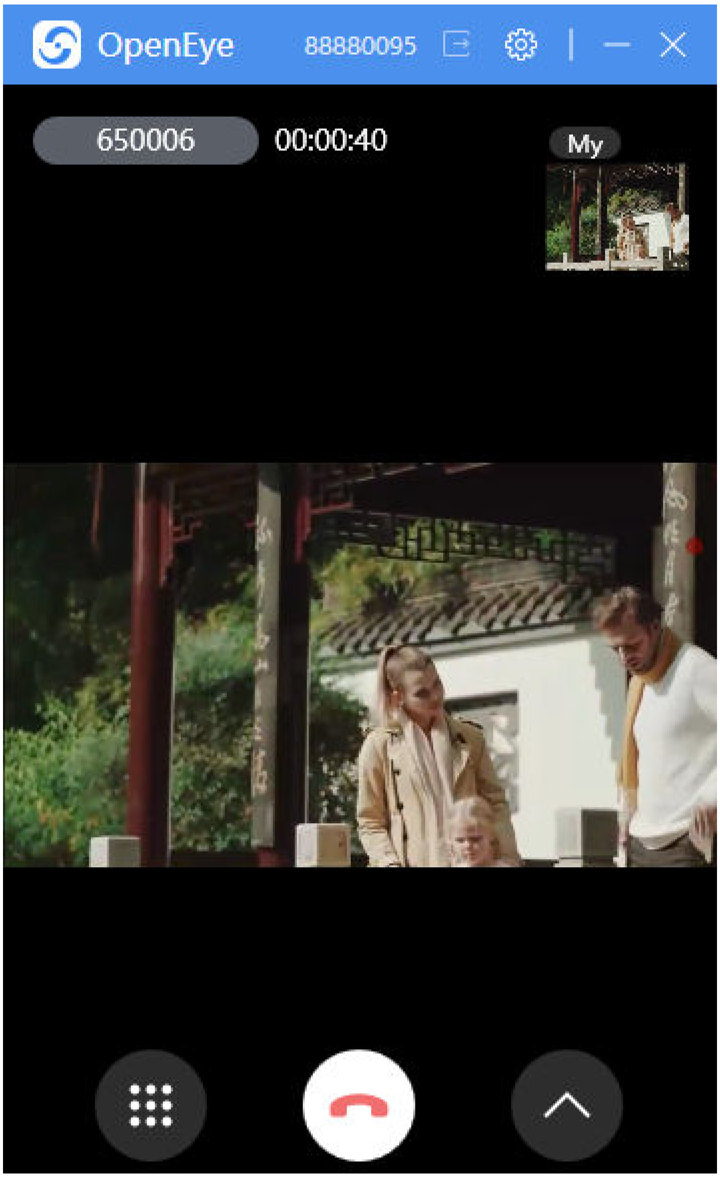
Procedure

When a new inbound call arrives, the softphone on the agent side rings and the call will be automatically connected. The agent can also click **Answer** before the call is automatically connected. The process is described as follows:

1. After a new inbound call arrives, the softphone of the agent rings.



2. The agent clicks **Answer** or waits for the call to be automatically connected. The agent enters the **Talking** state, and the softphone shows that the agent is answering a call.



3.5.2 Answering Inbound Calls Manually

An agent can manually answer an inbound call from a customer.

Context

An agent can manually answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

Prerequisites

- The agent has signed in.
- The agent is in idle state.
- Manual call answering has been configured in either of the following methods:
  - A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection**

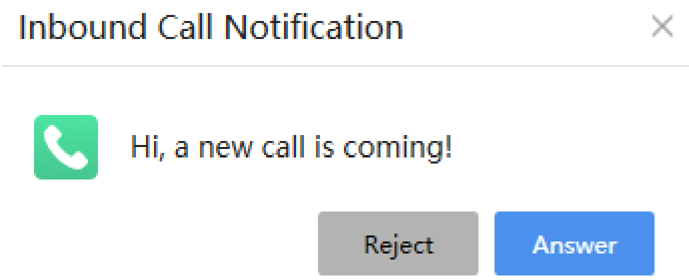
Management > **Call Control** and sets **Agent Answering Mode** to **Manual**.

– A tenant administrator chooses **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** and sets **Agent Answering Mode** to **Custom**. An agent clicks , chooses **Personal Center**, clicks the **Agent parameters** tab, and sets **Agent answer mode** to **Manual response**.

Procedure

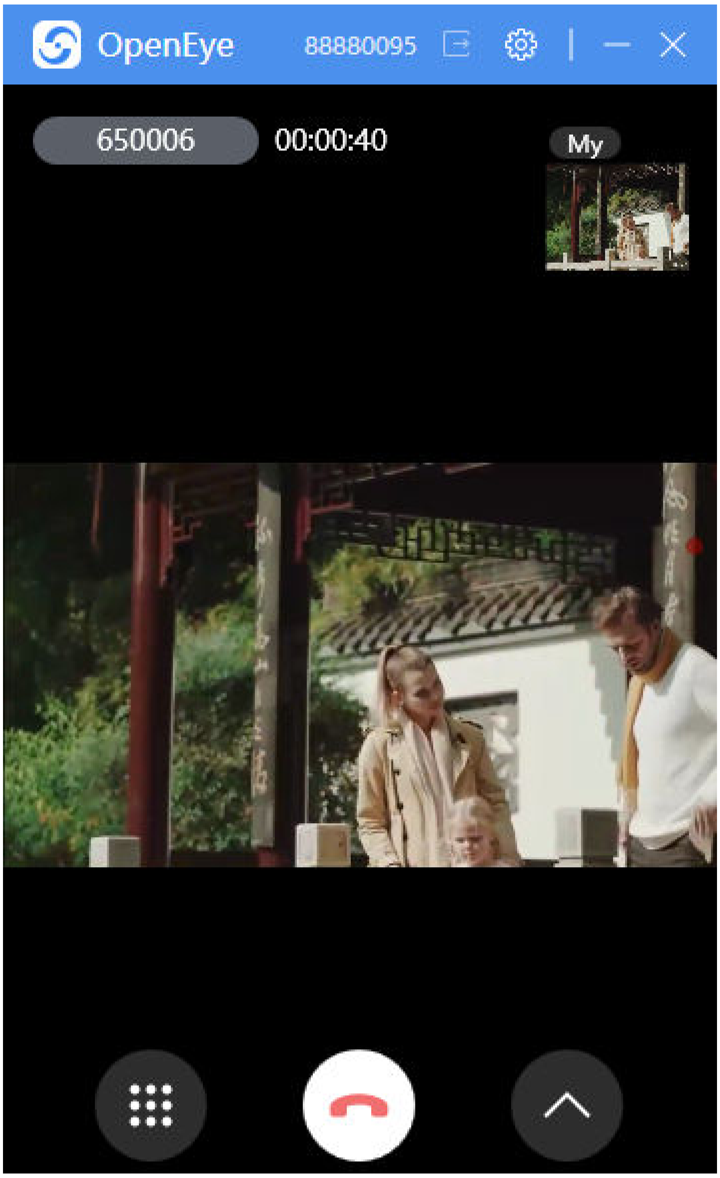
When a new inbound call arrives, the softphone of the agent rings. The agent can click **Answer** to answer the call.

1. After a new inbound call arrives, the softphone of the agent rings. Click **Answer**.



2. At this time, the call is still not connected and the agent is in the **Occupied** state.

3. After clicking , the agent enters the **Talking** state, and the softphone shows that the agent is answering a call.



3.5.3 Transferring Calls

An agent can transfer a call to another skill queue, a third-party system, another agent, or an IVR to handle customer businesses.

Context

A call can be transferred to an external number, another agent, a skill queue, or an IVR. After an inbound call is transferred, the call-related information is also transferred.

The following table describes the transfer types for transferring a call to a skill queue or another agent.

Table 3-4 Call transfer types

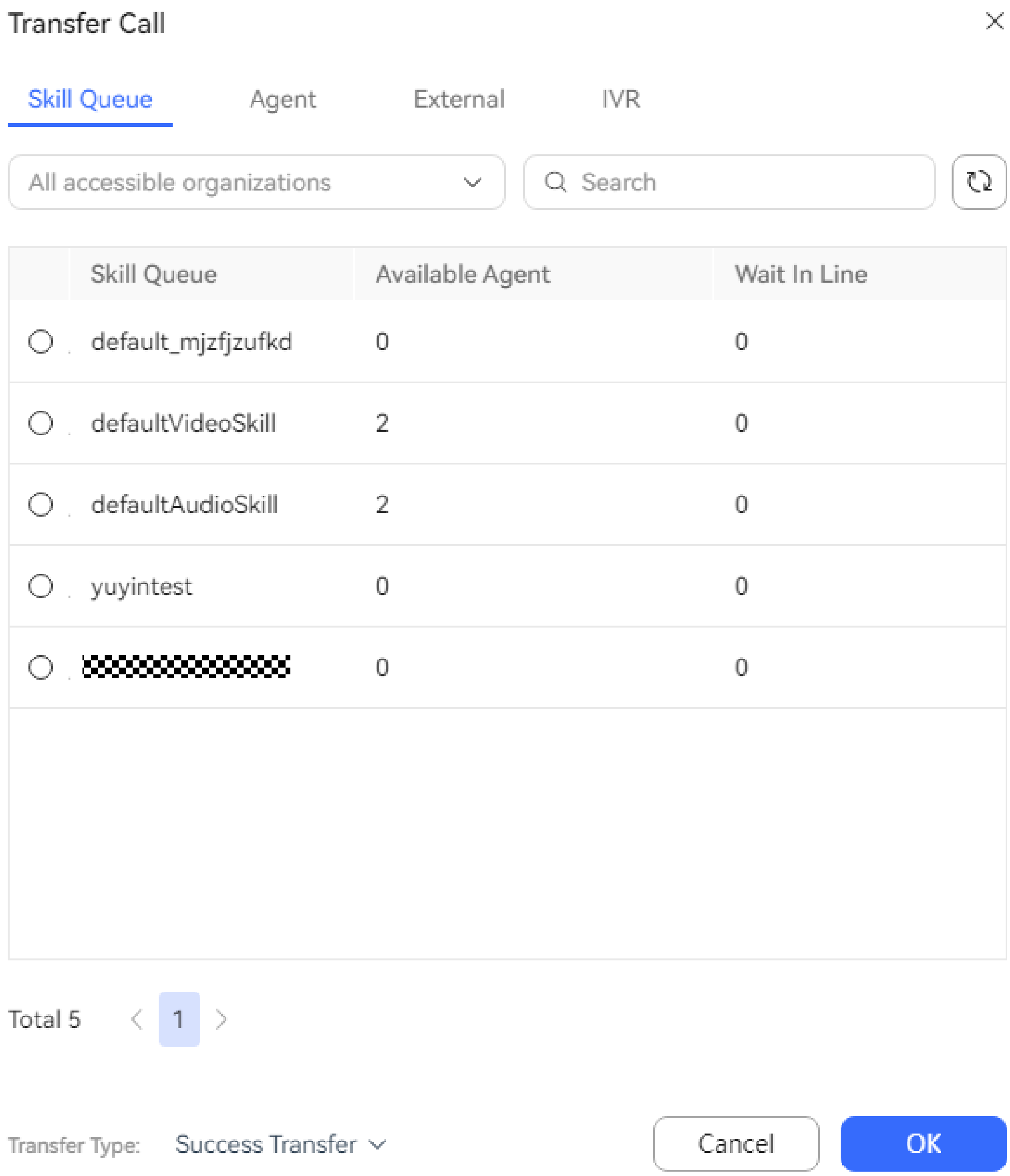
Transfer Type	Description
Success Transfer	After an agent transfers a call, the agent releases the call only after the transferred-to agent answers the call. Otherwise, the system displays a message indicating that the transfer fails and the agent continues to talk with the customer.
Release Transfer	After an agent transfers a call, the agent releases the call immediately, regardless of whether the transferred-to agent answers the call. However, if an agent transfers the call to a skill queue, the agent releases the call only after the transfer is successful.
Conversation Transfer	After an agent transfers a call and the transferred-to agent answers the call, the agent proactively releases the call.
Hang-up Transfer	After an agent transfers a call to an automatic flow, the agent is in waiting state. After handling the call, the automatic flow transfers the call back to the agent. A transfer diagram element cannot be configured in the IVR flow to further transfer the call to another device.

Procedure

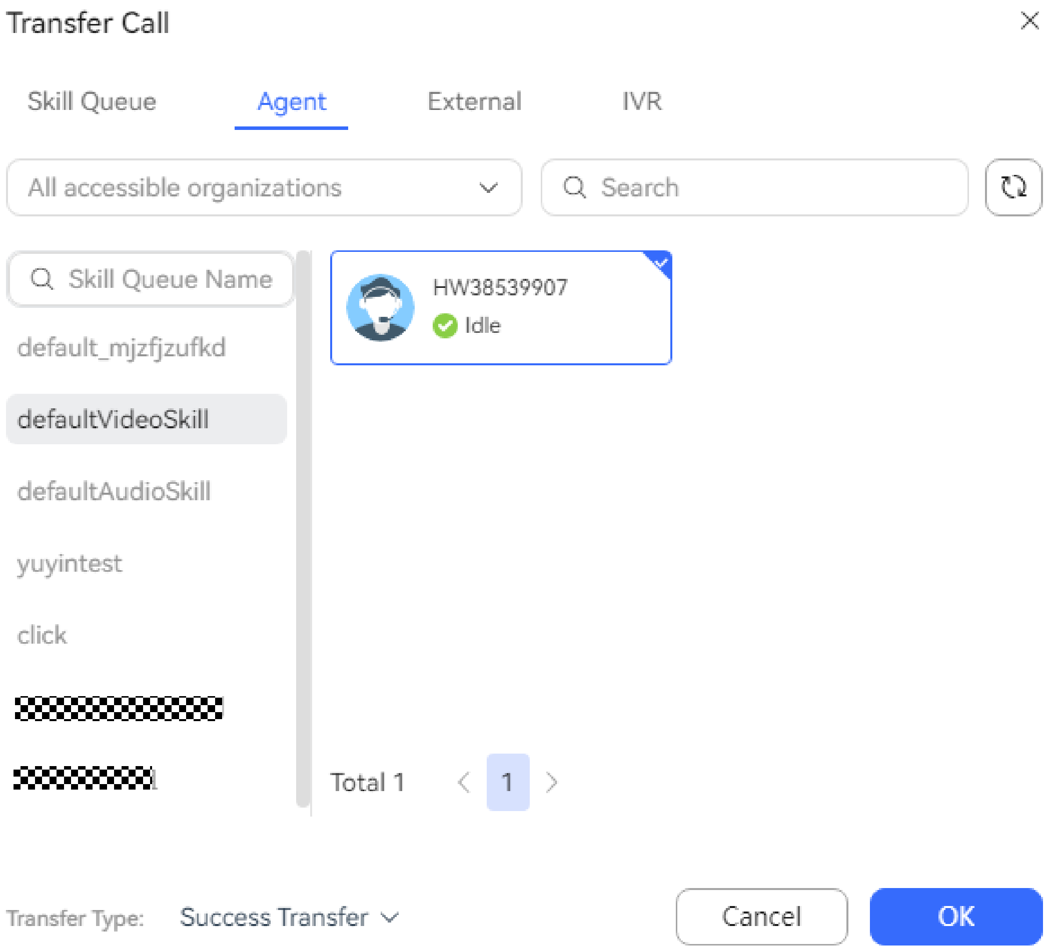
After answering an inbound call, the agent finds that the call needs to be transferred.

1. Click  on the connection bar.

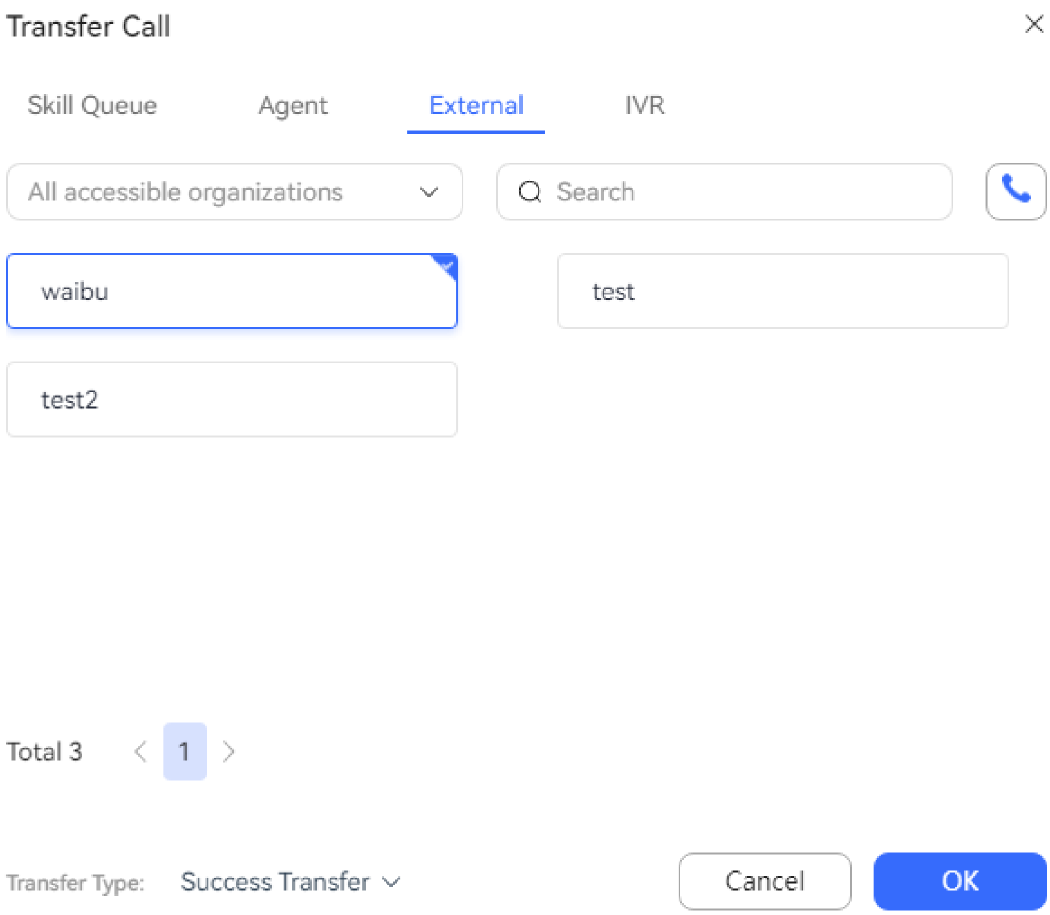
2. Click the tab corresponding to the transferred-to object.
   – Transfer to a skill queue

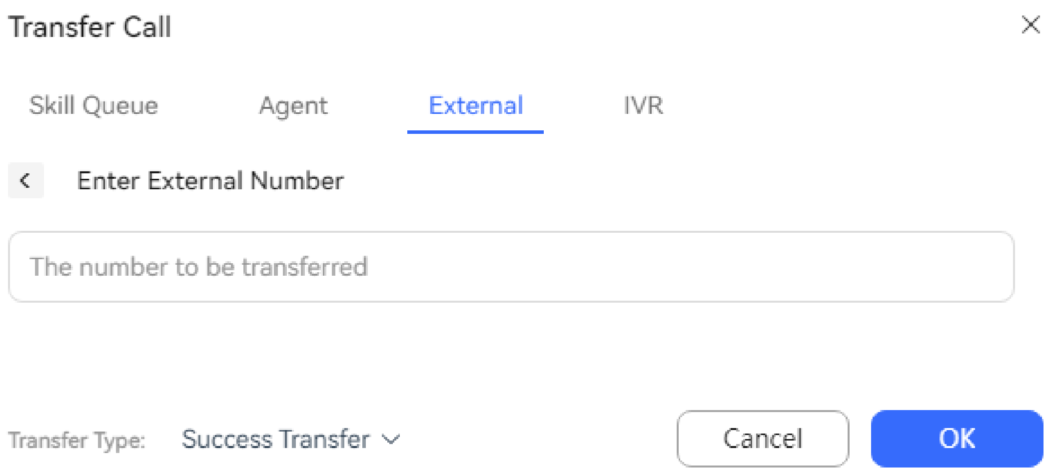


– Transfer to an agent



– Transfer to an external number

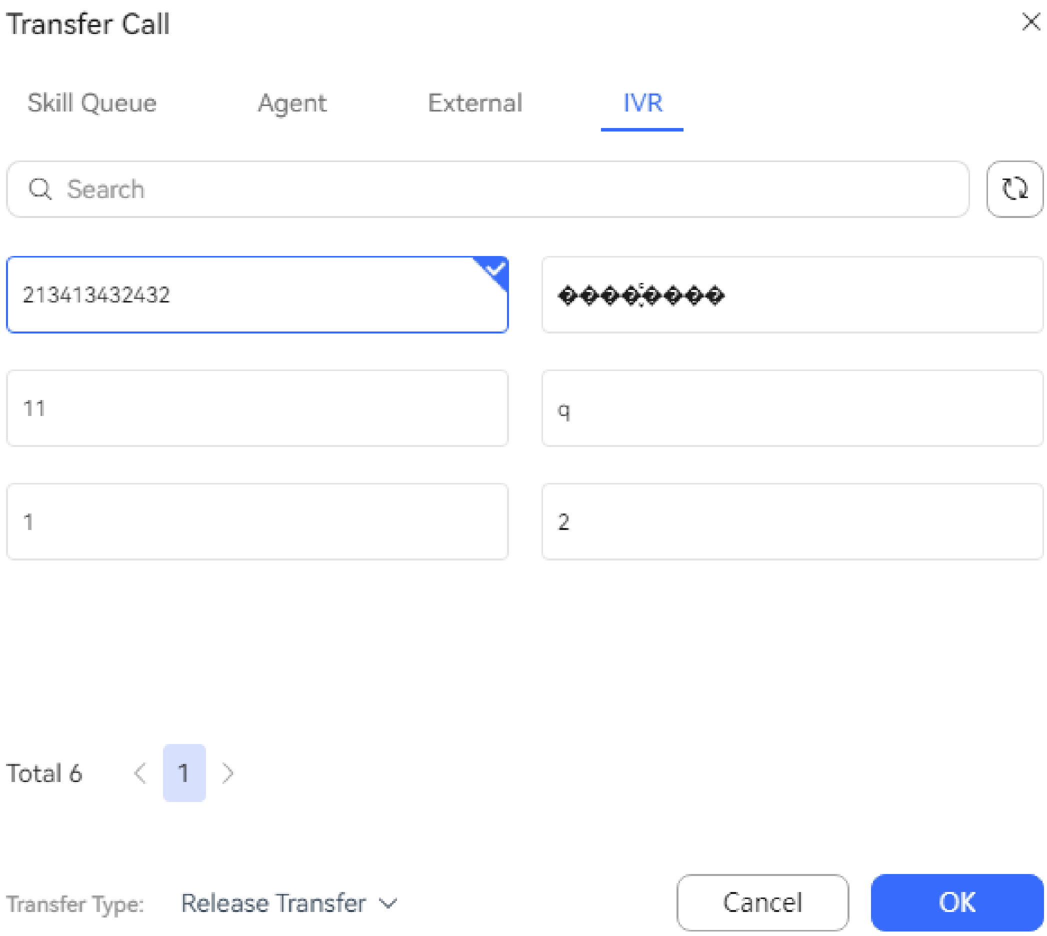

Transfer Call
Skill Queue
Agent
External
IVR
All accessible organizations
Search
waibu
test
test2
Total 3
1
Transfer Type:
Success Transfer
Cancel
OK


Transfer Call
Skill Queue
Agent
External
IVR
Enter External Number
The number to be transferred
Transfer Type:
Success Transfer
Cancel
OK

NOTE

- An agent can directly select an external number configured on the **Configuration Center** > **Resource Management** > **External number** page.
- When **User Number Forwarding** is set to **Yes** for the selected external number, only **Success Transfer** and **Conversation Transfer** are supported.
- When **User Number Forwarding** is set to **No** for the selected external number, **Release Transfer** is supported for an inbound call and is not supported for the agent's outbound call.
- If the agent enters an external number, **Release Transfer** is supported for an inbound call and is not supported for the agent's outbound call.
- During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 1 hangs up, the agent cannot further transfer the call to an external number.
- During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 2 hangs up, the agent can further transfer the call to an external number.

– Transfer to an IVR



3. Select an idle agent, a skill queue, or an IVR or enter an external number, and then click **OK**.

After the transfer, the current agent enters the **Idle** state.

3.5.4 Making Outbound Calls

An agent can initiate a call to a customer for business operations.

Context

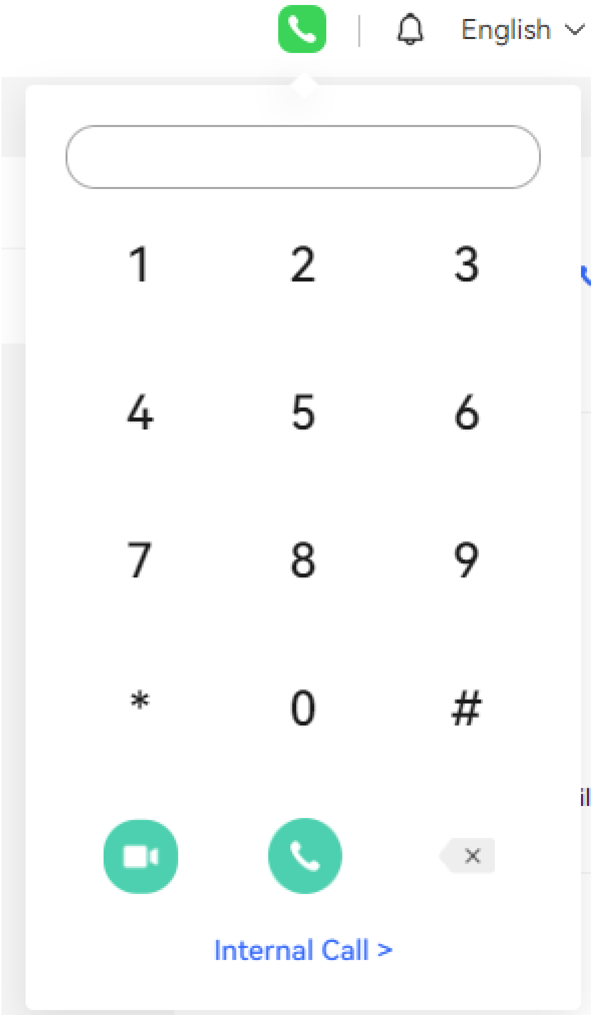
An outbound call refers to a call initiated by an agent after the agent enters the phone number of a customer.

An agent needs to make an outbound call to talk with a colleague outside the customer service center or a customer.

Procedure

An agent can make outbound calls in all connection states except the wrap-up, rest, and talking states.

An agent clicks , enters the called number in the keyboard area, and clicks  to initiate a call.



3.5.5 Making Three-Party Calls

An agent can connect to a third party to jointly handle the business during a call with a customer.

Context

An agent can initiate a three-party call during a call with a customer for help-seeking. In this scenario, a three-party call is set up among the customer, agent who initiates the help-seeking request, and agent who accepts the help-seeking request. If one party hangs up, the other two parties can still talk with each other.

NOTICE

If the video application mode is SFU video, three-party calls are not supported.

If the video application mode is MCU video, three-party calls are supported.

Procedure

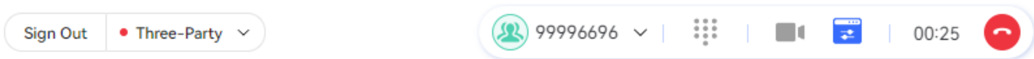
A three-party call supports three help-seeking modes: help-seeking from a skill queue, help-seeking from an agent, and help-seeking from an external number.

When an agent clicks **Three-Party** during a call:

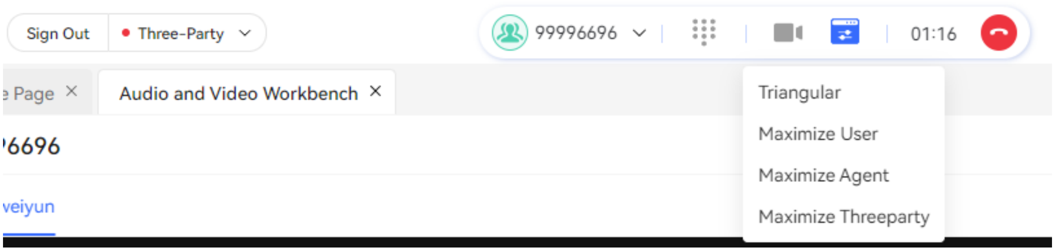
- If an agent does not know where to seek help, the agent can select a skill queue for the system to specify an agent in the skill queue as the requested agent.
- If an agent needs to seek help from another agent, the agent can select the agent for the system to specify the agent as the requested agent.
- If an agent knows to whom a help-seeking request can be sent, the agent can click  to select or enter an external number.

During a three-party call, you can manually maximize the displayed image.

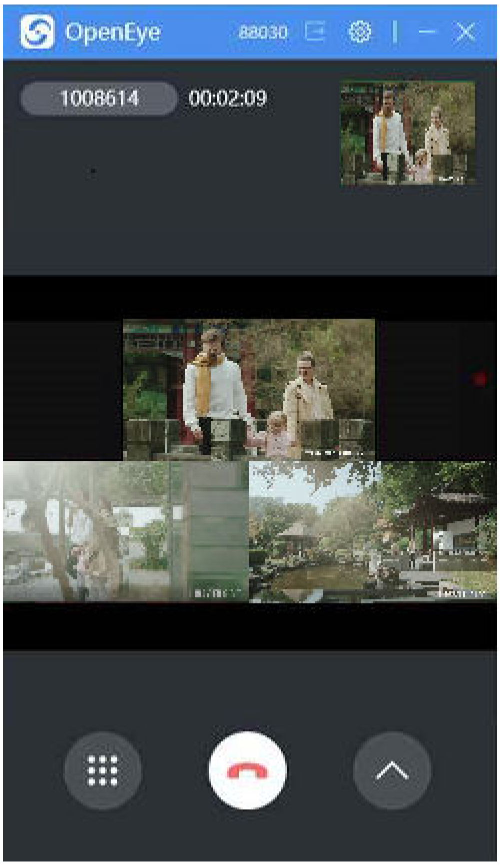
During a three-party call, you cannot share the desktop or adjust the video window size if not all of the three parties enable the video function.



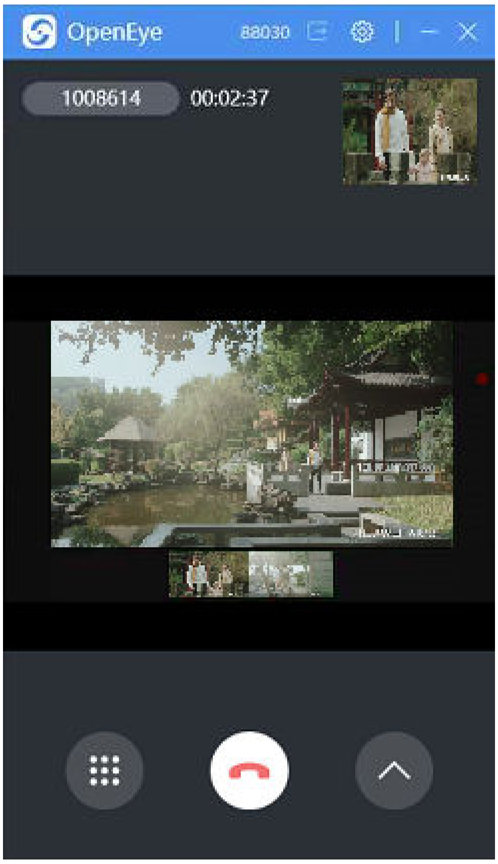
The following modes are supported.



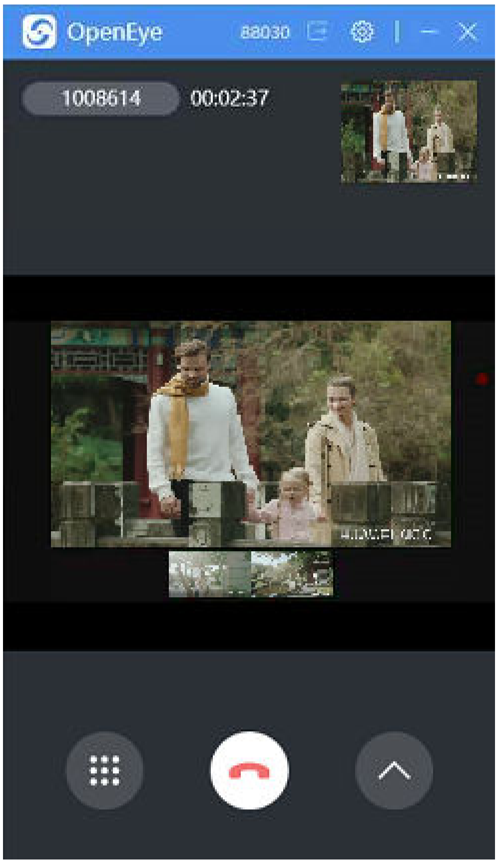
- The following figure shows the images of three parties of an equal size.



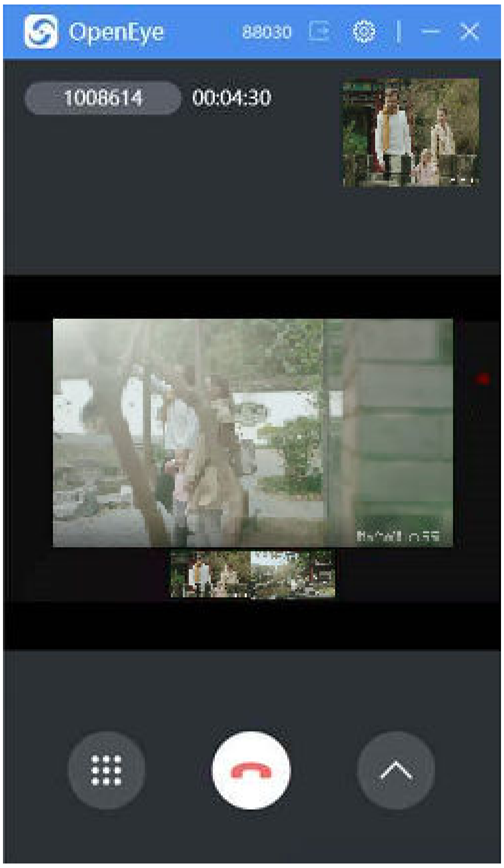
- The following figure shows a maximized user image.



- The following figure shows a maximized agent image.



- The following figure shows a maximized third party image.



3.5.6 Holding Calls

An agent can hold a call with a customer and continue to talk with the customer after handling other operations.

Context

The call holding service enables an agent to hold an ongoing call. When the call is held, the customer can hear a prompt tone indicating that the call is held. After an agent finishes tasks such as help-seeking, the agent can cancel the call holding to continue to talk with the customer. When the call is held, the agent can perform other operations but cannot answer a new inbound call. During consultation, if the consulted agent does not answer the call for a long time, the agent who initiates the consultation request can cancel the consultation.

Procedure

After answering a call, an agent needs to suspend the current call to complete other operations. Click  on the connection bar to hold a call or click  to unhold a call.

A held call cannot be released by the agent. The agent cannot sign out if the call is held. The agent can perform operations such as making an outbound call or canceling the call holding.

NOTE

Differences between call holding and muting are as follows:

When a call is held, the customer can hear the call holding background music played by the system. When a call is muted, the customer hears no tone from the receiver.

3.5.7 Consulting

An agent can initiate a consultation request during a call with a customer. During consultation, the call channel of the customer is held, and the agent who initiates the consultation request talks with the agent who accepts the consultation request.

Context

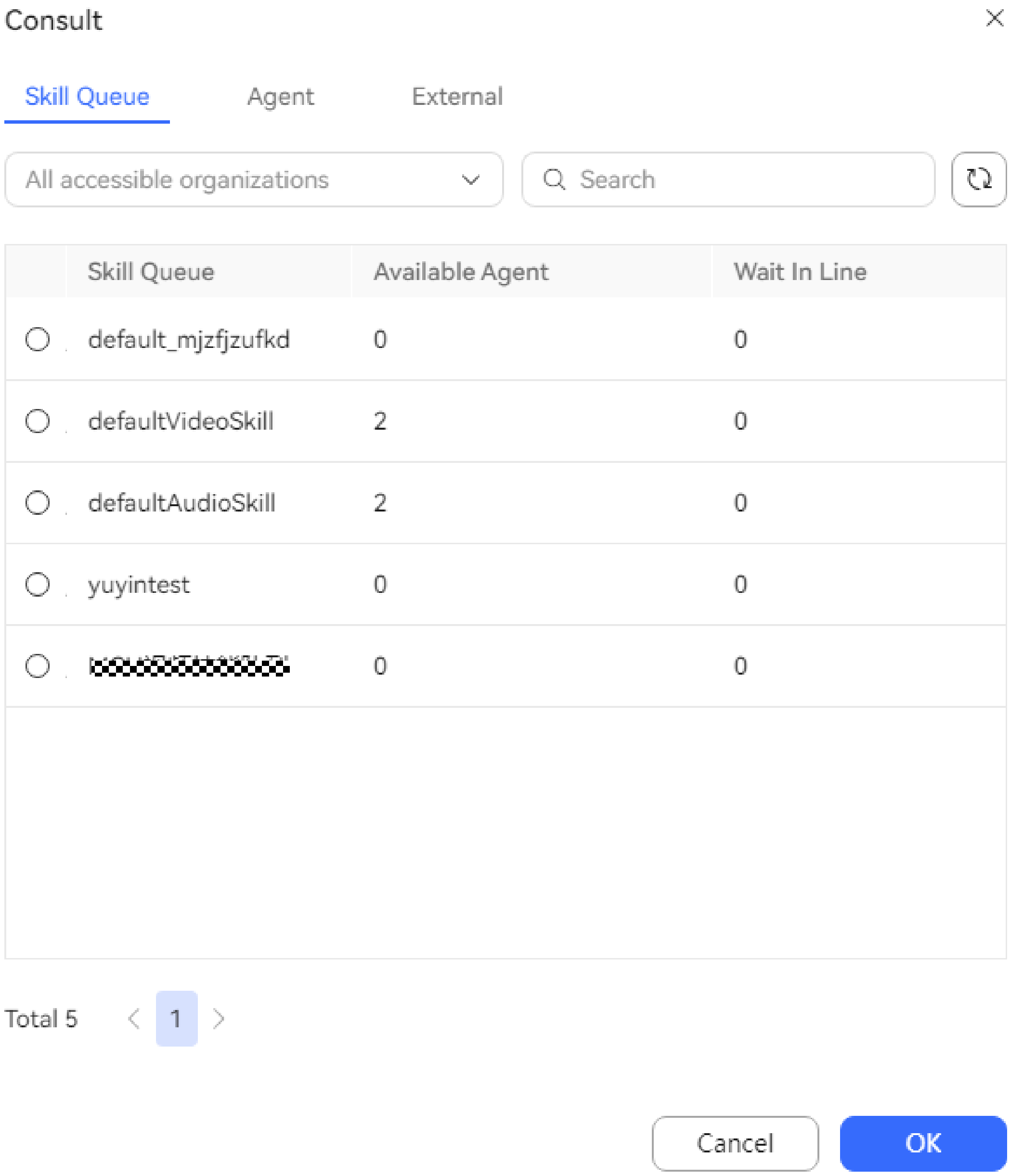
During consultation, the call between the agent and customer is held, and the agent talks with another agent or an external party who accepts the consultation request. After the consultation call ends, the current agent can continue to talk with the customer.

Procedure

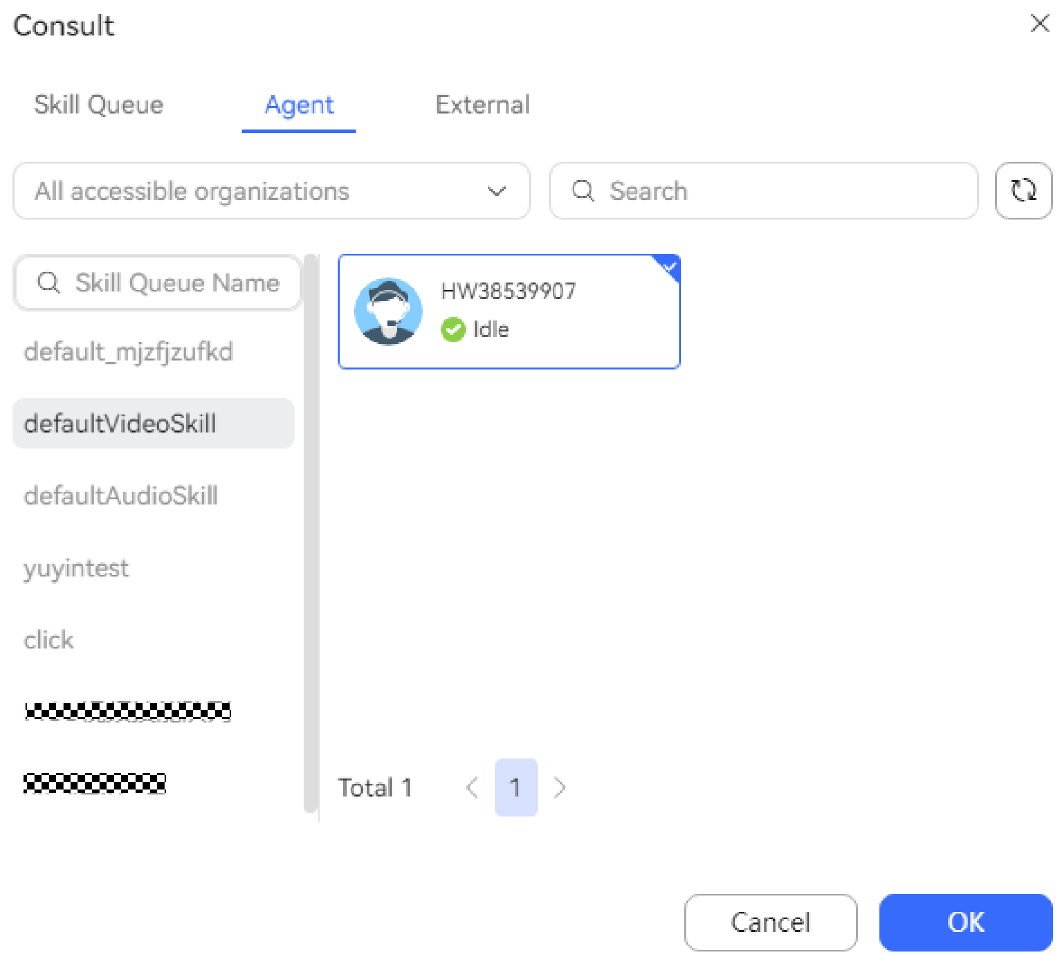
An agent in talking state clicks  on the connection bar to open the consultation page.

Consultation supports three modes: skill queue, agent, and external number.

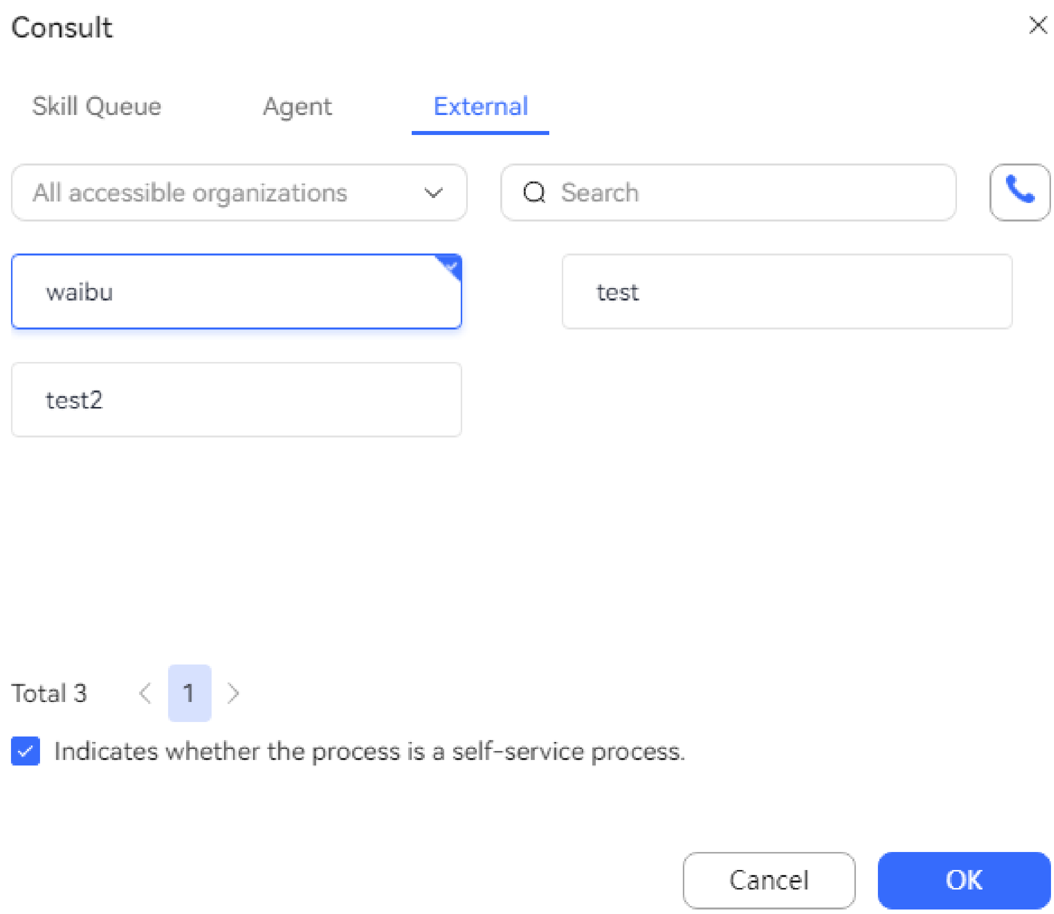
- Consultation with a skill queue

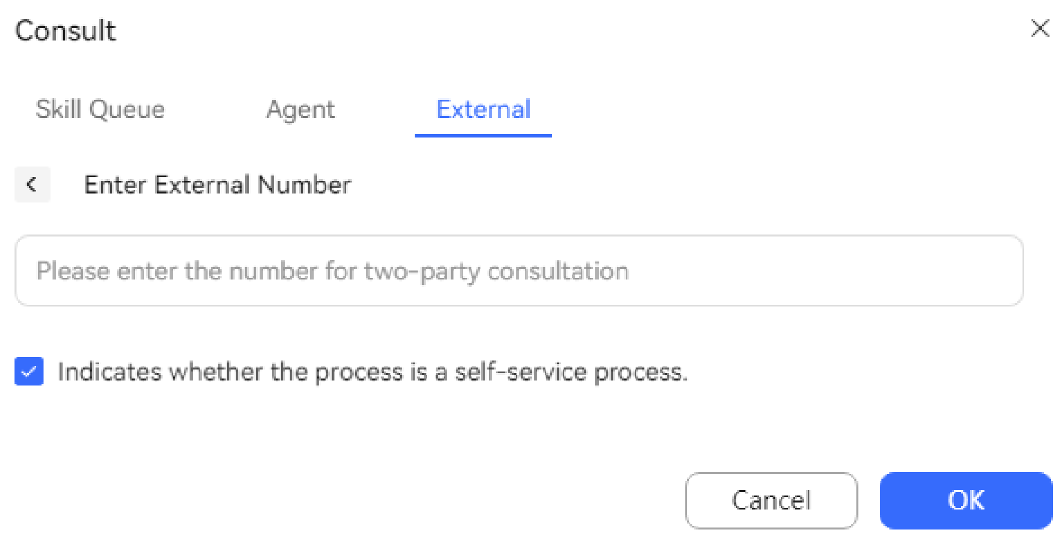


- Consultation with an agent



- Consultation with an external number





3.5.8 Releasing Calls

An agent can release a call after the call ends.

Context

After an agent finishes a service, the agent can proactively end the call if the customer does not proactively hang up first. After the call ends, the agent switches to the **Idle** state on the connection bar.

Procedure

An agent clicks  to end a call.

3.5.9 Switching Between Voice and Video Calls

An agent can switch the call type during a video call with a customer.

Context

NOTICE

Switching between voice and video calls is available only for video agents.

Currently, switching between voice and video calls is supported in the following scenarios:

- An agent initiates a voice call or a customer dials a called route to connect to an agent. After the voice call is connected, the agent can click the switching button to switch the voice call to a video call.
- A call is held, unheld, muted, or unmuted.
- A call is transferred to an agent or a skill queue.

Procedure

An agent clicks  to switch between voice and video calls.

When the WebRTC feature is enabled for a video agent and the video application mode is SFU video, the following scenarios are supported:

- When a voice call is initiated, an agent switches it to a video call. After the user accepts to switch the call mode, the two parties have a video call.
- When a video call is initiated, an agent switches it to a voice call. The two parties have a voice call.
- When a voice call is initiated, an agent switches it to a video call, but the user denies switching the call mode. The user is still in the voice call. The agent can invite the user to have a video call again.
- When a video call is initiated, a user switches it to a voice call and answers the call. The user is in the voice call. The agent can invite the user to have a video call again.
- An agent can switch between voice and video calls for multiple times.

NOTE

Contact records can be recorded. Both SFU and MCU videos can be downloaded, but SFU videos rather than MCU videos can be played online.

3.5.10 Sharing the Desktop

An agent can share the desktop during a video call with a customer.

Prerequisites

- The **WebRTC** feature has been enabled for agents.
- The agent is not bound to a mobile number or fixed-line phone number.
- To use the OpenEye softphone, the OpenEye has been configured as follows:
  a. Click before logging in to the OpenEye.
  b. Configure general settings.
     i. Choose **General**.
     ii. Enable or disable **Conference Sharing**.
        - Disable **Conference Sharing** when the UAP of the V1R5 version is used.
        - Enable **Conference Sharing** when the UAP of the V3R1 version is used.
  c. Configure media settings.
     i. Choose **Media**.
     ii. Enable **Virtual Camera**.
     iii. Set **Share Screen**.
        - If **Video application mode** is set to **MCU video** when the tenant is created, set **Share Screen** to **MCU mode**.
        - If **Video application mode** is set to **MCU+SFU video** when the tenant is created, set **Share Screen** to **SFU mode**.

Context

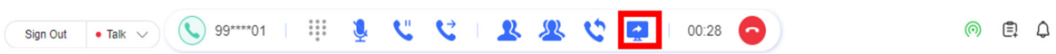
An agent can use the WebRTC or OpenEye softphone to sign in as an agent and share the desktop during a video call with a customer.

CAUTION

Pay attention to personal privacy protection during desktop sharing.

Procedure

If the WebRTC softphone is used, click to share the desktop.



If an integrated OpenEye softphone is used, click  to share the desktop.

If an independent OpenEye softphone is used, share the desktop on the OpenEye.

The following contents can be shared:

- Entire screen
- Application window
- Browser tab page

3.6 Handling Multimedia Chat Businesses

This section describes how to handle multimedia businesses as an agent.

3.6.1 Answering Calls

An agent can use the online chat workbench to handle customer businesses through multimedia channels.

Context

The workbench can be opened using the menu or automatically opened when the agents associated with multimedia skill queues sign in.

After the workbench is opened, the number of calls made on the current day and average call duration (in seconds) are displayed.

When an agent processes a multimedia message, the connection bar is in the **Occupied** state. In this state, the agent can make outbound calls at the same time. When a voice call is released, the multimedia call cannot be released at the same time.

Current is displayed on the left. The chat area, third-party page provided by the customer, and input area of the current conversation are displayed in the middle. **Incoming Call Message**, **Call Reason**, **History contacts**, and multimedia are displayed on the right.

The third-party page provided by the customer is configured based on the call launch page. In addition, the call launch page path carries the employee ID and information about the calling and called parties.

If multiple tab pages are opened and the current online chat workbench is not activated, when a new message is received, the tab page blinks and an announcement is played, indicating that a new message is received.

Prerequisites

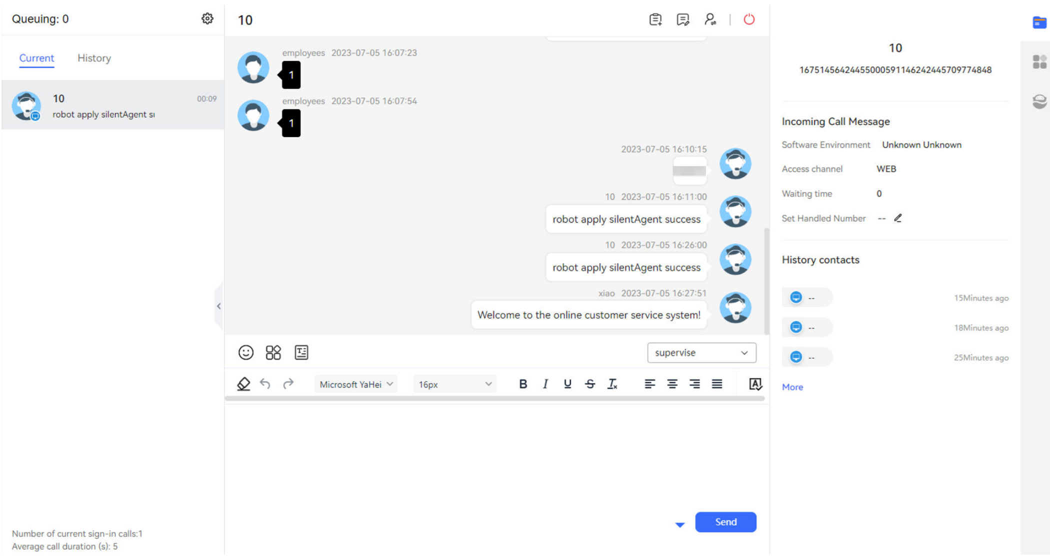
When the **Refine response** feature is enabled for a tenant, the agent bound to the tenant administrator is a versatile agent, and the **Intelligent Recognition** and **Reply polishing** switches are turned on, the AI polishing function can be used.

Procedure

A customer communicates with agent A through the web channel to query the call fee balance, and then rates the service after the conversation ends.

Step 1 Sign in to system on the connection bar and set the agent to the idle state.

Step 2 Initiate a call as a customer. The agent workbench automatically connects to the multimedia session. After the agent double-clicks the session, the information is displayed on the right.



NOTE

- Before sending a message, click the spelling check icon to check spelling to avoid spelling mistakes.

  All channels support spelling check. For the email channel, the forwarding, reply, and email draft viewing pages are involved.

  Only the spelling of text is checked. Misspelled words are marked in red.

  Currently, only Chinese, English, and Portuguese spelling checks are supported. If a tenant uses a language other than Chinese, English, or Portuguese, **Language** is set to **English** by default.
- In the **Current** area, the chat content between the customer and agent is displayed. If the customer has historical conversations with an agent, the historical conversation records of the customer can be displayed in **Current**.
- When the content entered by an agent is used in a historical conversation, the system automatically associates and displays related historical content for the agent to select, improving the business handling efficiency.
- After a customer reads a message sent by an agent, the message status is displayed as **Read** on the online chat workbench. The customer is unaware of the message status.

----End

Troubleshooting

If the email content cannot be displayed and is empty, click **Refresh** to check the OBS status. If a message is displayed, including that the refresh fails, contact O&M personnel.

3.6.2 Sending an Electronic Document Link

Context

During the chat with a customer, you can send an electronic document link to the customer for signing.

In the OP integration deployment environment, electronic document links cannot be sent.

Prerequisites

- The **Contract Digital Signature** feature has been enabled for the tenant. If the feature is not enabled, contact operations personnel to enable it.
- The tenant has an available WhatsApp channel.
- In the electronic document, the customer signature location has been marked with an arrow, and the electronic document must be in PDF format.

  For details, see **3.6.2.1 FAQ: How Do I Insert an Arrow to an Electronic Document?**
- The agent is chatting with the customer.

Procedure

Step 1 Contact operations personnel to determine the size and location of the arrow and the timeout period for a single signature.

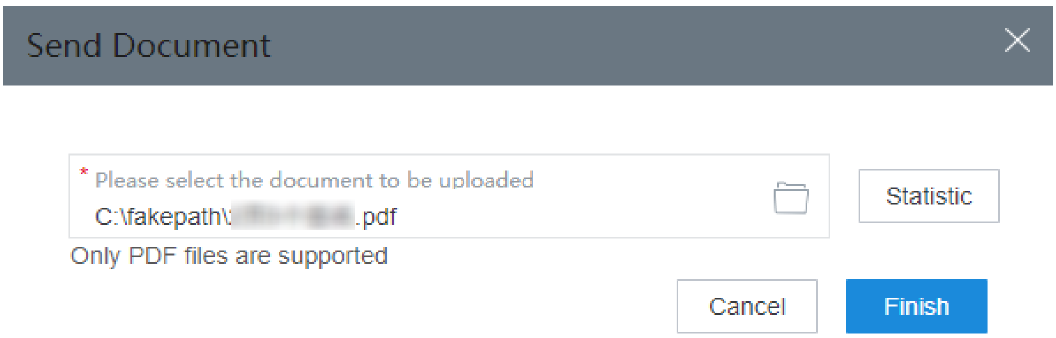
- The arrow size is specified by the system parameter **Signature location picture size**. The default value is **18*22**, indicating the width x height of the signature location image.
- The arrow location is specified by the system parameter **Signature image size and offset**. The default value is **100*50*2*0**, indicating the width x height x x-axis offset x y-axis offset of the image.
- The timeout period for a single signature is specified by the system parameter **Single signature timeout (seconds)**. The default value is **600**.

Step 2 Establish a session with the customer.

Step 3 Select the prepared electronic document.

1. Click  above the input area. The **Send Document** page is displayed.

Figure 3-9 Send Document page



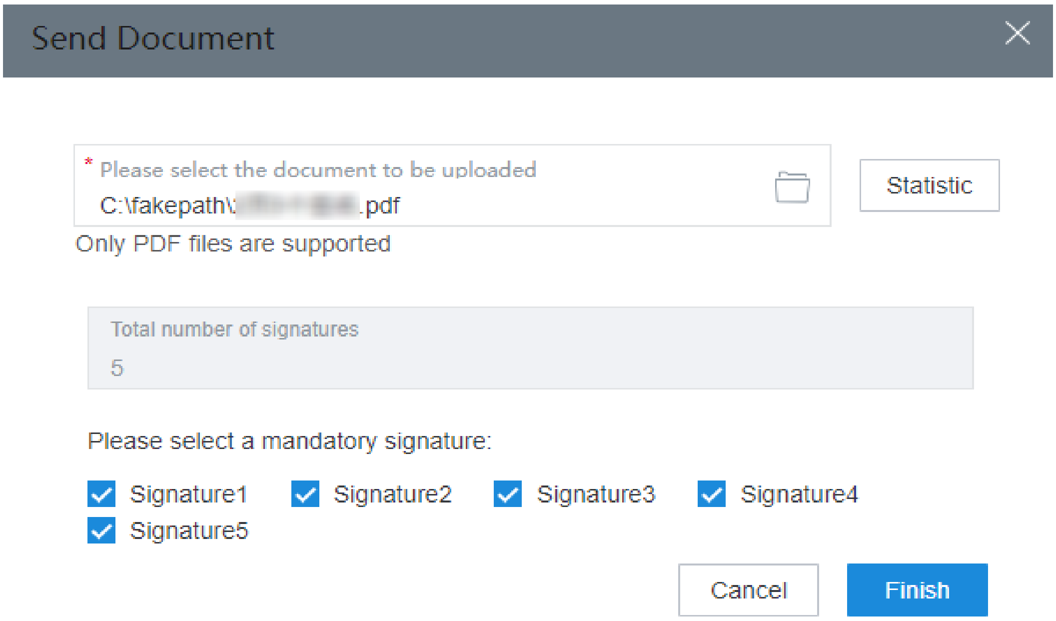
2. Click and select the prepared electronic document.

   Only PDF files are supported.

3. Click **Statistic** to display the number of signatures to be signed.

   If there are multiple signatures, you can select mandatory signatures.

   Figure 3-10 Selecting mandatory signatures

4. Click **Finish**. The document link is automatically saved in the text box.

   A record is automatically added on the **Contact History** > **Document Management** page, and the document status is **Unsigned**. For details about other operations, see **3.7.13 Managing Documents**.

   If the name of the document to be uploaded is the same as that of an existing document and the existing document is valid, the document cannot be uploaded.

Step 4 Click **Send** and wait for the customer to sign.

If the document does not expire or become invalid within the session period, the customer can sign the document. The timeout period for a document is the number of signatures in the document multiplied by the timeout period for a single signature.

During the signing process, the agent can prompt the customer to confirm the document content, sign the document, and submit the document. A document link can be submitted for signing only once.

After the customer submits the document, the document status changes to **Signed** on the **Contact History** > **Document Management** page. Within 1 minute, the document preview page is automatically displayed on the agent side.

----End

Follow-up Procedure

In the **History contacts** area, click the generated data to view the document status, preview, and download the document in the contact records.

3.6.2.1 FAQ: How Do I Insert an Arrow to an Electronic Document?

Prerequisites

You have prepared an electronic document in PDF format.

Context

Use a PDF editor to insert an arrow to the location for a signature in an electronic document.

PDF editor: prepared by yourself

Arrow icon:

Procedure

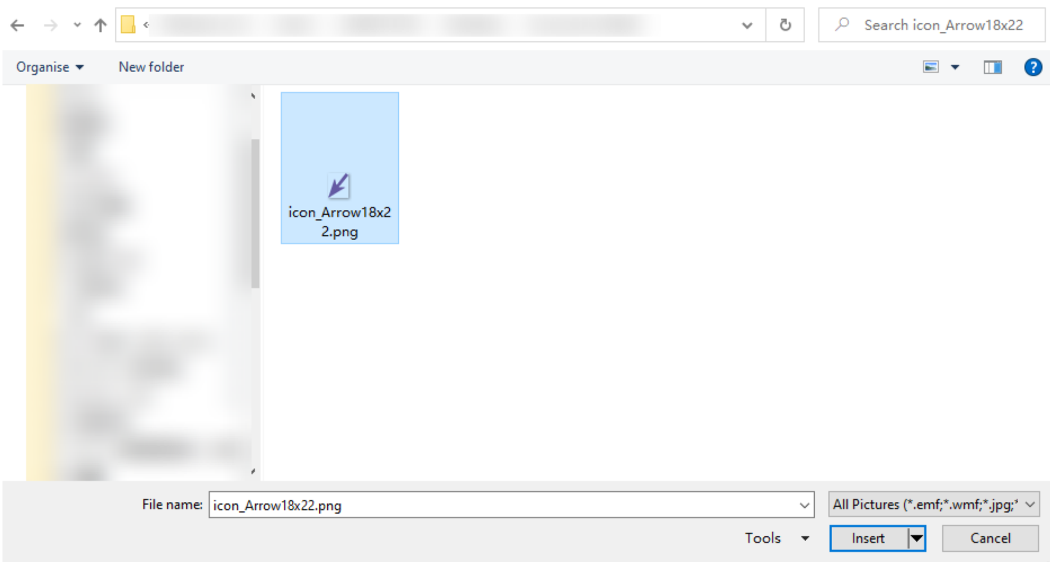
Step 1 Download the package from **Context** and extract the arrow icon **icon_Arrow18x22.png**.

Step 2 Run the PDF editor and open the electronic document in PDF format.

Step 3 Insert the arrow icon.

The method of inserting a local image varies according to the PDF editor that you use.

Figure 3-11 Selecting the icon



NOTE

Do not change the size of the arrow.

Step 4 Check that the arrow is in the body of the electronic document.

Step 5 Drag the arrow to the location for a signature.

When you drag the arrow, retain its original size. Copy and paste operations are supported.

Step 6 Save the electronic document with the arrow inserted.

----End

3.6.3 Initiating a Voice or Video Call

During a text chat with a customer through the WhatsApp channel, an agent can initiate a voice or video call.

Prerequisites

- The browser used by the customer supports WebRTC.
- The customer has audio input and output devices or video input and output devices (for video calls).
- The WebRTC feature has been enabled and the anonymous call server has been configured for the tenant space.
- A web channel for which the click-to-dial called route is configured is available.

Context

If call collaboration is required, that is, a customer can have a text chat and a voice or video call with the same agent, the agent scopes of the click-to-dial skill queue and multimedia skill queue must be the same in the web channel configuration.

A voice or video call cannot be initiated during a chat between a robot and a customer.

Procedure

Step 1 Click as an agent. The system automatically generates a voice or video call link in the text box.

Step 2 Click **Send**. The customer receives the voice or video call link. After the customer clicks the link, the two parties can talk with each other.

----End

3.6.4 Transferring Sessions

Context

A session needs to be transferred to another agent.

Procedure

Click to transfer an ongoing session to another agent. A session can be transferred by skill queue (multimedia type) or by agent (multimedia agent). The transfer modes are release-after-transfer and blind transfer. During session transfer, agent states and accounts can be viewed.

Release-after-transfer: After an agent transfers a session, the agent releases the session only after the transferred-to agent answers the session. Otherwise, the system displays a message indicating that the transfer fails.

Blind transfer: After an agent transfers a session, the agent releases the session immediately, regardless of whether the transfer is successful.

Figure 3-12 Transferring a session to a skill queue

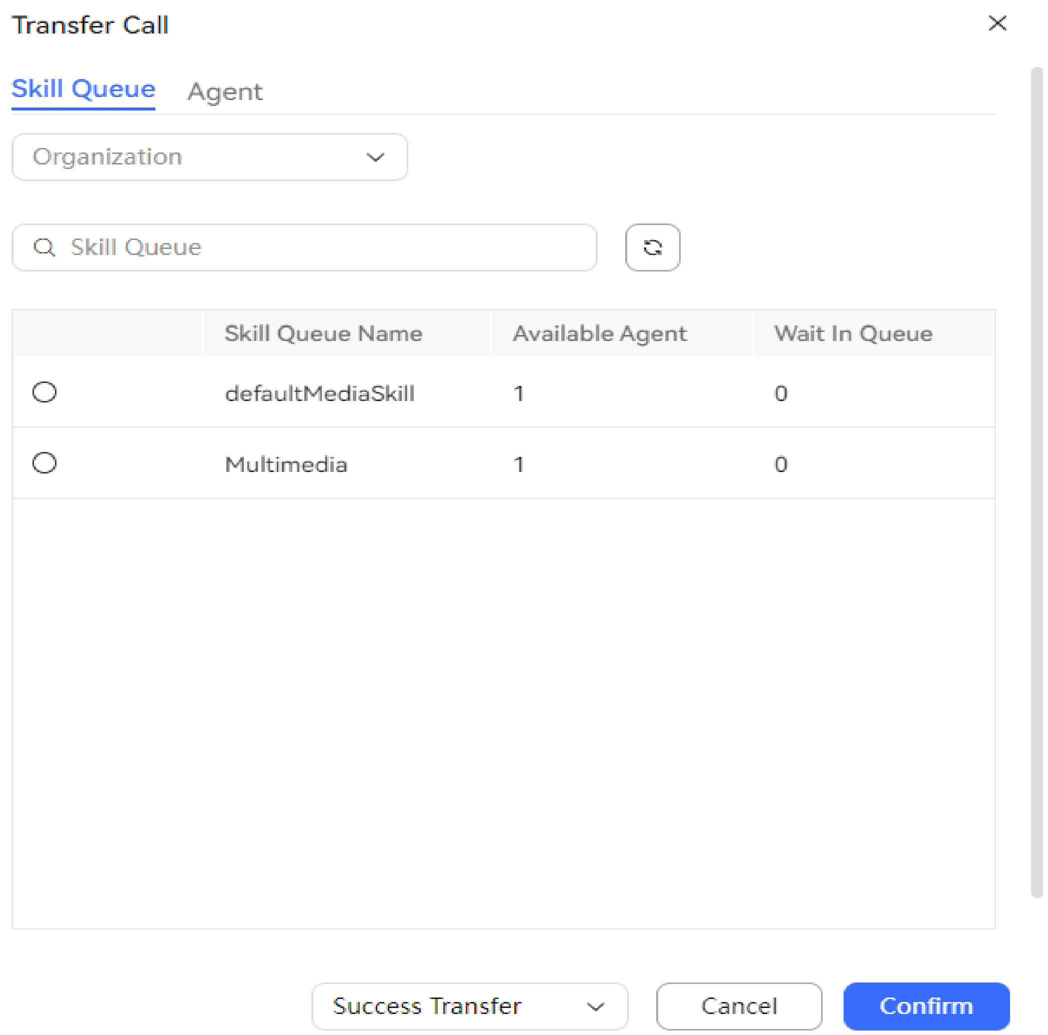
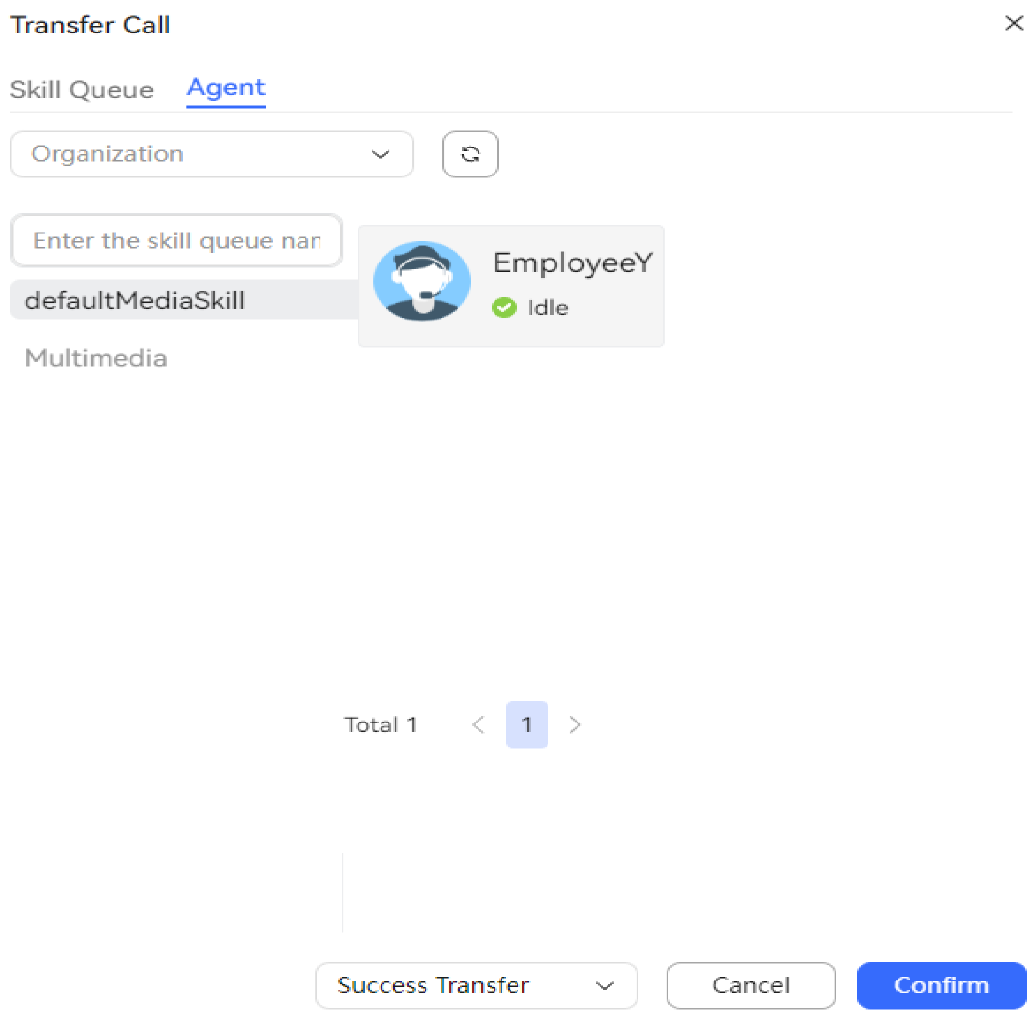


Figure 3-13 Transferring a session to an agent



: The agent is in a voice or video call.

: The agent is in an online chat.

3.6.5 Initiating Sessions

An agent can search for a user not contacted in historical sessions, and set up a connection through the email, WhatsApp, 5G RCS, or SMS channel.

Prerequisites

Channels such as email, WhatsApp, 5G RCS, and SMS message are available, and the offline message function has been enabled for the channels.

Context

Users not contacted refer to users who have never been contacted and users who have not been contacted for more than seven days.

Procedure

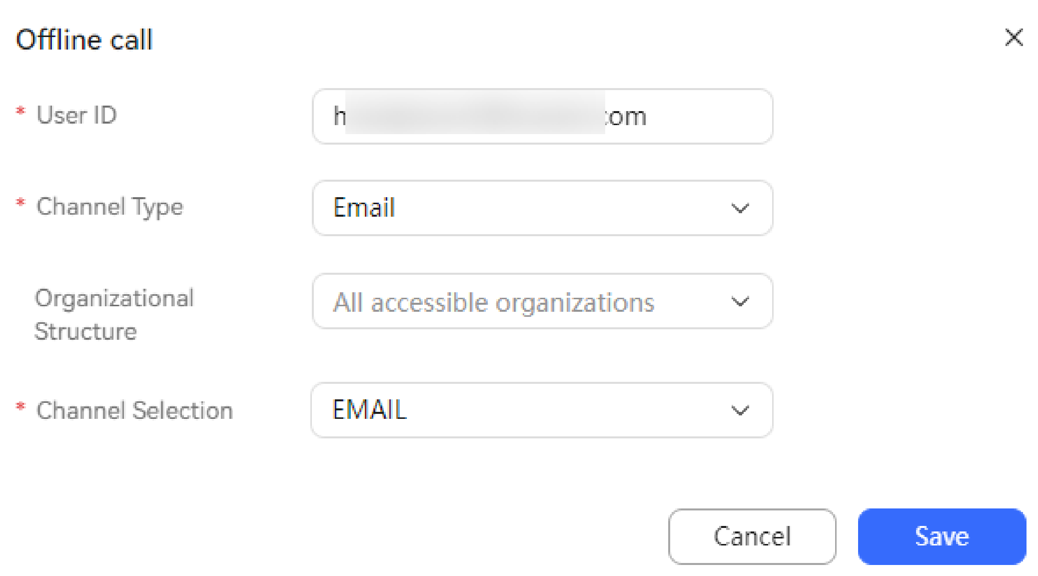
Assume that an email agent initiates a session.

Step 1 Click **Sign In** on the connection bar and set the agent status to busy.

Step 2 Choose **Online Chat** and click .

Step 3 Enter a user ID, select a channel type, select an OU, and select a channel configured for the selected OU.

Figure 3-14 Offline call (when Channel Type is set to Email)



Step 4 Click **Save**. A session is initiated, and the agent status changes from idle to occupied and then to idle.

----End

3.6.6 Initiating Co-browsing

An agent can initiate co-browsing after a customer is connected to the agent.

Prerequisites

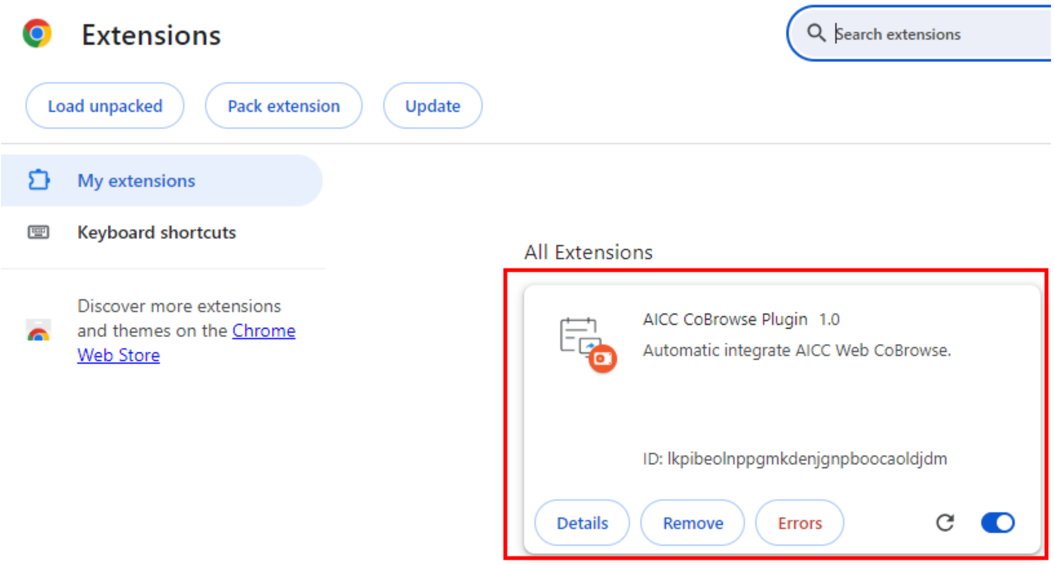
- The agent and customer are in a session.
- The OU that the agent can access has available co-browsing URLs.
- The Co-Browse plugin must be installed for the Chrome browser used by the customer. The agent obtains the plugin package from AICC Developer Forum and sends it to the customer. The agent instructs the customer to install the Co-Browse plugin by referring to the following steps, or the agent can refer to the usage guide attachment in the plugin package for more details.
  a. Decompress **cobrowse-plugin.rar**.
  b. Change the value of **aiccDomain** in the **content_script.js** file to the domain name or IP address and port number of AICC.

```
let aiccDomain = 'https://aiccclond.com';
```

c. Open the Chrome browser, click ⋮ in the upper right corner, and choose **Extensions** > **Manage Extensions**.

d. Select **Developer mode**, click **Load unpacked**, and choose the decompressed plugin file **cobrowse-plugin** whose configuration has been modified.

e. If the following information is displayed, the plugin is installed successfully:



Context

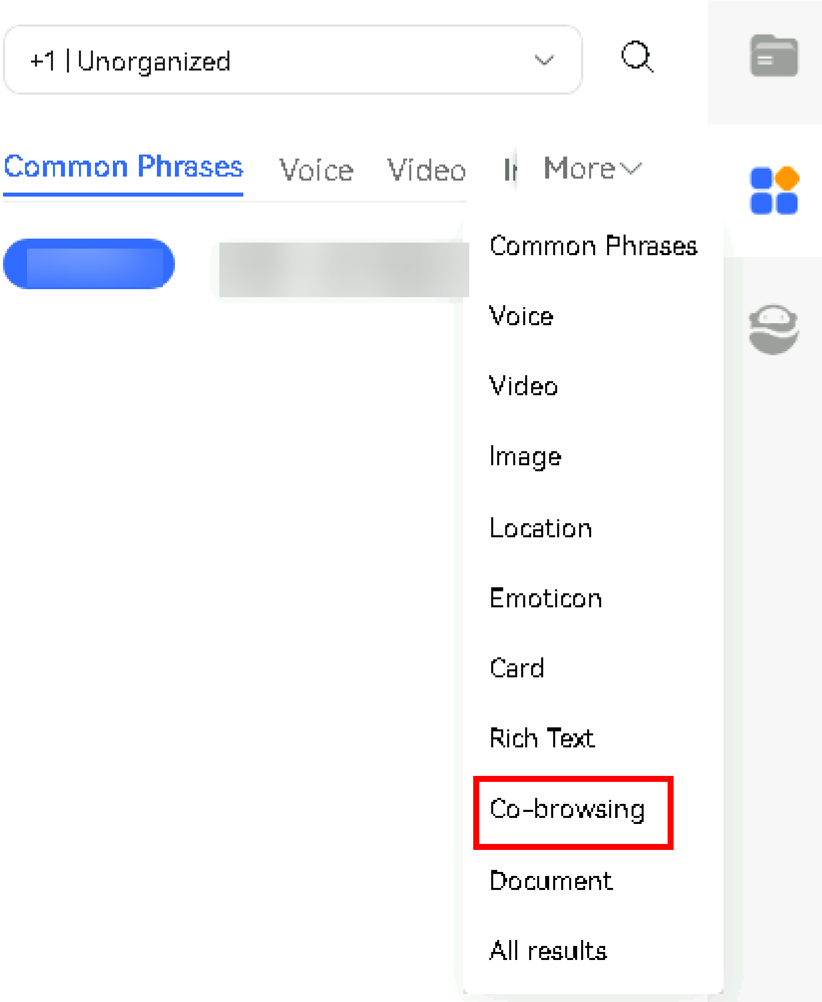
Only the web channel supports this function.

Procedure

Step 1 Click on the right and select an OU that you can access.

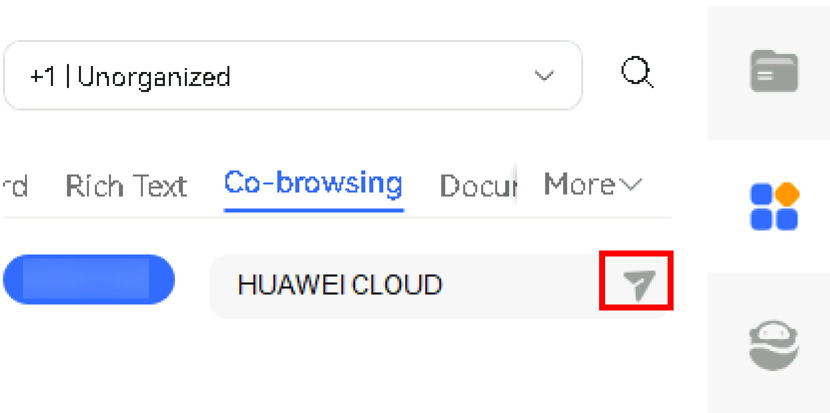
Step 2 Click **More** and choose **Co-browsing**.

Figure 3-15 Choose Co-browsing



Step 3 Select a co-browsing URL and click to send a co-browsing request.

Figure 3-16 Sending a co-browsing URL



Step 4 After the co-browsing request is successfully sent, wait for the customer to accept the request.

A blank **Co-browsing** tab page and a browser trust request are displayed on the agent side. You need to access and trust a website in the browser as prompted. If no content is displayed on the **Co-browsing** tab page after the website is trusted, initiate co-browsing again.

Figure 3-17 Waiting page

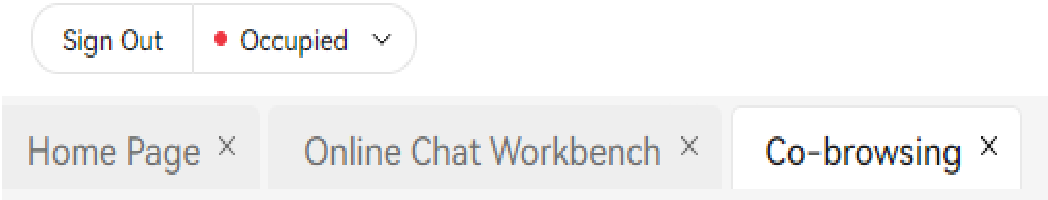
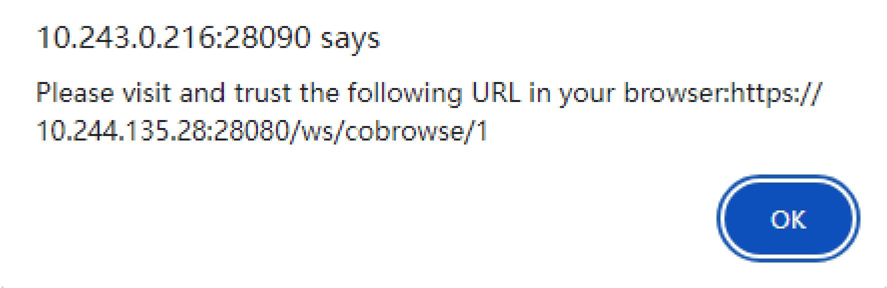


Figure 3-18 Browser trust request



The preceding figures are only examples.

Step 5 After the customer accepts the request, co-browse the page with the customer.

A new page is displayed on the customer side. The page content of the co-browsing URL is displayed on both the new page on the customer side and the **Co-browsing** tab page on the agent side.

Note: When the customer page is displayed on the **Co-browsing** tab page on the agent side, some sensitive information on the customer page is shielded based on the co-browsing rules configured by a tenant administrator.

Table 3-5 GUI elements on the Co-browsing page (agent side)

Element/Component	Type	Description
	Button	The agent requests or stops the customer page control permission. After the agent initiates a request, the following options are displayed on the customer side: • : Accept the request. • : Reject the request. **NOTE** Accepting the request will share your page, which may contain your personal data. Exercise caution when performing this operation.

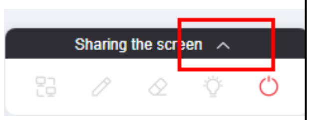
Element/Component	Type	Description
	Button	The agent exits the co-browsing room.
	Button	Eraser.
	Button	Highlighter.
	Button	Brush.
	Button	Hide the toolbar.

Figure 3-19 Co-browsing page (customer side)

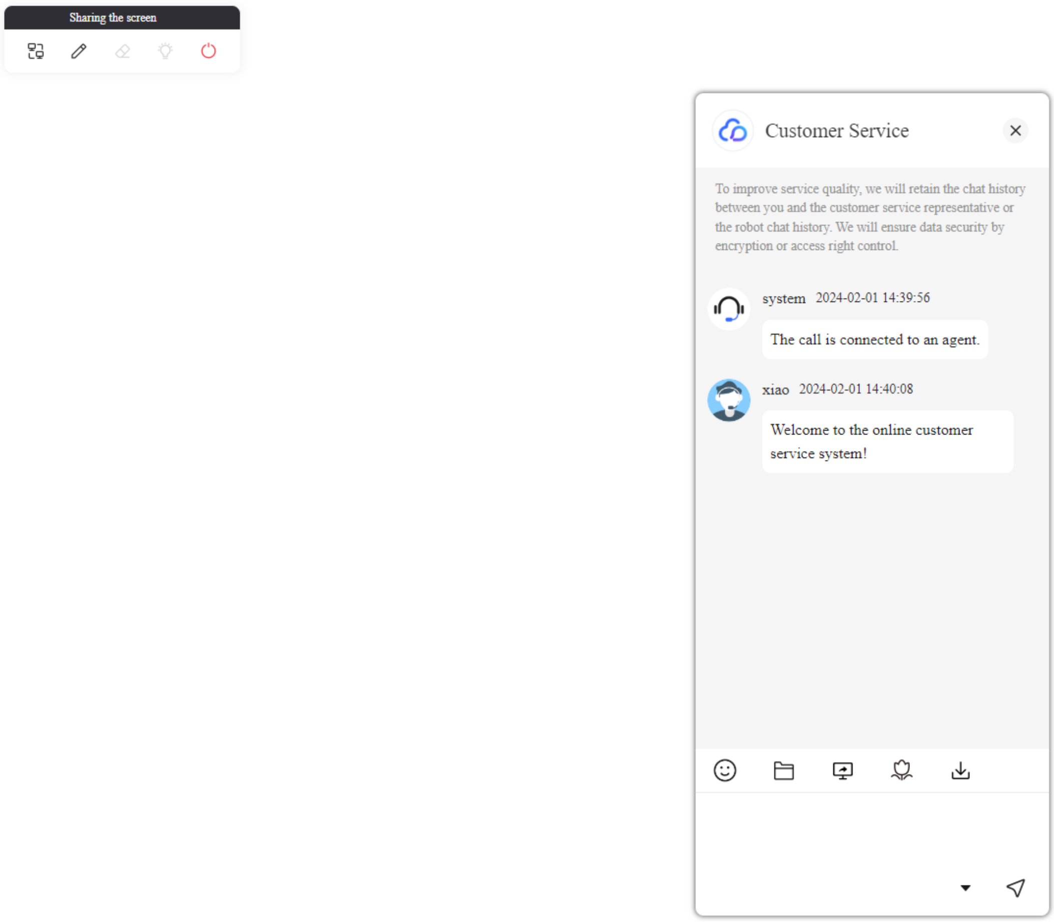
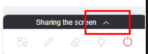


Table 3-6 GUI elements on the Co-browsing page (customer side)

Element/Component	Type	Description	Value Range	Triggering Event	Remarks
	Button	Draw.	-	Click	-
	Button	The customer revokes or grants the page control permission to the agent.	-	Click	-
	Button	Highlight key areas.	-	Click	-
	Button	Erase a drawn mark.	-	Click	-
	Button	The customer exits the co-browsing room.	-	Click	-
	Button	Hide the toolbar.	-	Click	-

NOTE

The agent is advised to view the customer's presentation in the normal browser window instead of the zoomed-out browser window.

----End

Follow-up Procedure

After the co-browsing ends, the agent can choose **Contact History** > **Co-browsing** to view the co-browsing session record, including **Room Number**, **Agent Number**, **Caller**, **Starting Time**, and **End Time**.

3.6.6.1 FAQ: How Does a Customer Initiate Co-browsing?

After a customer is connected to an agent, the customer can initiate co-browsing. The following describes how a customer initiates co-browsing using the **Try** function in the AICC.

Prerequisites

The agent and customer are in a session.

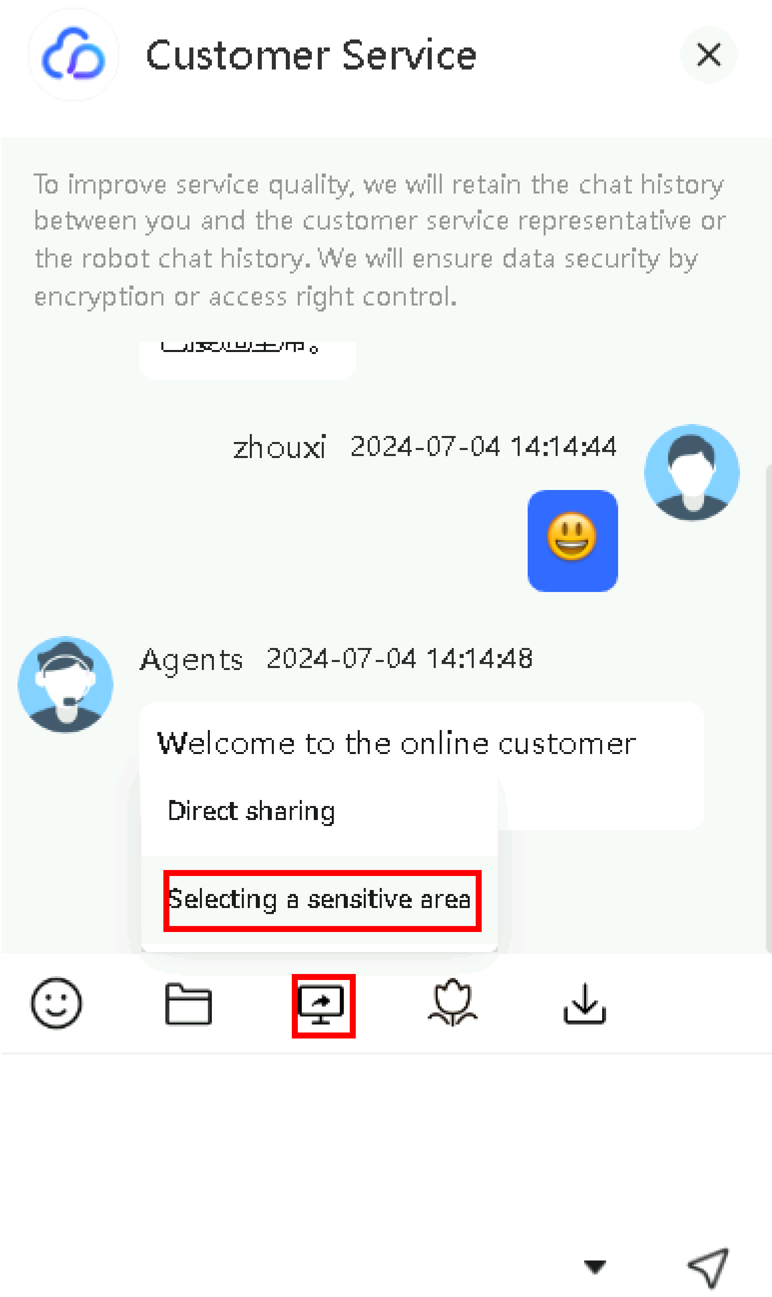
Context

Only the web channel supports this function.

Procedure

Step 1 The customer clicks  and then clicks **Selecting a sensitive area** to block some sensitive information on the page. The selected area is displayed as pixelation on the agent side. If no information needs to be blocked, skip this step.

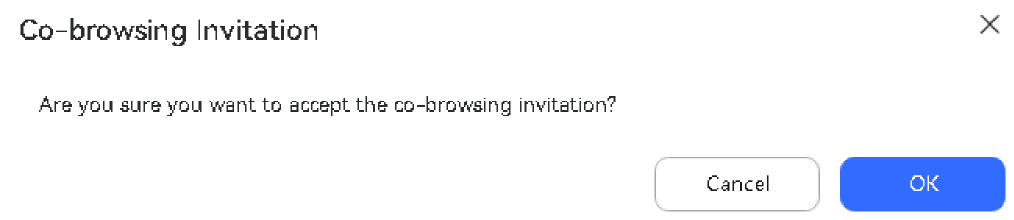
Figure 3-20 Customer's view



Step 2 The customer clicks **Direct sharing** to initiate co-browsing. A message is displayed, indicating that the browser page will be shared, and the customer clicks **Confirm** to share the page.

Step 3 A dialog box is displayed on the agent side, asking the agent whether to accept the co-browsing invitation. The agent clicks **OK** to accept it.

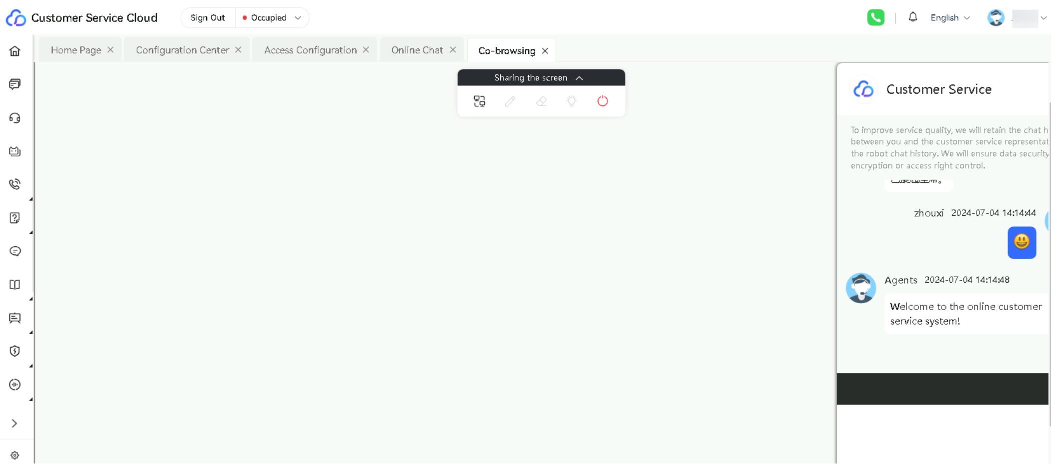
Figure 3-21 Co-browsing invitation dialog box on the agent side



Step 4 The **Co-browsing** tab page is displayed on the agent side to display the page shared by the customer. The agent can also apply for the operation permission.

Note: When the customer page is displayed on the **Co-browsing** tab page on the agent side, some sensitive information on the customer page is shielded based on the sensitive area selected by the customer or on the co-browsing rules configured by a tenant administrator.

Figure 3-22 Agent's view



----End

3.6.7 Releasing Calls

An agent can release a call after the call ends.

Context

After an agent finishes a service, the agent can proactively end the call if the customer does not proactively hang up first. After the call ends, the agent switches to the idle state on the connection bar.

Procedure

An agent clicks to end a call.

3.6.8 Querying Historical Contacts

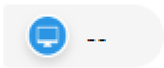
An agent can view the latest three contact records.

Context

The latest three contact records are displayed by time. Contact records can only be displayed by time.

You can view multimedia messages, such as emojis, images, videos, and addresses, in historical contact records.

Procedure

- Click 

 to go to the **Contact Details** page.

  NOTE

  The agent is in a conversation with the handled number.

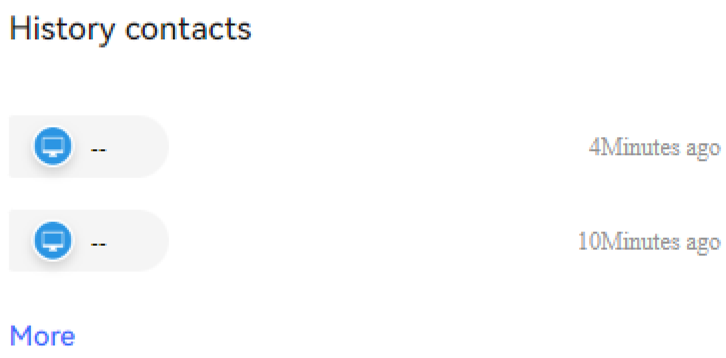
- Click **More** to view the contact records generated for the current handled number in the last seven days.

  Click a call SN to view the session content.

  NOTE

  The agent is in a conversation with the handled number.

  Figure 3-23 Historical contacts page

3.6.9 Withdrawing Agent Messages

An agent can withdraw messages.

Context

When an agent has an online chat with a customer, the agent can recall the message that has been sent.

NOTE

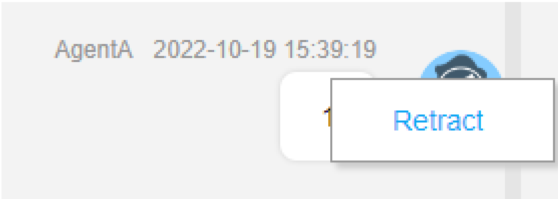
Only the web channel supports message recall.

Only messages within 2 minutes can be recalled.

Procedure

On the agent side, right-click a message and choose **Retract** from the shortcut menu.

Figure 3-24 Withdrawing a message



After a message is recalled, the following information is displayed.

Figure 3-25 Agent page

3.6.10 Applying for a Multimedia Silent Agent

A chatbot can apply for a multimedia agent for assistance during the conversation with a user.

Context

A silent agent can be in one of the following states: common, monitoring, insertion, and transfer.

Common: When a silent agent switches to this state, the agent proactively releases the call with the chatbot. The user directly communicates with the chatbot.

Monitoring: When a silent agent switches to this state, the agent can view the conversation between the user and chatbot. When the chatbot fails to reply to a user's question for three consecutive times, the chatbot sends a help signal to the silent agent. The silent agent can send a reply or switch the state for assistance.

Insertion: When a silent agent switches to this state, the silent agent directly communicates with the user in the name of the chatbot. When the user sends a message, the chatbot sends a help request to the silent agent. The silent agent can reply to the user only when the chatbot asks for help.

Transfer: When a silent agent switches to this state, the agent can transfer the call to the agent service.

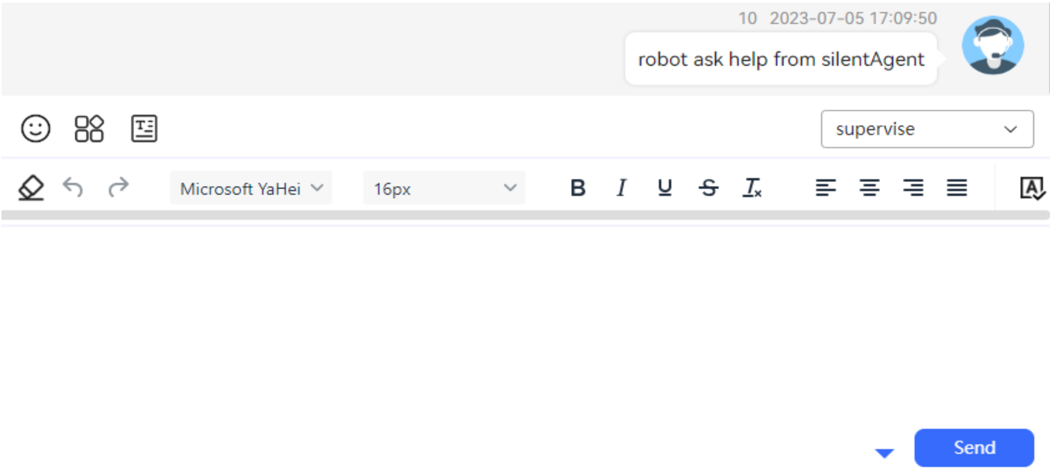
NOTE

- Silent agents are available only in channels that support chatbot and silent agent skill queue configurations.
- Silent agents are available only for flows whose **Work Mode** is set to **Monitor** or **Insert** during publishment on the **Flow Orchestration** page in the intelligent IVR.
- Silent agents do not support the manual answering mode.

Procedure

When a user has a chat with the chatbot and the chatbot cannot identify the user's intent, the chatbot asks for help from a silent agent.

Figure 3-26 Multimedia silent agent page



3.6.11 Callback

During or after a text chat with a WhatsApp customer, an agent can initiate a voice session to contact the customer.

Prerequisites

- The agent is chatting with the customer through the WhatsApp channel.
- The **History** tab page contains WhatsApp customers with whom the agent has chatted.
- The agent is in one of the following states:
  - **Idle**
  - **Busy**
  - **Wrap-up**
- You have contacted the tenant administrator to configure the international crown code of the mobile number of the WhatsApp customer to be contacted to the AICC system.

  Path: **Configuration Center** > **System Management** > **Tenant Parameter** > **CCNotification** > **Telecom number**.

Procedure

Step 1 During a text chat with a customer:

1. Return to the online chat workbench.
2. Click in the upper part of the call message.

Step 2 After a text chat with a customer:

1. Open the online chat workbench.
2. Click **History** in the upper left corner.
3. Find the session record of the customer to be contacted.
4. Click in the upper part of the call message.

----End

3.7 Performing Other Agent Operations

This section describes other operations performed by an agent.

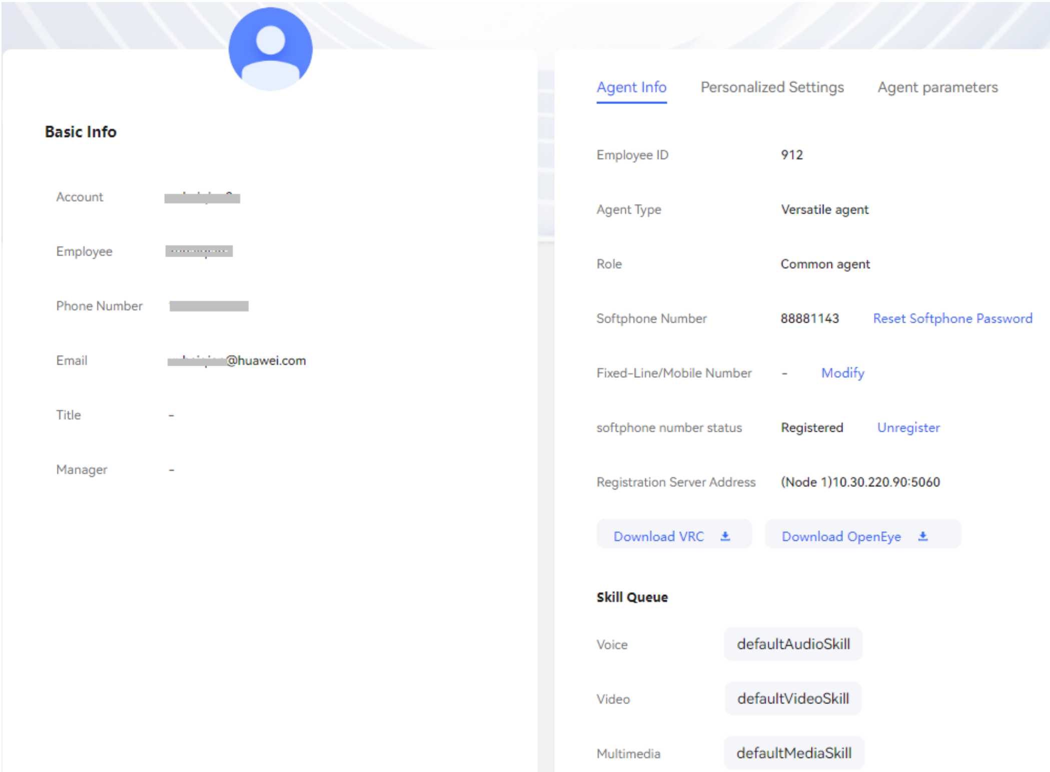
3.7.1 Configuring the Personal Center

Agents can query their own agent and employee information in the personal center, configure personalized nicknames and greetings for themselves, and set personalized agent parameters.

Procedure

Step 1 Sign in to the AICC as an agent, click the business account in the upper right corner, and select **Personal Center** from the drop-down list.

Figure 3-27 Personal center



Step 2 View employee information.

On the left, basic information about the agent is displayed, including the business account, username, phone number, email address, position, and manager.

Step 3 View agent information.

1. Click the **Agent Info** tab to view the agent information.
2. View the agent ID, agent type, role, softphone number, registration server address, and skill queue on the **Agent Info** tab page.
3. Click 

 to download the VRC client to the local PC.

   NOTE

   If the screen recording and screen inspection features are not enabled and the system parameter **VRC download address** is not set, the **Download VRC** button is not displayed.

4. Click 

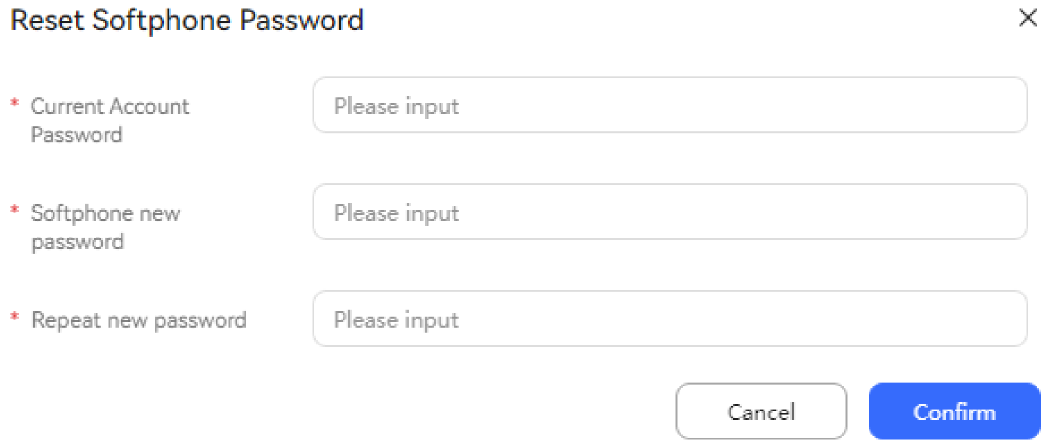
 to download the softphone client to the local PC.

   NOTE

   If the WebRTC feature is enabled for an agent, the **Download OpenEye** button is not displayed.

5. Click **Reset Softphone Password** to reset the current softphone login password.

Figure 3-28 Resetting the softphone password



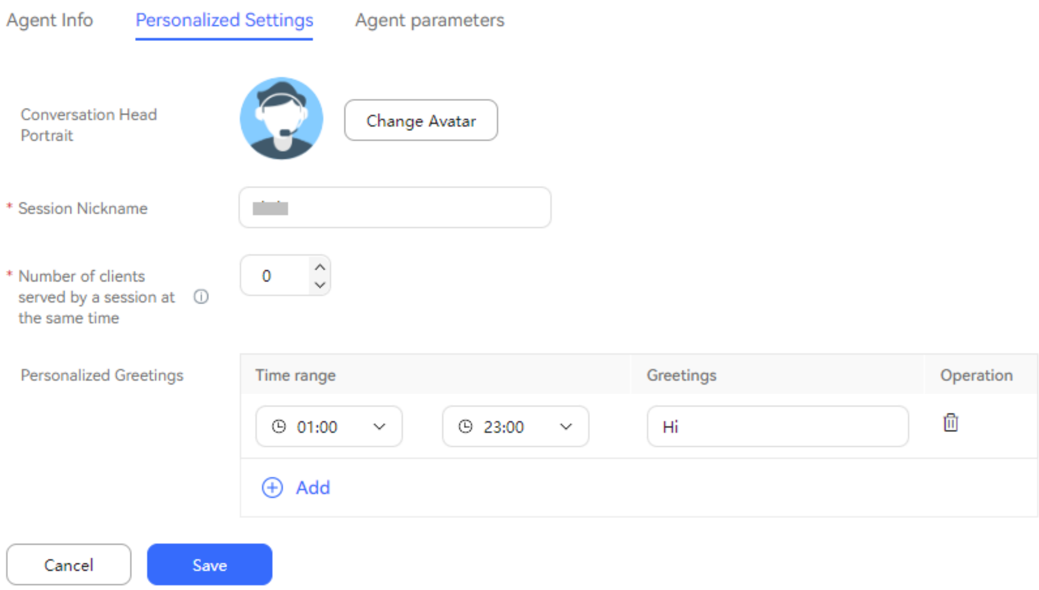
Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Send Code** to obtain a verification code.

6. In **softphone number status**, check the sign-in status of the softphone. You can also click **Unregister** to sign out of the softphone.
7. Click **Modify** to update **Fixed-Line/Mobile Number**.

Step 4 Set personalized configuration.

1. Click the **Personalized Settings** tab.
2. Click **Edit** and configure personalized settings.

Figure 3-29 Personalized Settings



– **Conversion Head Portrait**: Click **Change Avatar** to customize an avatar for an agent during a session. Currently, eight avatars are provided.

– **Session Nickname**: Agent nickname for a customized session. The value contains a maximum of 20 characters and cannot contain the following special characters: +~!@#$%&*()/=+{};:'",<.>?

– **Number of clients served by a session at the same time**: Number of multimedia customers concurrently served by an agent based on the following priority: agent level > organization level > tenant level. If the value is **0**, the configuration at this level does not take effect and the configuration at other levels is used. If the agent is not bound to a business account, **Maximum concurrent service customers** is not displayed. The value ranges from 0 to 60. The default value is **0**.

– **Personalized Greetings**:

- Click ⊕. You can add a maximum of four greetings in different time segments.
- **Time range**: Select the time range for using the greeting. The start time ranges from 00:00 to 23:00, and the end time ranges from 01:00 to 00:00.
- **Greetings**: Content of a customized greeting. The value contains a maximum of 20 characters and cannot contain the following special characters: <>'"/\
- Click 🗑 to delete unnecessary greetings.

3. Click **Save**.

Step 5 Set agent parameters.

1. Click the **Agent parameters** tab.

Figure 3-30 Agent parameters

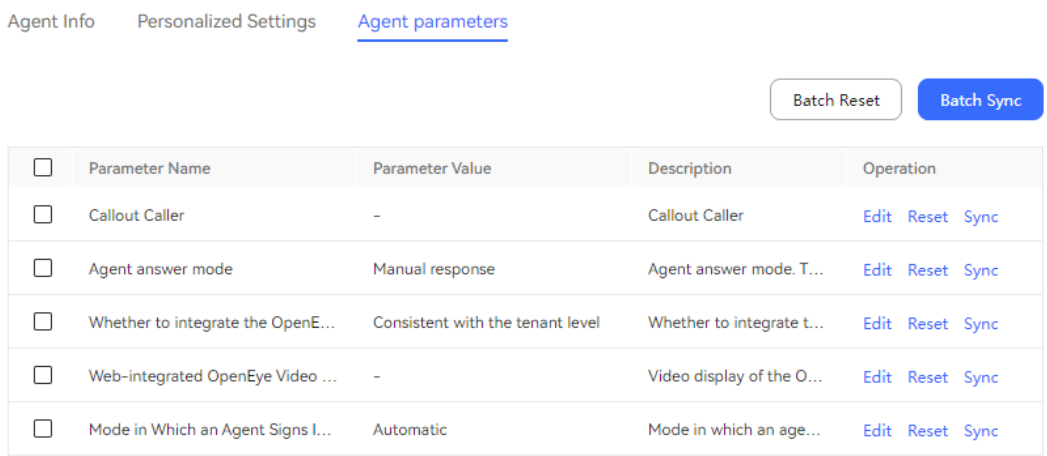


Table 3-7 Agent parameters

Parameter Name	Parameter Value	Description
Callout Caller	Default value: - (customized by the agent)	Calling number used by an agent to make an outbound call.

Parameter Name	Parameter Value	Description
Agent answer mode	– **Automatic answer** – **Manual response** Default value: **Automatic answer**	Agent answering mode. The options are **Automatic answer** and **Manual response**. The default value is empty, which is consistent with the tenant configuration. If the tenant-level configuration is configured by the agent, the default value is **Automatic answer**.
Whether to integrate the OpenEye on the web page	– **No** – **Yes** – **Consistent with the tenant level** Default value: **Consistent with the tenant level**	Whether to integrate the OpenEye softphone in the web system. The options are **No**, **Yes**, and **Consistent with the tenant level**. To implement this function, the OpenEye must be installed on the local PC of the agent.
Web-integrated OpenEye Video Display	Default value: -(customized by the agent)	Video display of the OpenEye integrated with the web system. This parameter is valid only when **Whether to integrate the OpenEye on the web page** is enabled. For example, in the value **0,0,800,380,PiP,Fit**, **0,0** indicates the X and Y coordinates of the video position (the upper left corner of the screen is the coordinate origin), **800,380** indicates the width and height of the window, **PiP** indicates the layout of the video image (**PiP** indicates picture-in-picture, and **SbS** indicates side-by-side), and **Fit** indicates the display mode of the video image (**Fit** indicates that the video is adapted according to its original proportions, and **Cut** indicates that the video is displayed at full size according to its original proportions and cropped if necessary).
WebRTC auto-registration with sign-in	– **Yes** – **No** Default value: **Yes**	Indicates whether the WebRTC is automatically registered when an agent signs in.

Parameter Name	Parameter Value	Description
Mode in Which an Agent Signs In to a Skill Queue	The options are as follows: – **Automatic** – **Specified** Default value: **Specified**	Mode in which an agent signs in to a skill queue. The options are **Automatic** (automatically sign in to the skill queue configured for the agent) and **Specified** (sign in to a specified skill queue). The parameter modification takes effect after the page is refreshed.

2. Select an agent parameter, click **Edit**, and change the value of **Parameter Value**.
3. Click **Save**.
4. (Optional) Click **Reset** to restore agent parameter values to the default values.
5. Click **Sync** to synchronize the modified agent parameters to the cache.
6. After configurations are modified successfully, sign in again for the modification to take effect.
7. (Optional) Select agent parameters in batches and click **Batch Reset** to restore agent parameter values to default values in batches. Click **Batch Sync** to synchronize the modified agent parameter values to the cache in batches.

----End

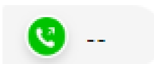
3.7.2 Querying Historical Contacts

An agent can query historical contact records.

Context

Historical contact records can only be displayed by time.

Procedure

- Click  to go to the **Contact Details** page.

  On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer.

  NOTE

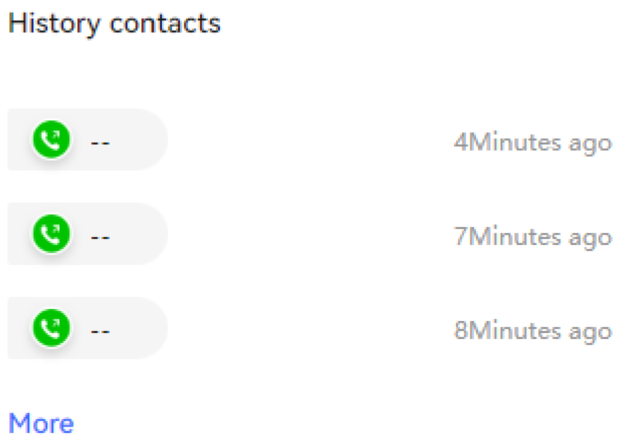
  The agent is in a conversation with the customer.

- Click **More** to go to the **History contacts** page, showing the contact records generated for the current handled number within the number of days specified by the tenant parameter **Time Span for Contact Record Query**.

  Click a call SN and play the voice or video of a contact record. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer.

NOTE

The agent is in a conversation with the customer.



3.7.3 Viewing Inbound Call Information

An agent can view inbound call information.

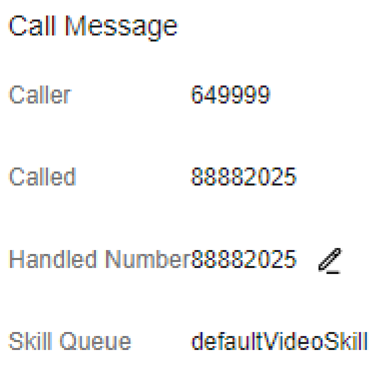
Context

The **Call Message** area displays inbound call information, including the calling number, called number, handled number, skill queue, and smart voice recording information.

Procedure

Smart Voice Recording is displayed when a call is transferred from a chatbot to an agent. The chat content between the chatbot and the user can be viewed by clicking **Details** on the **Smart Voice Recording** page.

Figure 3-31 Call Message



You can set a handled number to identify the service object. The handled number can contain a maximum of 24 characters.

If no handled number is set, the handled number is the same as the customer number.

Figure 3-32 Smart Voice Recording

3.7.4 Setting the Handled Number

During a call, an agent can set the handled number to identify the service object.

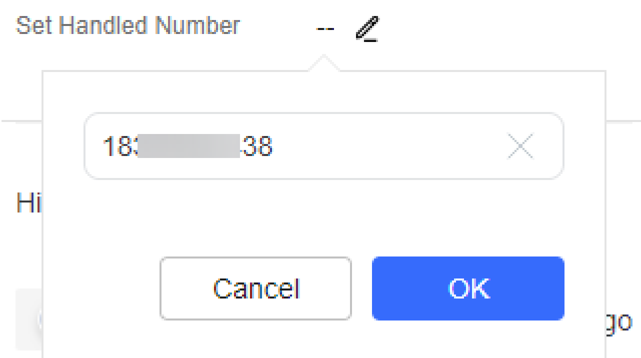
Context

If no handled number is set, the handled number is the same as the customer number.

Procedure

Click to set the handled number in the dialog box that is displayed. The handled number can contain a maximum of 50 characters.

Figure 3-33 Setting the handled number



3.7.5 Setting Call Reasons

An agent can set call reasons to identify the customer.

Context

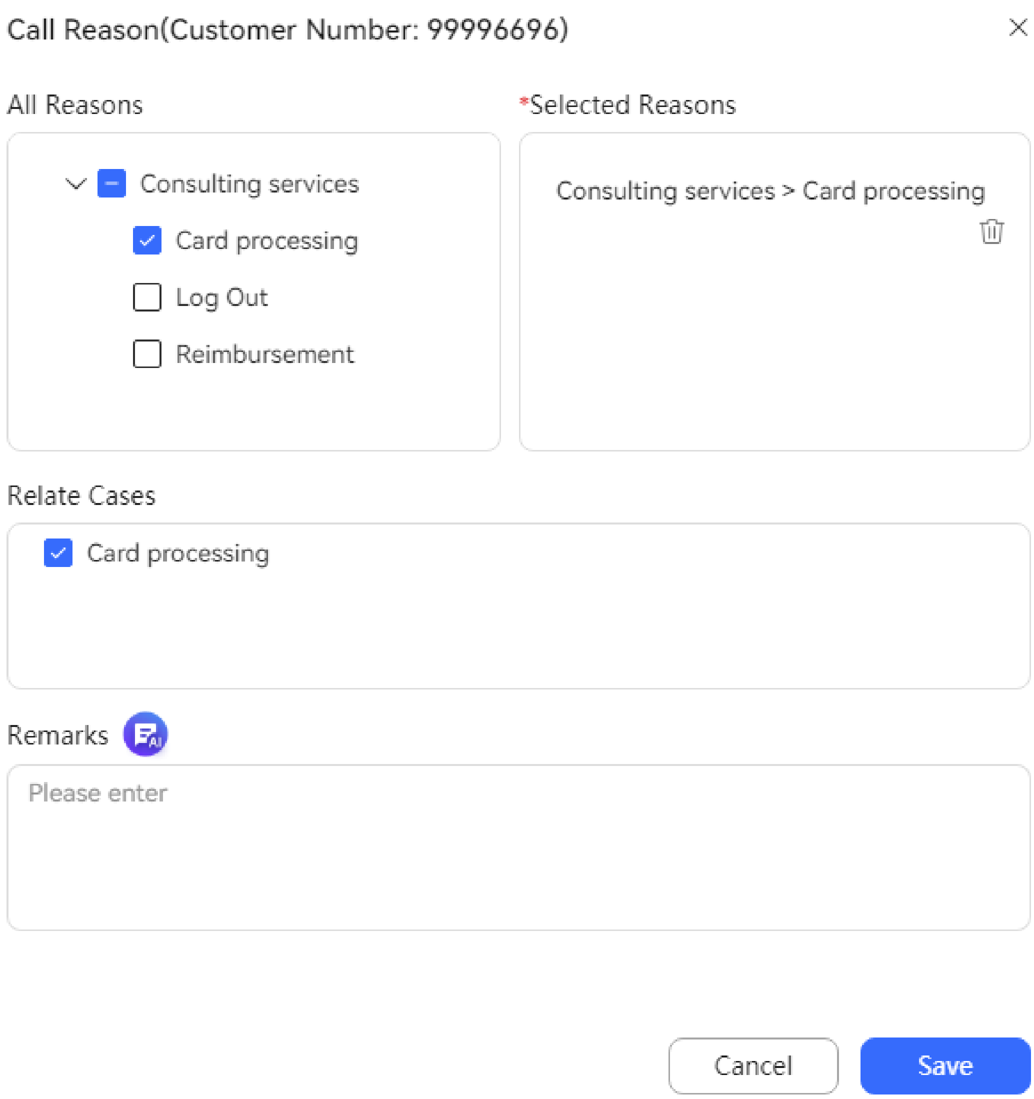
The call reason of the customer is identified and displayed.

Procedure

Click and select a call reason in the dialog box that is displayed. You can add call remarks of up to 2000 characters as required.

If any item under **Relate Cases** is selected, the **Create Case** page is displayed after you click **Save**. The **Relate Cases** area is displayed only when the **Case 2.0** feature is enabled.

After the **Automatic Conversation Summary** feature has been enabled for the tenant and an agent, the icon is displayed when the agent configures the call reason on the workbench. This feature analyzes conversations between agents and customers based on LLMs and generates session summaries, including whether problems are solved and customer satisfaction, for the agents to view.



3.7.6 Setting the Online Chat Service Time

An agent can set working hours to maximize agent utilization.

Context

This section describes how to configure non-working days for agents to manage working hours on working days and non-working days.

Procedure

Choose **Configuration Center** > **Workbench Configuration** > **Online Chat Service Hours**.

- Set the non-working days of each week.
  Select non-working days of each week from the selection box, which is valid every week.
- Set specified dates to non-working days.

Add a rule to specified dates and set extra non-working days. For example, set October 1 to October 7 as non-working days.

- Set exceptional working days.

  Add a rule to set a day in a cycle or consecutive non-working days as a working day.

3.7.7 Configuring Personalized Common Phrases

Agents can configure personalized common phrases in advance to improve work efficiency.

Prerequisites

None

Procedure

Step 1 Choose **Configuration Center** > **Workbench Configuration** > **Common Phrase**.

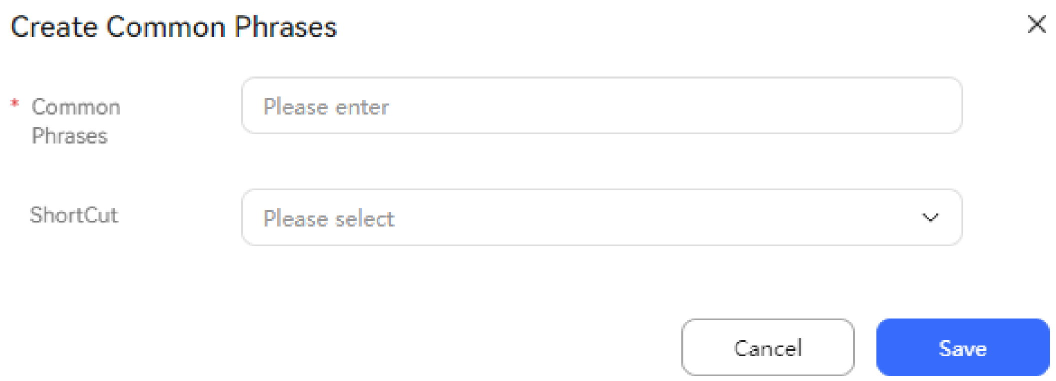
Step 2 Click ⊕. In the dialog box that is displayed, enter a category name and click **Save**.

After the category name is created, you can perform the following operations:

- Click to update the category name.
- Click to delete the category name.

Step 3 Select a common phrase category, click **Create** in the upper right corner, enter a common phrase, select a shortcut (optional), and click **Save**.

Figure 3-34 Create Common Phrases

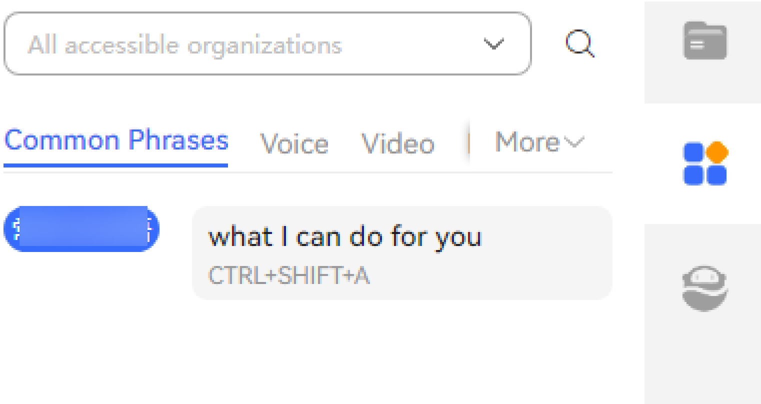


Step 4 Click **Save**.

----End

Follow-up Procedure

View the configured personalized common phrase and its shortcut in **Multimedia** on the right of the online chat workbench.



3.7.8 Sending Notifications

Agents can send internal messages and send multimedia messages (SMS messages, WhatsApp messages, or emails) during calls with customers.

Prerequisites

- To send Huawei Cloud SMS messages, contact the tenant administrator to purchase the Huawei Cloud SMS service and complete SMS configuration on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **HUAWEI CLOUD SMS** page by referring to **2.11.2 Configuring SMS Messages**. Huawei Cloud SMS requires that the server has the permission to access the external network.
- To send SMS gateway messages, contact the tenant administrator to configure SMS message sender numbers on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page.
- To send conference link SMS messages:
  - Contact the tenant administrator to configure SMS message sender numbers on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page.
  - Contact the tenant administrator to configure the **Meeting_URL** variable on the **Configuration Center** > **Workbench Configuration** > **Notification Variables** page.
  - Contact the tenant administrator to create an SMS gateway message template whose **Notification Type** is **External Notification** on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. The SMS gateway message template must contain the **Meeting_URL** variable.
  - Contact the tenant administrator to configure the tenant parameter **Conference Link SMS Template**.
- To send SMS gateway messages and emails, contact the tenant administrator to configure the SMS and email gateways on the **Configuration Center** > **Access Configuration** > **Gateway Configuration** page.
- To send WhatsApp messages, contact the tenant administrator to configure the WhatsApp channel on the **Configuration Center** > **Access Configuration** > **Channel Configuration** page.
- You have been granted the **Channel Configuration** > **Notification Center** > **Agent Send Notification** menu permission.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Send an SMS message.

1. Click on the **Call** page when answering a call or making an outbound call.
2. Select **Huawei SMS** to send a Huawei Cloud SMS message.
   a. Click **Reference Template**. In the template list that is displayed, select a configured Huawei Cloud SMS template whose **Notification Type** is **External Notification** and click **Complete**.
   b. Confirm the information and click **OK**.
3. Select **Gateway SMS** to send an SMS gateway message.
   a. Click **Sender ID**, select a sender ID, and click **Confirm**.
   The sender IDs are added on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS sender ID configuration** page.
   b. (Optional) Click next to **Reference Template**. In the template list that is displayed, select a configured SMS gateway template whose **Notification Type** is **External Notification** and click **Complete**.

   NOTE

   After a template is referenced, you can modify the sender number, recipient, and variable value, but cannot modify the content.

   c. Enter the SMS message content.
   d. Confirm the information and click **OK**.
4. Send a conference link SMS message.
   a. Click **Sender Number**, select a sender number, and click **OK**.
   The sender number is added on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page.
   b. Enter a recipient number.
   c. Click **OK**.
   After the SMS message is sent successfully, the recipient can view the conference link in the SMS inbox and click the conference link to join the conference.
   The conference link can be used only once. If the recipient exits the conference, a new conference link SMS message needs to be sent.

Step 3 Send an email.

1. Click on the **Call** page when answering a call or making an outbound call.
2. (Optional) Click next to **Reference Template**. In the template list that is displayed, select a configured email template and click **Complete**.

NOTE

After a template is referenced, you can modify the outbox, recipient, and variable value, but cannot modify the content.

3. Set **Outbox** to the default email address configured on the **Gateway Configuration** page.
4. In the **Recipient** text box, enter the recipient email address.
5. In the **Title** text box, enter a title.
6. (Optional) Click , select a local file as the email attachment, and click **Upload**.

   The supported file formats are DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, PPTX, and PDF.

   The file size cannot exceed 10 MB. A maximum of 10 files can be uploaded.
7. Enter the email content.
8. Confirm the information and click **Send**.

Step 4 Send a WhatsApp message.

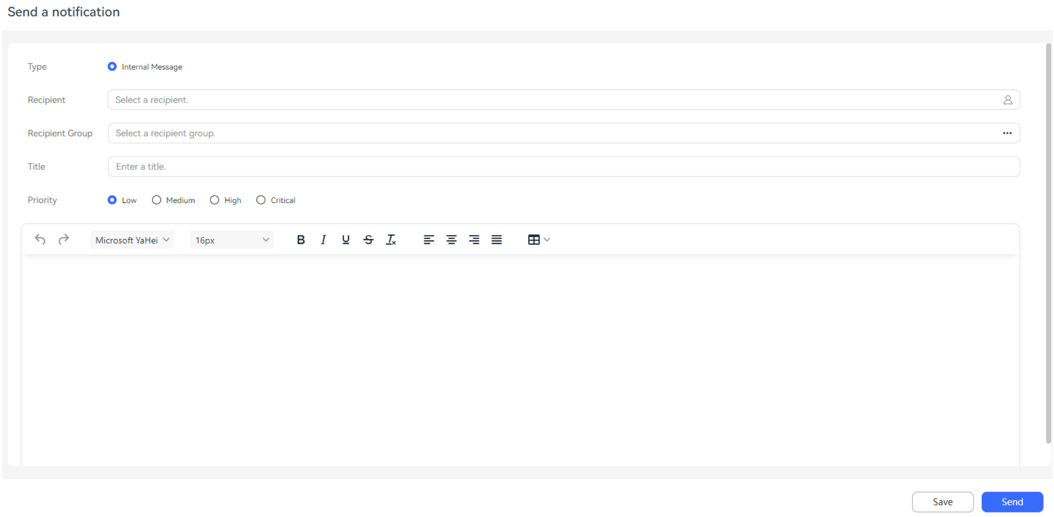
1. Click on the **Call** page when answering a call or making an outbound call.
2. Set **WhatsApp Channel** to a WhatsApp channel.
3. Click **WhatsApp Message Template**, select a WhatsApp template message created on the **Configuration Center** > **Resource Management** > **Multimedia Library** > **Card Template** > **WhatsApp Template Message** page, and click **Complete**.

   Before creating a WhatsApp template message, create a WhatsApp template on the **Configuration Center** > **Resource Management** > **WhatsApp Template** page.
4. Confirm the information and click **Send**.

Step 5 Send an internal message.

1. Click . On the **Notification Center** page, click Send notification.

Figure 3-35 Send a notification



2. Configure the notification content.
   - **Type**: Select **Internal Message**.
   - **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select recipients and click **Complete**.

     NOTE

     Assign the **Query User** and **Save Employee** permissions under **Menu permissions** > **User Management** > **User Management** > **Employee** to the agent who needs to send internal messages. Otherwise, the agent cannot select recipients.
   - **Recipient Group**: Click **Recipient Group**. In the **Recipient Group** dialog box, select recipient groups and click **Complete**.
   - **Title**: Enter a notification title. The value can contain a maximum of 200 characters.
   - **Priority**: Select a notification urgency level. The options are **Low**, **Medium**, **High**, and **Critical**.
   - Notification content: Enter the notification content.
3. Click **Send** to send an internal message.
4. (Optional) Click **Save** to save the internal message as a draft.

----End

3.7.9 Viewing Skill Queue Adjustment Records

An agent or a tenant administrator can query skill queue adjustment details.

Prerequisites

- The agent has the **Reset Skill Record** menu permission.
- The agent's skill queue has been adjusted by referring to **Follow-up Procedure**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Work Log** > **Adjustment Log**.

Step 2 Set search criteria to search for skill queue adjustment records based on the criteria.

Figure 3-36 Adjustment Log page

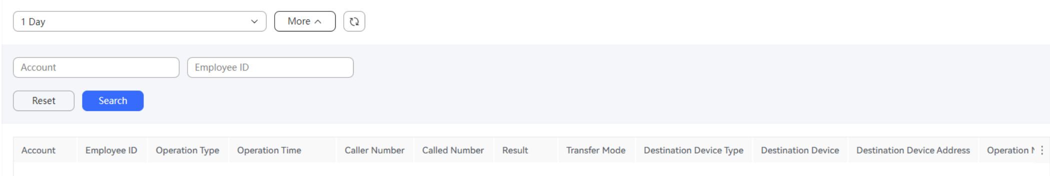
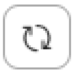


Table 3-8 GUI elements on the Adjustment Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**
Adjust Service Account	Text box	Search criterion. • Business account of the agent who adjusts a skill queue. • Business account of an inspector.
Adjust Agent WorkNo	Text box	Search criterion. • ID of the agent who adjusts a skill queue. • Agent ID of an inspector.
Adjusted Service Account	Text box	Search criterion. • Business account of the agent whose skill queue is adjusted. • Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent WorkNo	Text box	Search criterion. • ID of the agent whose skill queue is adjusted. • ID of the agent whose skill queue is adjusted by an inspector.
Reset	Button	Reset search criteria.
Search	Button	Search for skill queue adjustment records.

Element	Type	Description
	Button	Search for data based on search criteria again and refresh data on the page.
Adjust Service Account	Label	• Business account of the agent who adjusts a skill queue. • Business account of an inspector.
Adjust Agent WorkNo	Label	• ID of the agent who adjusts a skill queue. • Agent ID of an inspector.
Adjusted Service Account	Label	• Business account of the agent whose skill queue is adjusted. • Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent WorkNo	Label	• ID of the agent whose skill queue is adjusted. • ID of the agent whose skill queue is adjusted by an inspector.
Adjust Time	Label	Time when a skill queue is adjusted.
Skill Queue Before Adjustment	Label	Skill queue to which an agent has signed in before skill queue adjustment.
Skill Queue After Adjustment	Label	Skill queue to which an agent signs in after skill queue adjustment.

----End

3.7.10 Viewing Identity Authentication Records

An agent or a tenant administrator can query identity authentication details.

Prerequisites

The agent has the **Identity Authentication Record** menu permission.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Work Log** > **Auth Log**.

Step 2 Set search criteria to search for identity authentication records based on the criteria.

Figure 3-37 Auth Log page

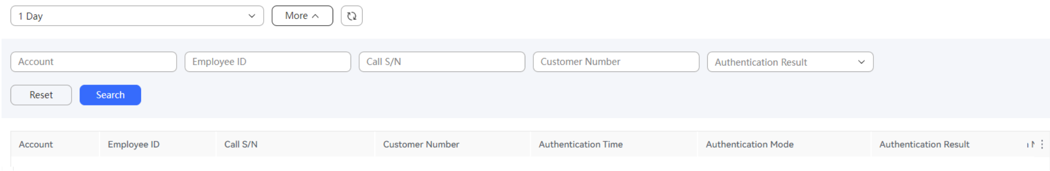
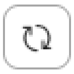


Table 3-9 GUI elements on the Auth Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
Account	Text box	Business account of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Employee ID	Text box	ID of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Call S/N	Text box	Call SN. Advanced search criterion.
Customer Number	Text box	Customer number. Advanced search criterion.
Authentication Result	Drop-down list	Search criterion. ● **Not returned** ● **Pass** ● **Fail** ● **Error**
Reset	Button	Reset search criteria.
Search	Button	Search for identity authentication records.

Element	Type	Description
	Button	Search for data based on search criteria again and refresh data on the page.
Account	Label	Business account of the agent who performs identity authentication.
Employee ID	Label	ID of the agent who performs identity authentication.
Call S/N	Label	Call SN.
Customer Number	Label	Customer number.
Authentication Time	Label	Time when identity authentication is performed.
Authentication Mode	Label	Identity authentication mode.
Authentication Result	Label	Identity authentication result. • **Not returned** • **Pass** • **Fail** • **Error**

----End

3.7.11 Performing Identity Authentication

During a call with the customer, an agent can initiate an authentication process to authenticate the customer identity.

Prerequisites

To send identity authentication requests, the tenant administrator has configured and enabled identity authentication modes on the **Configuration Center** > **Expansion and Integration** > **Authenticate** page.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Click  on the **Call** page when answering a call or making an outbound call.

The identity authentication record can be queried on the **Work Log** > **Auth Log** page.

----End

3.7.12 Viewing Customer Information

An agent can view customer information on the audio and video workbench.

Context

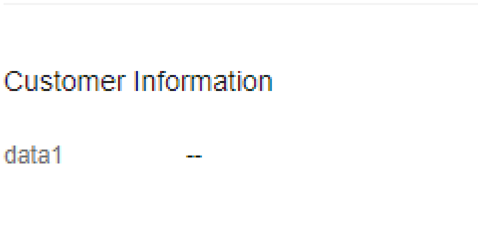
The contact customer information area on the agent workbench displays information about the customer who makes the inbound call. The data sources of this area are as follows:

- Call-associated data
- Information dataset (data of the connected outbound call API)
- Local data (customized data table)

Procedure

After a customer makes an inbound call, the audio and video workbench displays the customer information.

Figure 3-38 Customer Information



3.7.13 Managing Documents

An agent can search for documents of the current tenant space by page based on criteria, or invalidate, preview, or download documents.

Prerequisites

- The agent must have the **Document Management** menu permission and the **Download Document**, **Preview Document**, and **Operation All Documents** operation permissions.
- Operations in **3.6.2 Sending an Electronic Document Link** have been completed.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Contact History** > **Document Management**.

Step 2 Set search criteria to search for documents based on the criteria.

Figure 3-39 Document Management page

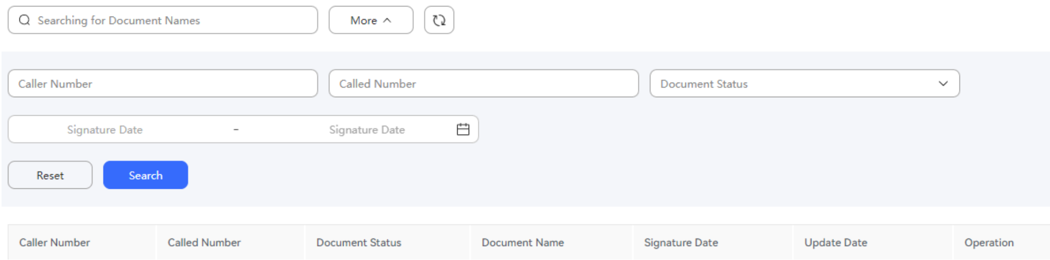
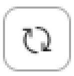


Table 3-10 GUI elements on the Document Management page

Element	Type	Description
Searching for Document Names	Text box	Document name.
Caller Number	Text box	Search criterion. • When an agent initiates a call, the calling number is an access code. • When a customer initiates a call, the calling number is a customer number.
Called Number	Text box	Search criterion. • When an agent initiates a call, the called number is a customer number. • When a customer initiates a call, the called number is an access code.
Document Status	Drop-down list	Document status. Advanced search criterion. • **Unsigned** • **Signed** • **Expired**
Signature Date	Drop-down list	Signature date. Advanced search criterion.
Reset	Button	Reset search criteria.
Search	Button	Search for document management records.
	Button	Search for data based on search criteria again and refresh data on the page.

Element	Type	Description
Caller Number	Label	• When an agent initiates a call, the calling number is an access code. • When a customer initiates a call, the calling number is a customer number. The calling number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Called Number	Label	• When an agent initiates a call, the called number is a customer number. • When a customer initiates a call, the called number is an access code. The called number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Document Status	Label	Document status. • **Unsigned** • **Signed** • **Expired**
Document Name	Label	Document name.
Signature Date	Label	Date when a document is signed.
Update Date	Label	Date when a document is re-signed.

Element	Type	Description
Operation	Label	• **Invalidation** Select the document to be invalidated and click **Invalidation**. • **Download** Select the document to be downloaded and click **Download**. **NOTE** The downloaded documents contain personal data. Exercise caution when handling the downloaded documents to prevent personal data leakage and abuse. • **Preview** Select the document to be previewed and click **Preview**.

----End

3.7.14 Creating Harassment Records

Context

In the following scenarios, an agent can create a harassment record for a customer and submit the record to the tenant administrator or other personnel with the permission for review. After the record is approved, the customer is added to the special list.

- An agent is in a two-party voice or video call with a customer.
- An agent is in an SMS or email chat with a customer.
- An agent views the SMS or email session history on the online chat workbench.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Click  on the workbench page during a conversation with a customer.

- **Special List Type**: The options are **Black List** and **Red List**.
- **Reason for Joining**: The value can contain a maximum of 1024 characters.

NOTE

- Customers who behave uncivilly can be added to the blacklist.
- VIP customers can be added to the redlist.

Step 3 Click **Save**.

To query harassment records, choose **Configuration Center** > **Resource Management** > **Harassment Record**.

----End

3.7.15 Editing Customer Information

An agent can edit customer information on the voice and video workbench and online chat workbench during or after a session with a customer.

Prerequisites

- The **Customer Center** feature has been enabled for the tenant space.
- This area is displayed only when the **Customer Center** feature is enabled and the tenant parameter **Display Unified Customer Contact Information** is set to **Yes**.

Procedure

Step 1 View basic information on the workbench during a session between an agent and a customer.

Step 2 Click to configure basic information.

Table 3-11 GUI elements on the page for configuring basic information

Element	Type	Description
Name	Text box	Customer name. The value is a string of 0 to 80 characters.
gender	Option button	Customer gender. • **Male** • **female** • **Information not available**
Phone	Text box	Customer mobile number. Click Add on the right to add a mobile number. A maximum of three mobile numbers can be configured. The value is a string of 0 to 20 characters.
Email	Text box	Customer email address. Click Add on the right to add an email address. A maximum of two email addresses can be configured. The value is a string of 0 to 128 characters.
Company	Text box	Company to which a customer belongs. The value is a string of 0 to 80 characters.
Address	Drop-down list	Contact address of a customer.

Element	Type	Description
AddressDetail	Text box	Detailed contact address of a customer. The value is a string of 0 to 80 characters.
Remark	Text box	Customer information description. The value is a string of 0 to 80 characters.

Step 3 Click **Create**.

After the customer information is created, you can query it on the **Customer Center** > **Customer Center Management** page.

----End

3.7.16 Querying Sign-In Records

An agent or tenant administrator can query and export agent sign-in and sign-out logs.

Prerequisites

The agent has the permission to export sign-in logs.

Procedure

Step 1 Sign in to the AICC as an agent or a tenant administrator and choose **Work Log** > **Sign-In Log**.

Step 2 Set search criteria to search for sign-in logs based on the criteria.

Figure 3-40 Sign-In Log page

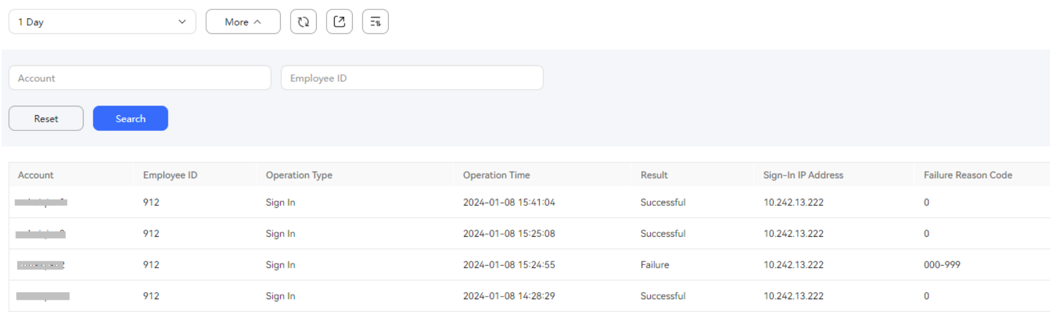
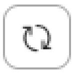


Table 3-12 GUI elements on the Sign-In Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Add a sign-in log export task.
	Button	View sign-in log export tasks.
Account	Label	Business account.
Employee ID	Label	Agent ID.
Operation Type	Label	Operation type. ● **Sign Out** ● **Forcible Sign In** ● **Forcible Sign Out** ● **Sign In**
Operation Time	Label	Operation time.
Result	Label	Operation result. ● **Successful** ● **Failed**
Sign-In IP Address	Label	IP address of the PC for signing in to the Customer Service Cloud.
Failure Reason Code	Label	Failure cause code.

Step 3 Export sign-in logs.

1. Click . The **New export task** dialog box is displayed.
2. Enter a customized compression password.

The compression password must contain letters, digits, and the following special characters: @#$%^&*+|=~!?,.:;-_'"(){}[]/><

The compression password is a string of 8 to 12 characters.

If the tenant parameter Whether to set a password for compressing exported data is set to No, an export task can be created without entering the compression password.

3. Click **OK**.

Step 4 View export tasks.

1. Click . The **Export task view** dialog box is displayed.
2. Download the sign-in logs of a task whose **Task Status** is **Success**.
3. After the download is successful, open the exported file and enter the compression password to view the exported sign-in logs.

   If the tenant parameter Whether to set a password for compressing exported data is set to **No**, you can directly open the file without entering the compression password.

----End

3.7.17 Performing Screen Recording for Agents

After an agent installs the VRC client on the local PC, the AICC automatically starts the screen recording task when the agent status changes from the idle state to the state processing voice and video calls. After the call is released, the system automatically stops the screen recording.

Prerequisites

The screen resolution must meet the following requirements:

The resolution is within the range from 1024 pixels x 768 pixels to 1920 pixels x 1080 pixels based on the actual aspect ratio of the screen. The width resolution must be a multiple of 4, and the height resolution must be a multiple of 2. Otherwise, screens cannot be recorded.

It is recommended that the resolution be 1920 pixels x 1080 pixels to ensure screen recording clarity.

Procedure

Step 1 Install the VRC client.

1. Sign in to the AICC as an agent.
2. Click the business account in the upper right corner of the page and choose **Personal Center**.
3. On the **Agent Info** tab page, click **Download VRC** to obtain the VRC installation package.
4. Decompress the VRC installation package **VRC.zip** on the local PC.

   It is recommended that the **Client_update_pack** directory be a level-2 directory. The path cannot be too long and cannot contain Chinese characters.

5. Right-click **VRCService\Client_update_pack\client_update_script.bat** and choose **Run as administrator**.
6. Create a shortcut for the VRC application.
   a. Go to the **VRCService** folder, for example, **D:\VRCService**.
   b. Right-click the **vrc_service_tray.exe** file and choose **Create shortcut**. The **vrc_service_tray.exe - Shortcut** file is generated.
7. Configure the VRC to automatically start upon system startup.
   a. Open the system startup directory. Windows is used as an example:
      i. Press **Win+R** to open the **Run** window.
      ii. Enter **shell:startup** and click **OK**.
   b. Copy the **vrc_service_tray.exe -Shortcut** file generated in **Step 1.6** to the startup directory.
8. Change the local port number of the VRC.
   a. Edit the **D:\VRCService\Client_update_pack\package\vrc.ini** file.
   b. Add **ListenPort=8024** under **[common]**.

      The port number must be available. Run the **netstat -ano | findstr :8024** command in the CLI on Windows to check whether the port number is occupied.

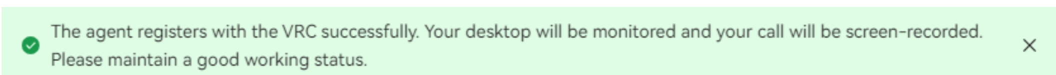
      The port number must be the same as the value of the tenant parameter **VRC WebSocket Port**.
9. Right-click on the taskbar of the desktop and choose **Task Manager** to open the task manager and click the **Startup** menu. If **vrc_service_tray** is displayed, the VRC is successfully configured to automatically start upon system startup.
10. During the first startup, run **vrc_service_tray** as an administrator and view the **vrc.log** file. The information shown in **Figure 3-41** is displayed.

Figure 3-41 Successful startup

Step 2 Log in to the AICC as an agent and click 

.

After the sign-in is successful, the following dialog box is displayed.



----End

Follow-up Procedure

Step 1 Initiate a voice call and a video call.

Step 2 Choose **Contact History** > **Contact** in the AICC.

Step 3 Find the contact records of the voice and video calls.

Step 4 After you click **Play** in the **Recording File** column corresponding to the contact record of the voice call, the agent's screen operation video is displayed.

Step 5 After you click **Play** in the **Recording File** column corresponding to the contact record of the video call, the **Recording File Details** dialog box is displayed. Then, after you click **Play** corresponding to the record whose **Media Type** is **VRC**, the agent's screen operation video is displayed.

----End

3.7.18 SmartCare Fault Demarcation

Context

- If the inbound customer on the audio and video workbench is a customer with common issues, a SmartCare quick fault demarcation task is automatically created. The agent can also manually create a SmartCare quick fault demarcation task on the audio and video workbench and online chat workbench.
- If the problem of the customer is not solved through quick demarcation, the agent can create an in-depth demarcation task on the audio and video workbench and online chat workbench.

Prerequisites

- The SmartCare feature has been enabled for the tenant.
- The language for the tenant is within the value range of the system parameter **Languages supported by the SmartCare**.
- The system has been interconnected with SmartCare. For details, see **2.3.3.15 Configuring SmartCare Integration Information**.
- The **Case 2.0** feature has been enabled for the tenant before an in-depth demarcation task is created.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Create a SmartCare quick fault demarcation task.

1. Click  on the right of the workbench. The **SmartCare Fault Boundary** page is displayed.
2. Click **Modify** to create a quick fault demarcation task.

Figure 3-42 Quick fault demarcation task creation page

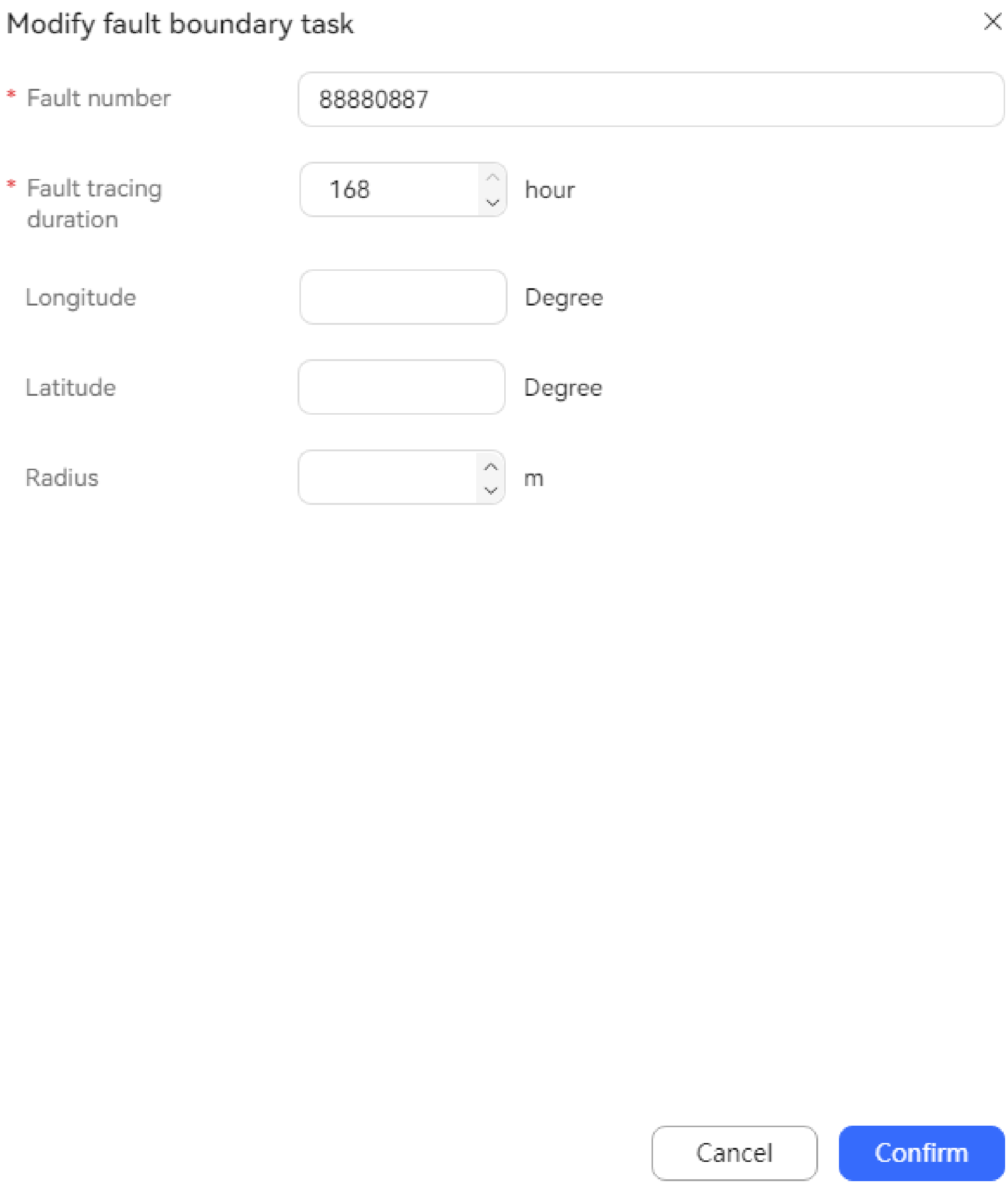


Table 3-13 GUI elements on the quick fault demarcation task creation page

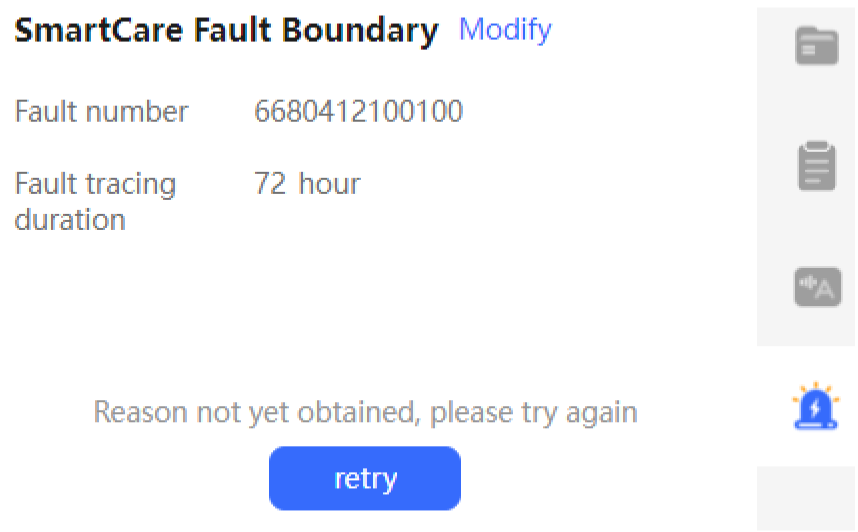
Element	Type	Description
Fault number	Text box	Customer mobile number. The value consists of 1 to 64 characters.
Fault tracing duration	Text box	The demarcation start time equals this period earlier than the current system time. Value range: 1 to 168 hours

Element	Type	Description
Longitude	Text box	Longitude where a fault occurs. Value range: [-180, 180]. A maximum of six decimal places are allowed.
Latitude	Text box	Latitude where a fault occurs. Value range: [–90, 90]. A maximum of six decimal places are allowed.
Radius	Text box	Radius of the longitude and latitude where the fault occurs. The unit of this parameter is meter and the value of this parameter is a non-negative integer. The maximum value of this parameter is controlled and verified by SmartCare.

3. Click **Confirm**.

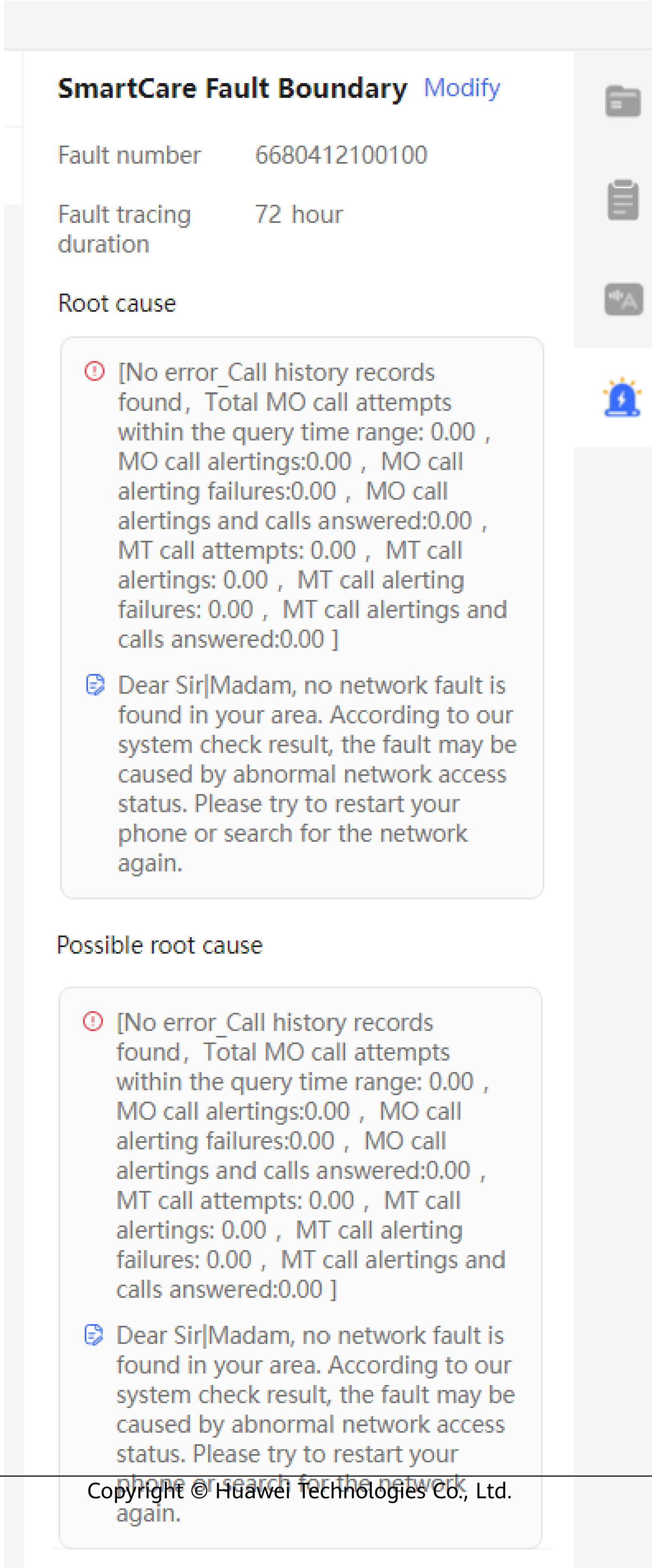
   After the task is successfully created, **Figure 3-43** is displayed.

   Figure 3-43 Quick fault demarcation



   The quick fault demarcation result is queried through invocation every 5 seconds using a timer. When the result is queried, the timer stops. A maximum of 20 automatic queries can be performed. The agent can also click **retry** to query the quick fault demarcation result immediately. **Figure 3-44** shows a quick fault demarcation result.

Figure 3-44 SmartCare quick fault demarcation result



Step 3 Create a SmartCare in-depth fault demarcation task.

1. Click or on the workbench.

    is available only when the **Intelligent order filling** feature is enabled.

2. Select a case type based on service requirements on the **Select Work Order Type** page that is displayed.
3. Click **Yes** when "Are you creating a ticket that needs to initiate a fault deep boundary task to aid in ticket processing?" is displayed.
4. Set the in-depth fault demarcation task parameters by referring to **Table 3-13**.
5. Click **Confirm**, and the **Case Information** page containing the **SmartCareTaskID** parameter and its value is displayed on the right.

----End

3.7.19 Intelligent Case Filling

When an agent creates a case on the workbench, the system automatically extracts the information contained in the text of the conversation between the customer and agent and fills the information in the corresponding case form to complete the case filling task, reducing manual case filling workload of the agent.

Prerequisites

- The **Intelligent order filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features have been enabled for the tenant space.
- The tenant administrator has enabled the **Intelligent order filling** feature for agents on the **Agent Management** page.
- The tenant space administrator has set **Enabling the Intelligent TT Filling Feature** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- The tenant administrator has completed **2.6.6.1 Building the Intelligent Case Filling Service Based on a Small Language Model**.
- **2.11.3.1 Configuring SMS Gateways** and **2.11.3.2 Configuring Email Gateways** have been completed.

Procedure

Step 1 Click on the workbench as an agent.

Step 2 Select a case type based on service requirements on the **Select Work Order Type** pop-up window that is displayed.

The system automatically extracts information contained in the text of the conversation between the customer and the agent and provides top 3 case types for the agent to select from.

Step 3 Select a case type, the **Case Information** page is displayed on the right of the workbench.

Step 4 Configure the case content.

Table 3-14 GUI elements on the Case Information page

Element	Type	Description
Automatic extraction	Button	After this switch is turned on, the **Case Type**, **Case Title**, and **Case Description** fields can be automatically configured.
Case Type	Drop-down list	Case type associated with a case. The options are all case types configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page of the tenant space.
Case Title	Text box	Short description of a case. This parameter can contain a maximum of 128 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Case Description	Text box	Case details. This parameter can contain a maximum of 20,000 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Deadline	Time selection control	End time of a case.
Priority	Drop-down list	Priority of a case. The options are as follows: • **Low** • **Medium** • **High** • **Critical**
Source	Drop-down list	Source of a case. The options are as follows: • **Voice** • **Whatsapp** • **Web** • **Email**

Element	Type	Description
Associated Customer	Drop-down list	Customer associated with a case. The options are customers configured on the **Customer Center** > **Customer Center Management** page.
Assignment Mode	Option button	Assignment mode. The options are as follows: ● **Manually** ● **Auto** Automatic assignment is performed based on the case assignment rule on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Assignment Rule** page.
Owner Type	Option button	Owner type. The options are as follows: ● **Case Queue**: Assign the case to a group. ● **Agent**: Assign the case to an agent. This parameter can be configured only when **Assignment Mode** is set to **Manually**.
Owner	Drop-down list	Case owner. ● When **Owner Type** is set to **Case Queue**, select the case queue configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Queue** page. ● When **Owner Type** is set to **Agent**, select an employee in the tenant space. If **Claim** is selected, the owner is the creator of the current case by default. This parameter can be configured only when **Assignment Mode** is set to **Manually**.
Attachment	Button	Uploading an attachment. The attachment supports the following formats: JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX. A maximum of five attachments can be uploaded, and the size of an attachment cannot exceed 5 MB.
Refill	Button	Invoking an LLM to extract the information contained in the text of the conversation between the customer and the agent.

Element	Type	Description
Customer Notification	Check box	Whether to notify associated customers and the notification mode. The options are as follows: ● **Customer Notification--Email** ● **Customer Notification--SMS** The corresponding email address or mobile number of the customer to be notified need to be configured on the **Customer Center** > **Customer Center Management** page.

Step 5 Click **Save**.

----End

3.7.20 Creating a Case by One Click

An agent can click **Create Case** on the workbench to create a case.

Prerequisites

The **Case 2.0** feature has been enabled for the tenant space.

Procedure

Step 1 Click  on the workbench as an agent.

Step 2 Select a case type based on service requirements on the **Select Work Order Type** pop-up window that is displayed.

The system automatically extracts information contained in the text of the conversation between the customer and the agent and provides top 3 case types for the agent to select from.

Step 3 Select a case type, the **Case Information** page is displayed on the right of the workbench.

Step 4 Configure the case content.

Table 3-15 GUI elements on the Case Information page

Element	Type	Description
Case Type	Drop-down list	Case type associated with a case. The options are all case types configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page of the tenant space.

Element	Type	Description
Case Title	Text box	Short description of a case. This parameter can contain a maximum of 128 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Case Description	Text box	Case details. This parameter can contain a maximum of 20,000 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Deadline	Time selection control	End time of a case.
Priority	Drop-down list	Priority of a case. The options are as follows: • **Low** • **Medium** • **High** • **Critical**
Source	Drop-down list	Source of a case. The options are as follows: • **Voice** • **Whatsapp** • **Web** • **Email**
Associated Customer	Drop-down list	Customer associated with a case. The options are customers configured on the **Customer Center** > **Customer Center Management** page.

Element	Type	Description
Assignment Mode	Option button	Assignment mode. The options are as follows: • **Manually** • **Auto** Automatic assignment is performed based on the case assignment rule on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Assignment Rule** page.
Owner Type	Option button	Owner type. The options are as follows: • **Case Queue**: Assign the case to a group. • **Agent**: Assign the case to an agent. This parameter can be configured only when **Assignment Mode** is set to **Manually**.
Owner	Drop-down list	Case owner. • When **Owner Type** is set to **Case Queue**, select the case queue configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Queue** page. • When **Owner Type** is set to **Agent**, the options are all employees in the tenant space. If **Claim** is selected, the owner is the creator of the current case by default. This parameter can be configured only when **Assignment Mode** is set to **Manually**.
Attachment	Button	Uploading an attachment. The attachment supports the following formats: JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX. A maximum of five attachments can be uploaded, and the size of an attachment cannot exceed 5 MB.
Customer Notification	Check box	Whether to notify the associated customer and the notification mode. The options are as follows: • **Customer Notification--Email** • **Customer Notification--SMS** The corresponding email address or mobile number of the customer to be notified needs to be configured on the **Customer Center** > **Customer Center Management** page.

Step 5 Click **Save**.

----End

3.7.21 Searching for Satisfaction Statistics

An agent can search for agent satisfaction statistics.

Prerequisites

The agent has the **Satisfaction Statistics** operation permission.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Contact History** > **Satisfaction Statistics**.

Step 2 Set search criteria to search for agent satisfaction statistics based on the criteria.

Figure 3-45 Satisfaction Statistics page (Daily report)

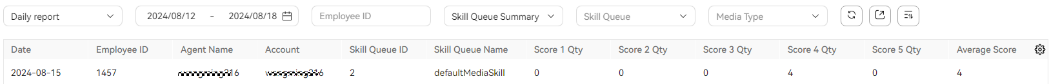


Figure 3-46 Satisfaction Statistics page (Weekly report)

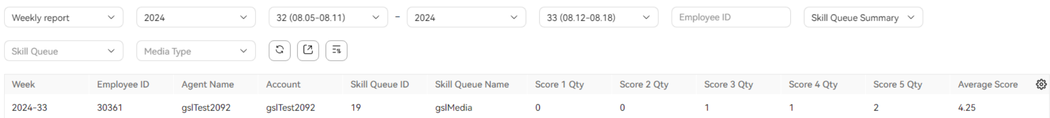


Figure 3-47 Satisfaction Statistics page (Monthly report)

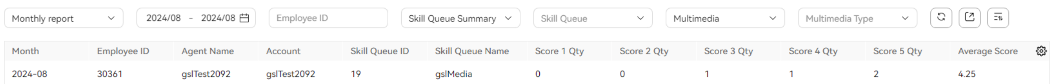
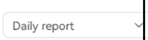
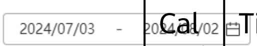
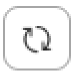


Table 3-16 GUI elements on the Satisfaction Statistics page

Element	Type	Description
	Drop-down list	Satisfaction statistics report type. The options are as follows: • **Daily report** • **Weekly report** • **Monthly report**
	Calendar component	Time range. Search criterion. • When **Daily report** is selected, the maximum time range for the search is 31 days. • When **Weekly report** is selected, the maximum time range for the search is 12 weeks. • When **Monthly report** is selected, the maximum time range for the search is 12 months.

Element	Type	Description
Employee ID	Text box	Agent ID. Search criterion.
Skill Queue	Drop-down list	Skill queue. Search criterion. This parameter is displayed only when **Skill Queue Summary** is selected.
Media Type	Drop-down list	Media type. Search criterion. The options are as follows: • **Voice** • **Video** • **Multimedia** This parameter is displayed only when **Skill Queue Summary** is selected.
Multimedia Type	Drop-down list	Multimedia type. Search criterion. The options are as follows: • **Web** • **WeChat** • **Facebook** • **X(Twitter)** • 5G • **Email** • Line • Whatsapp • TELEGRAM • INSTAGRAM • **SMS** This parameter is displayed only when **Media Type** is set to **Multimedia**.
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Create an export task.
	Button	View export tasks.

Element	Type	Description
Date	Label	Date of a record in the daily satisfaction statistics report. This parameter is displayed only when **Daily report** is selected.
Week	Label	Week of a record in the weekly satisfaction statistics report. This parameter is displayed only when **Weekly report** is selected.
Month	Label	Month of a record in the monthly satisfaction statistics report. This parameter is displayed only when **Monthly report** is selected.
Employee ID	Label	Agent ID.
Agent Name	Label	Agent name.
Account	Label	Business account bound to a skill queue.
Skill Queue ID	Label	Skill queue ID. This parameter is displayed only when **Skill Queue Summary** is selected.
Skill Queue Name	Label	Skill queue name. This parameter is displayed only when **Skill Queue Summary** is selected.
Score 1 Qty	Label	Number of times that the satisfaction evaluation result scored 1 in a skill queue.
Score 2 Qty	Label	Number of times that the satisfaction evaluation result scored 2 in a skill queue.
Score 3 Qty	Label	Number of times that the satisfaction evaluation result scored 3 in a skill queue.
Score 4 Qty	Label	Number of times that the satisfaction evaluation result scored 4 in a skill queue.
Score 5 Qty	Label	Number of times that the satisfaction evaluation result scored 5 in a skill queue.
Average Score	Label	Average score of satisfaction evaluation results in a skill queue.

Step 3 Export satisfaction evaluation statistics to the local server in batches.

1. Click  and enter a compression password.

NOTE

– For details about the complexity requirements of the compression password, see the prompt on the page. The compression password is used to open the downloaded package.

– The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2. Click  to view the export tasks in the last seven days. To open a file, you need to enter the compression password set during export task creation.

----End

3.8 Managing Inspection Results

This section describes inspection management. An agent can manage inspection results.

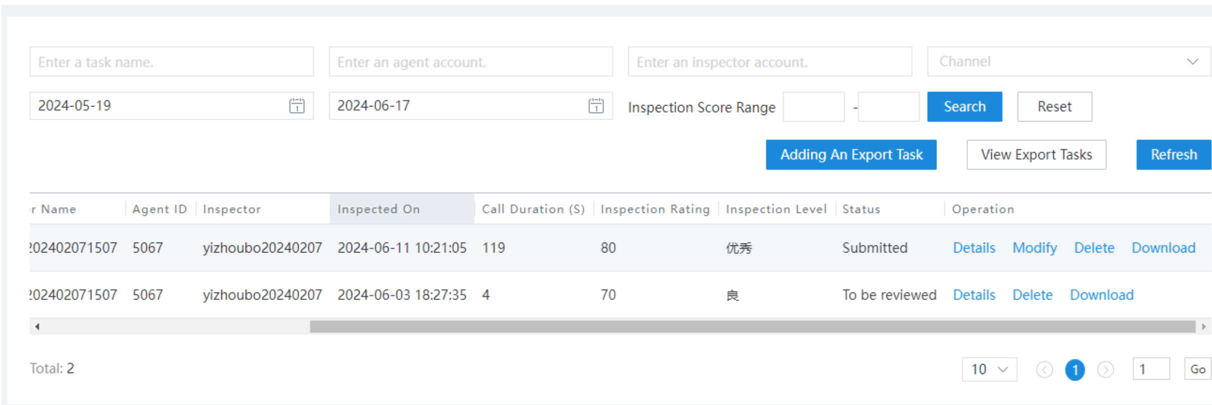
3.8.1 Viewing Manual Inspection Results and Applying for Inspection Reviews

An agent can view the inspection result and apply to an inspector for a review if the agent has any doubts about the rating items.

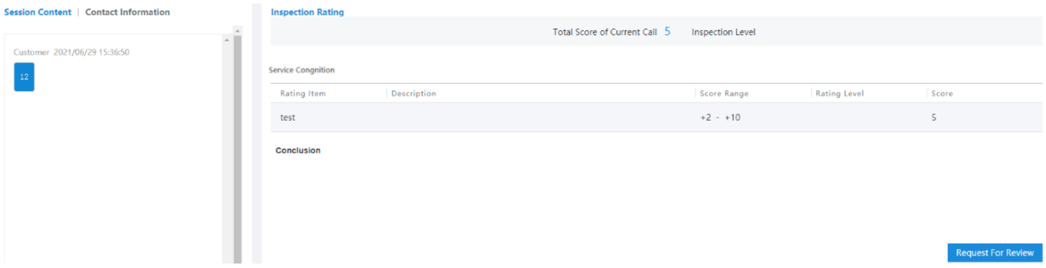
Applying for Manual Inspection Reviews

Step 1 Choose **Inspection** > **Task Result**.

Step 2 Set search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

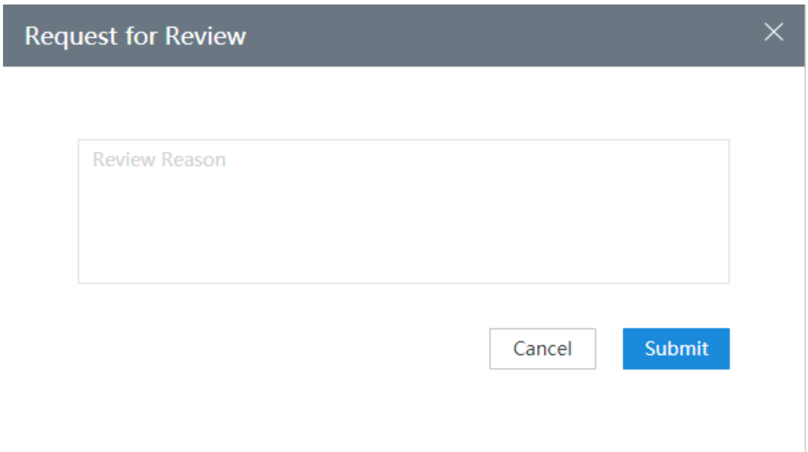


Step 3 Click **Details** corresponding to a record. On the **Manual Inspection** tab page, obtain the rating details.



Step 4 Click **Request For Review**, set the application reason, and submit the application.

Figure 3-48 Review application page



Step 5 You can also click the **Review task** tab on the **My To Do** page, and click a task name to quickly access the review task page.

Figure 3-49 Quick entry

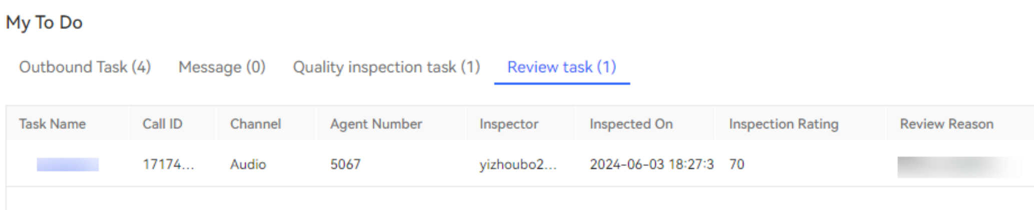
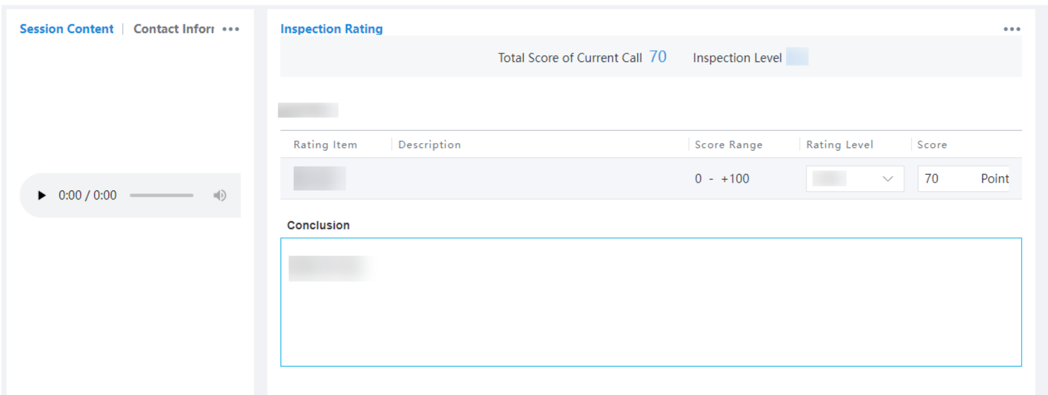


Figure 3-50 Review task page



----End

Follow-up Procedure

After an agent submits a review application, an inspector reviews the rating items again based on the agent's requirements. After the inspector reports the review result, the agent can view the review result on the same page.

No matter whether the review application is approved, the agent cannot submit it again.

3.8.2 Appealing Against AI Inspection Results

An agent can view AI inspection results and provide materials to initiate appeals if the agent has any doubts.

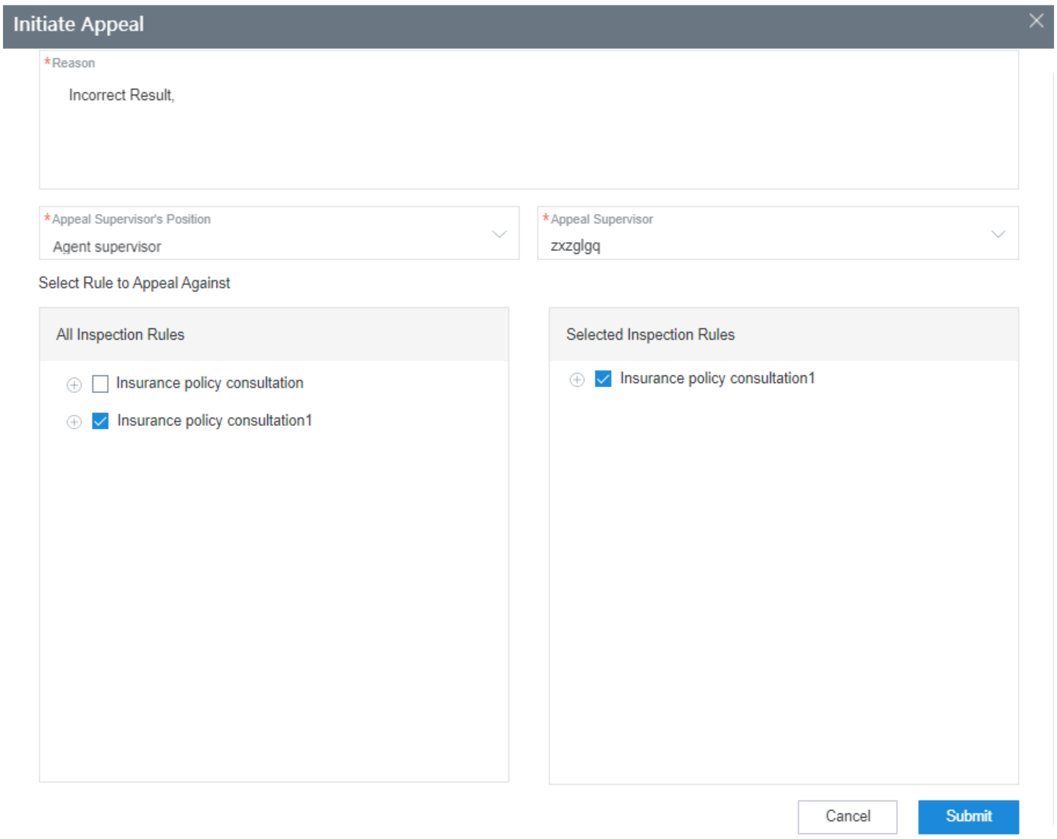
Procedure

Step 1 Sign in to the CEC as an agent and choose **Inspection** > **Call List**. The brief search criteria and inspected call list are displayed.

Step 2 Click **View** in the **Operation** column to view the inspection details.

Step 3 Click **Initiate Appeal**. The dialog box for initiating an appeal is displayed.

Figure 3-51 Initiate Appeal



Select the rules to appeal against and the appeal supervisor, and click **Submit**. A message is displayed, indicating that the appeal is successfully submitted and that you need to wait for the manual review result.

----End

Follow-up Procedure

- After an agent submits an appeal, an inspector reviews the rating items again based on the agent's requirements. After the inspector submits a review result, the agent can view the result on the same page.
- After the appeal process ends, a common agent can submit an appeal again no matter whether the appeal is approved or not.

3.8.3 Requesting the Review of an Inspection Result

An agent can request the review of an inspection result.

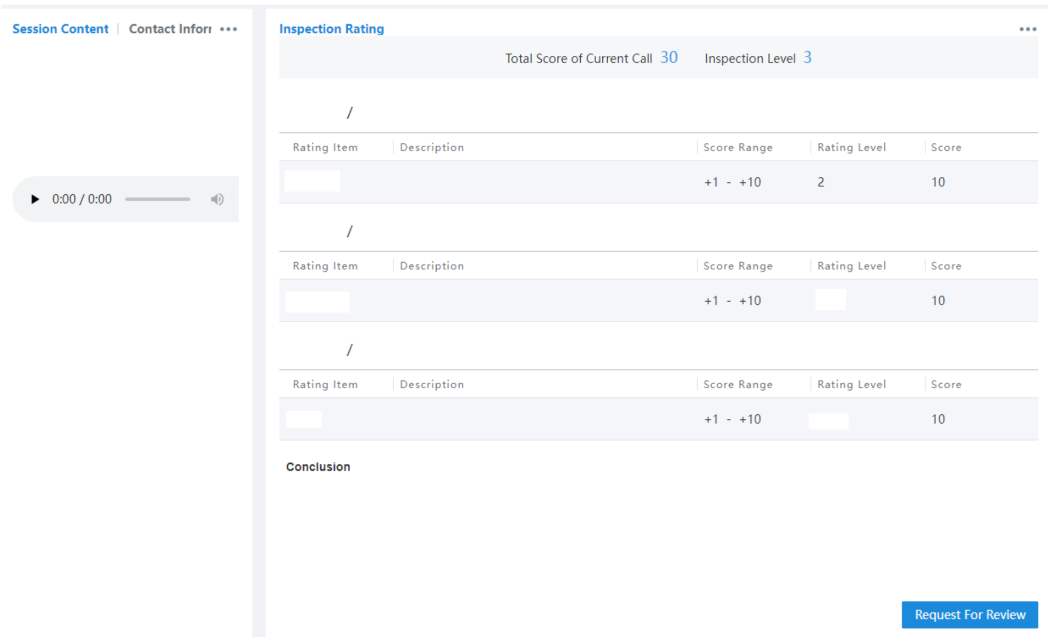
Procedure

Step 1 Sign in to the CEC as an inspected agent and choose **Inspection** > **Task Result**.

Step 2 Click **Details** corresponding to an inspection result. The inspection result details page is displayed.

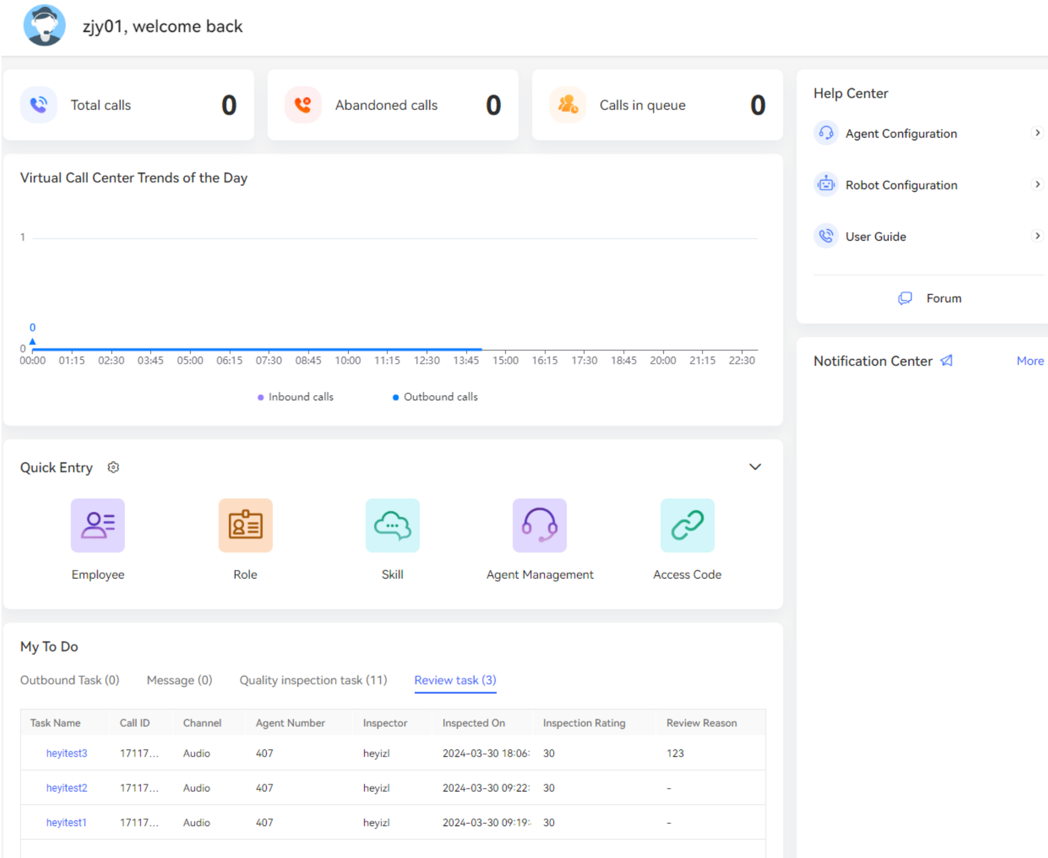
Step 3 Click **Request For Review**, enter a review reason, and submit the request. An inspector will receive your review request.

Figure 3-52 Request for Review



Step 4 (Follow-up operation) Sign in to the CEC as an inspector, choose **Inspection** > **Review Mgmt**, and click **Details** corresponding to a review request. On the page that is displayed, reject or approve the review request. You can also view review requests in the **My To Do** area on the home page.

Figure 3-53 Review task



----End

3.8.4 Handling AI Inspection Appeals

After inspectors perform AI inspections, they can review the AI inspection appeals submitted by agents and update inspection results.

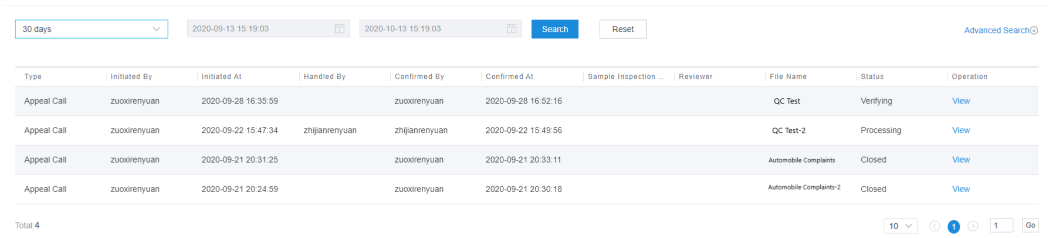
Scenario

Inspectors can view the inspected call list, click **View** to view the inspected call details, or modify the inspection result and view the inspection process by title on the **Appeal Details** page.

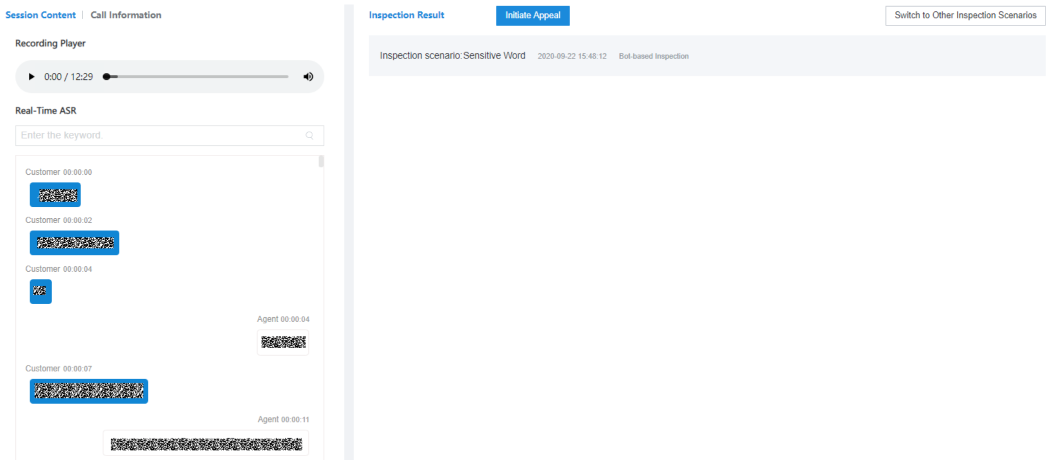
Procedure

Step 1 Sign in to the CEC as an inspector using an allocated business account.

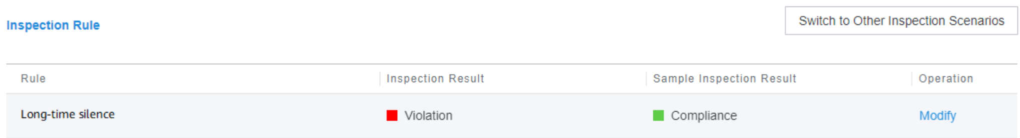
Choose **Inspection** > **Appeal List**. The **Appeal List** page is displayed.



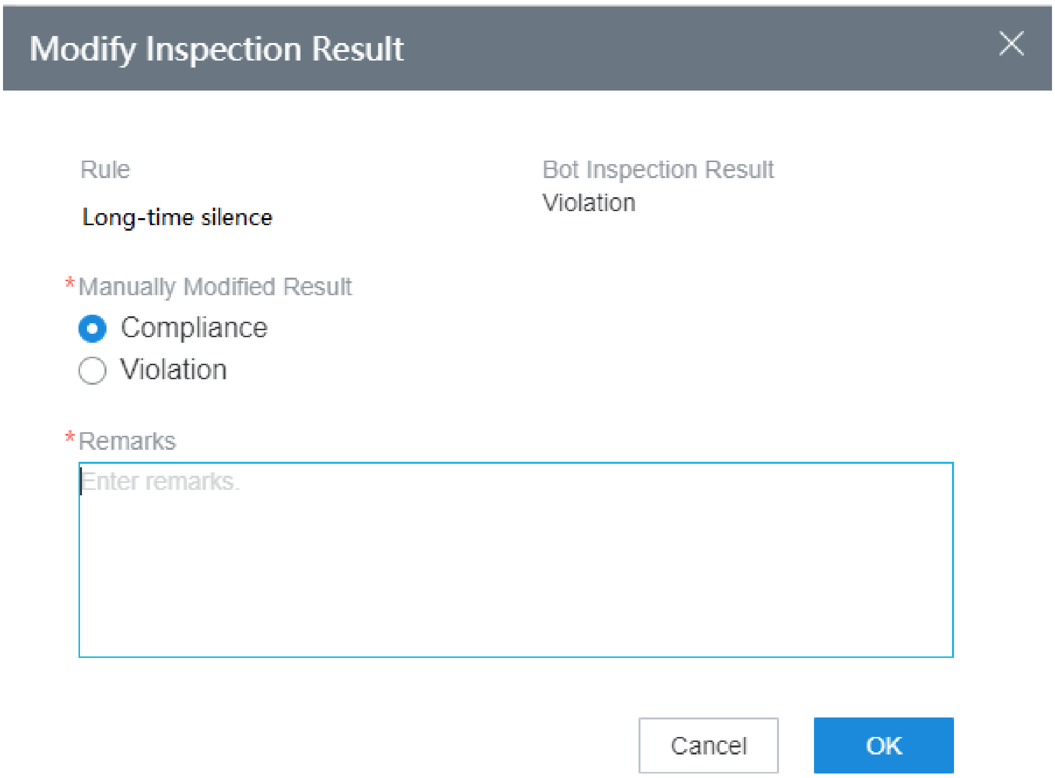
Step 2 In the inspected call list opened in **Step 1**, click **View**. The appeal details page is displayed. (Closed appeals can only be viewed but cannot be handled.)



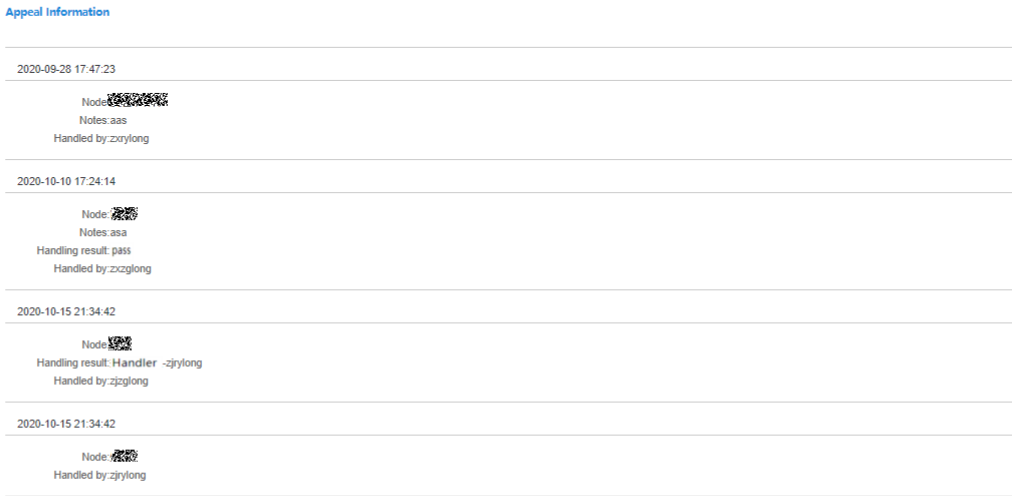
Step 3 In the **Inspection Rule** area, modify the inspection result of a pending appeal.



Step 4 Click **Modify**. The dialog box for modifying the inspection result is displayed. You can select **Compliance** or **Violation** to modify the result. The **Remarks** field is mandatory. Click **OK** to submit the operation, or click **Cancel** to cancel the operation.

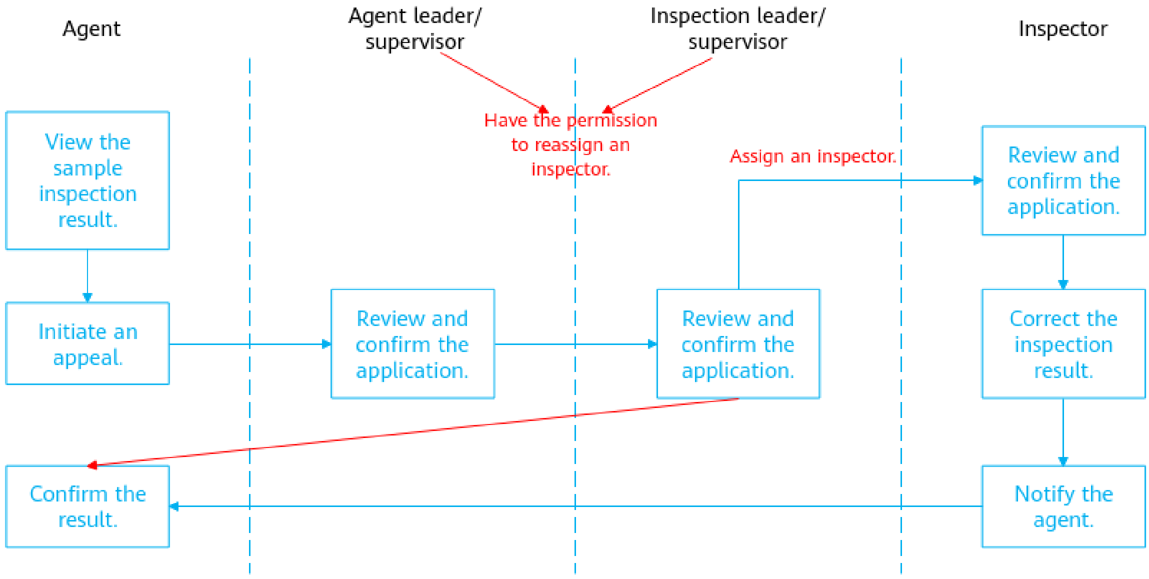


Step 5 View the appeal handling process which varies according to the operator's title.



The following figure shows the appeal handling process.

Figure 3-54 Appeal handling process



----End

3.9 Typical Scenarios

This section describes some typical scenarios of operations performed by an agent.

3.9.1 Customer and Agent Chatting Through the Web Channel

Scenario

A customer communicates with agent A through the web channel to query the call fee balance, and then rates the service after the conversation ends.

Procedure

A customer communicates with agent A through the web channel.

Step 1 Sign in to system on the connection bar and set the agent to the idle state.

Step 2 Open the customer conversation window.

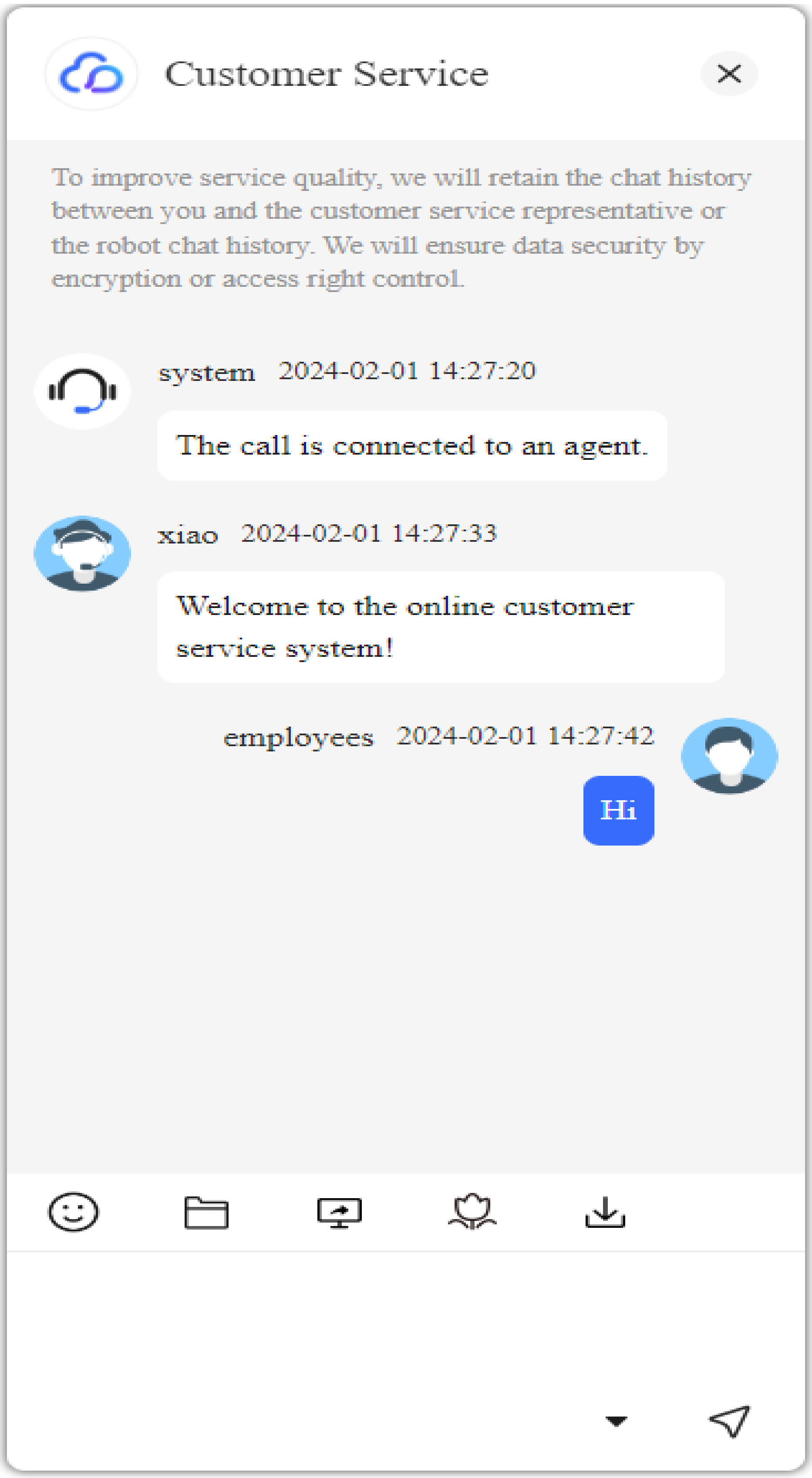
1. Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** corresponding to the new web channel, save the modification, and click **Try** on the **Channel Integration** tab page.
2. On the page that is displayed, click  in the lower right corner.
3. In the **Customer Service** dialog box, enter the chat content, click **Send**, and check the reply of the agent.

   If the chat content entered by the customer contains keywords configured for agents, the agent identifies the keyword and replies to it. If the key word cannot be identified, the agent replies, for example, "Sorry, I cannot understand."

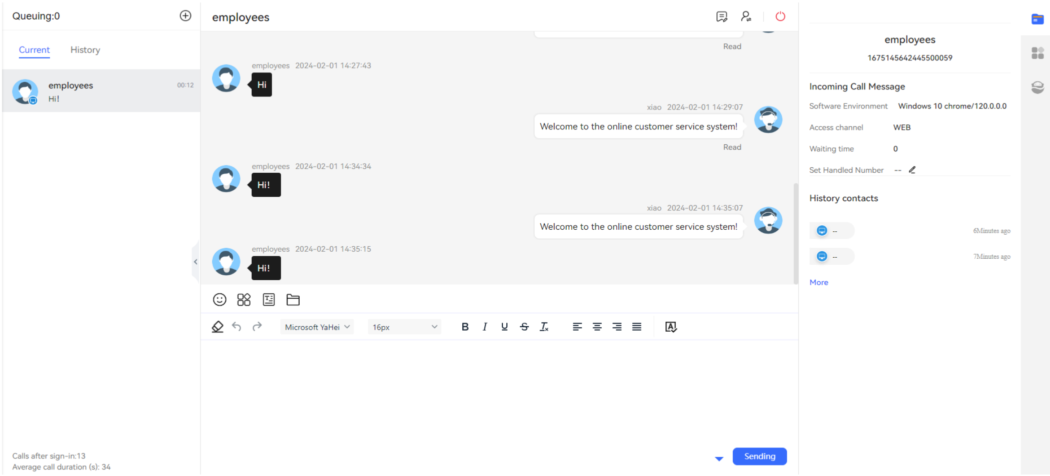
   NOTE

   – If the message of a customer fails to be sent, the  icon is displayed before the message. You can click the icon to re-send the message.
   – When having a conversation with an agent, the customer can use the emoji emoticons provided by the system.

   The conversation window of the customer is as follows.



The online chat workbench of agent A is as follows.



NOTE

- In the **Current** area, the chat content between the customer and agent is displayed. If the customer has historical conversations with an agent, the historical conversation records of the customer can be displayed in **Current**.
- When the content entered by an agent is used in a historical conversation, the system automatically associates and displays related historical content for the agent to select, improving the business handling efficiency.

4. Click  in the online chat dialog box that is displayed, click **Evaluate** to rate the service of the current agent, including satisfaction score and content evaluation, and then click **Submit**.

   The customer can only evaluate the services of agents who have at least one dialog with the customer in the web channel. During and after a dialog, the customer can evaluate the services at any time. The last evaluation is used.

----End

3.9.2 Making Calls Using the WebRTC Phone

Context

The web real-time communication (WebRTC) uses a web browser to transmit texts, files, videos, and voices in real time.

Currently, the WebRTC feature supports voice and video calls.

Prerequisites

- The tenant status is normal, and the WebRTC feature is not enabled.
- You have allowed the browser to obtain the microphone permission by performing the following steps:
  a. Choose **Start** > **Settings** > **Privacy** > **Microphone**.
  b. In **Allow access to the microphone on this device**, click **Change** and enable **Microphone access for this device**.
  c. Enable **Allow apps to access your microphone**.
- (Optional) You have allowed the browser to obtain the camera permission. If video calls are required, perform the following operations:

a. Choose **Start** > **Settings** > **Privacy** > **Camera**.

b. In **Allow access to the camera on this device**, click **Change** and enable **Camera access for this device**.

c. Enable **Allow apps to access your camera**.

Procedure

Step 1 Sign in to the AICC as the system administrator.

Step 2 Enable the intelligent agent function for a tenant administrator.

1. Choose **Call Center** > **Tenant Management**.
2. Select a tenant for whom the WebRTC function is to be enabled and click **Edit**.
3. Click the **Virtual Call Center** tab and enable **WebRTC** in the **Feature Selection** area.
4. In the **Allocate Resource** area, set **Agent registration server type** to **webRTC** and set **Agent registration server**.
5. After the configuration, click **Save**.

----End

NOTE

The WebRTC is supported for the CTI pool mode. If the selected call center is in pool mode, you need to add more than one WebRTC gateway for provisioning agents. In addition, more than one WebRTC gateway needs to be configured for agents.

Verification

Step 1 Sign in to the AICC as an agent for whom the WebRTC feature is enabled.

NOTE

The agent must meet the following requirements:

- The agent has not been bound to a fixed-line phone or mobile phone.
- The agent has been bound to voice-related skill queues (including voice, video, voice click-to-dial, and video click-to-dial skill queues).

Step 2 On the connection bar, click and click **Register**. is displayed after the softphone is manually registered.

NOTE

- When you sign out, the two phones sign out at the same time.
- After you sign out, the softphone status changes to unregistered.
- If the **softphone number unified authentication** feature is enabled for the tenant and **Authentication Mode** is set to **Unified authentication** for the agent, the agent cannot click to perform registration. If **Authentication Mode** is set to **UAP Authentication** for the agent, the agent can click to perform registration.
- After you click **Sign In**, the softphone is automatically registered.
- In pool mode, there are two phones that share the same password. If the registration is successful, the status of the two phones is registered. If either of them fails, you can click the phone to register again.
- is displayed if the WebRTC phone fails to be registered, or the WebRTC phone is registered successfully and then deregistered.

Step 3 Initiate a voice call.

1. Click , enter a softphone number, and make a call. The call can be a voice call.

   NOTE

   – A WebRTC phone can make outbound calls only when it is registered and the agent has signed in.
   – When you dial the number for the first time, the message "*xxx.xxx.xxx.xxx* wants to use your microphone" is displayed. Click **Allow**.

2. Click **Answer** to answer a ringing call as an agent. The customer's phone then rings and waits for the customer to answer the call.

   The WebRTC phone is in talking state and displayed in green, and the agent is in occupied state.

Step 4 Initiate a video call.

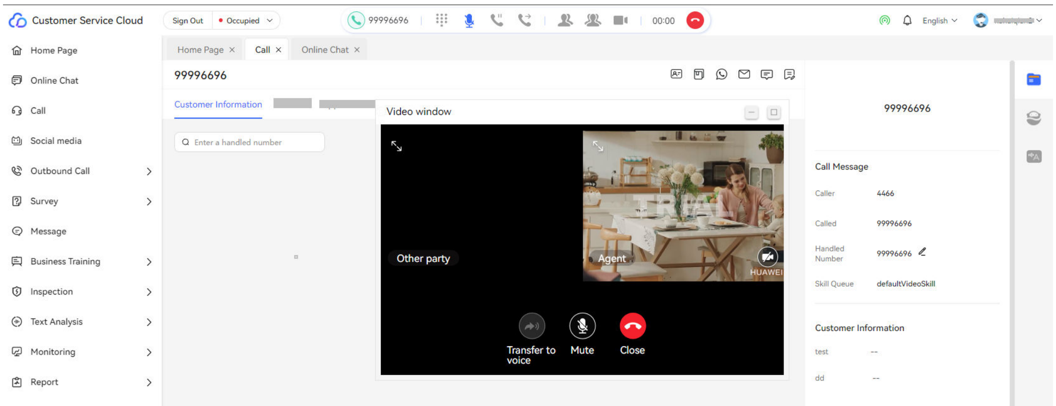
1. Click , enter a softphone number, and make a call. The call can be a video call.

   NOTE

   – A WebRTC phone can make outbound calls only when it is registered and the agent has signed in.
   – When you dial the number for the first time, the message "*xxx.xxx.xxx.xxx* wants to use your microphone" is displayed. Click **Allow**.

2. Click **Answer** to answer a ringing call as an agent. The customer's phone then rings and waits for the customer to answer the call.

   The WebRTC phone is in talking state and displayed in green, and the agent is in occupied state. The following figure shows a video call.



Only the local video window is displayed.

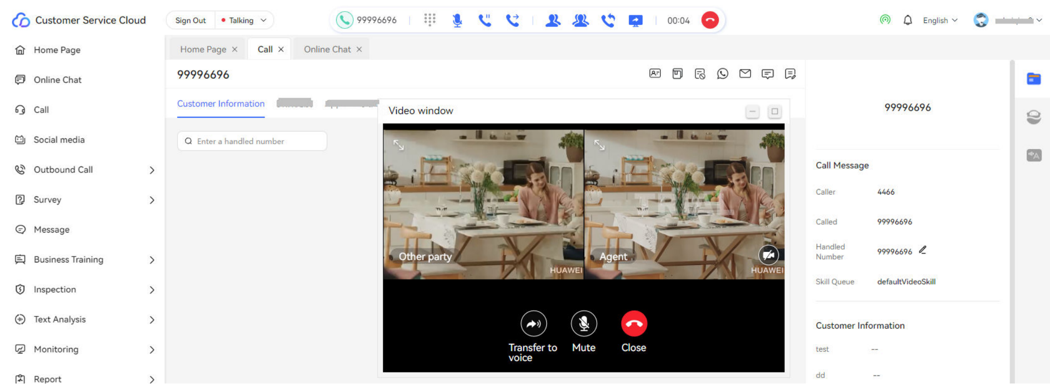
Click  on the connection bar to share a specified area, which can be:

- Entire screen
- Application window
- Browser tab page

NOTE

- In pool mode, either of the two phones is used randomly.
- Pay attention to personal privacy protection during desktop sharing.

3. (Optional) After the video call is connected, check whether the following page is displayed.



: Disable the camera.

: Zoom in the window.

: Hide the video window and display the call duration ().

: Display the fullscreen video window.

: Switch to a voice call or resume a video call. Click the button for switching between voice and video calls on the connection bar and select a video call.

: Mute yourself and click again to unmute yourself.

: Hang up the current call.

Step 5 Answer a call from a user.

1. When a user dials the access code of a skill queue, the agent waits for about two seconds and automatically answers the call.
2. When a user dials the access code of an IVR device and the call is transferred to an agent, the agent automatically answers the call 2 seconds after the user hears the announcement.

NOTE

In pool mode, an agent talks with a phone randomly. The agent enters the busy state and does not answer other calls.

If a user directly makes a call to an idle phone, the call is directly disconnected.

----End

Follow-up Procedure

Click to monitor the call quality.

For details about the call quality, see **Table 3-17** and **Table 3-18**.

Table 3-17 Network level description

Network Level	Icon	Packet Loss Rate	Jitter	One-way Delay
Good		< 0.1%	< 10	< 40 ms
Medium		< 1%	< 20	< 100 ms
Poor		< 5%	< 60	< 400 ms

NOTE

The lowest network level determined based on the packet loss rate, jitter, and one-way delay is used as the network level.

Table 3-18 Data source description

Data Type	Calculation Method	Description
Packet loss rate	Number of packets received by the local end in 1s = Total number of packets received by the local end – Total number of packets received by the local end 1s ago Number of packets sent by the remote end in 1s = Total number of packets sent by the remote end – Total number of packets sent by the remote end 1s ago Packet loss rate = (Number of packets sent by the remote end in 1s – Number of packets received by the local end in 1s)/ Number of packets sent by the remote end in 1s	The agent acts as the recipient.
Jitter	Jitter = Receive jitter of the local end	
One-way delay	One-way delay = Round-trip time/2	

If the tenant parameter **Whether to send internal messages when the WebRTC network is abnormal** is set to **Yes**, an internal message is sent to notify the OU manager when the network quality is poor. Only one internal message can be sent within 60 minutes.

3.10 Viewing Training Tasks

Intelligent training tasks can be used to periodically train and test agents through IVR flows to check the business skills of the agents.

3.10.1 My Training Tasks

Agents can view training tasks that have been started and participate in tasks as required.

Procedure

Step 1 Sign in to the AICC as an agent and click **Sign In**. The agent enters the sign-in state.

Step 2 Choose **Business Training** > **My Tasks**.

Step 3 Select a training task and click the task name to view the task details.

Step 4 Click **Start Training** to participate in the training task and wait for the system to make a training outbound call.

----End

Follow-up Procedure

Click **Answer Records** to view the answer details of the training task.

3.11 Intelligent Outbound Call Tasks

Based on the assigned outbound call tasks, agents make outbound calls and configure outbound call results.

3.11.1 Agent Outbound Call Task

A tenant administrator executes the outbound call task through the agent outbound call task and views the outbound call result.

3.11.1.1 Introduction to the Outbound Call Task of an Agent

An outbound call agent performs outbound call–related operations in the outbound call task of the agent.

The agent outbound call task supports the following outbound call-related operations:

- **3.11.1.2 Manually Making an Outbound Call**
  - Retrieving/Releasing a number
  - Viewing the number list
  - Calling the current number
- **3.11.1.3 Viewing and Executing a Previewed Outbound Call**
- **3.11.1.4 Viewing a Predicted Outbound Call**
- **3.11.1.5 Viewing a Preempted Outbound Call**
- **3.11.1.6 Creating a Reserved Outbound Call Task**
- **3.11.1.7 Adding a Customer Number to the Blocklist**
- **3.11.1.8 Changing an Outbound Number**
- **3.11.1.9 Viewing Outbound Call Results**: This function is supported for manual, previewed, predicted, and preempted outbound calls.
- Viewing a reserved outbound call

Prerequisites

If your tenant space is in trial commercial use, outbound calls can only be made to five numbers. Therefore, you need to ask the system operation personnel to add the numbers to be called to the trustlist. Only in this way can you make outbound calls.

3.11.1.2 Manually Making an Outbound Call

After an administrator creates a manual outbound call task, an agent can refer to this section to perform operations related to manual outbound calls in the outbound call task.

Prerequisites

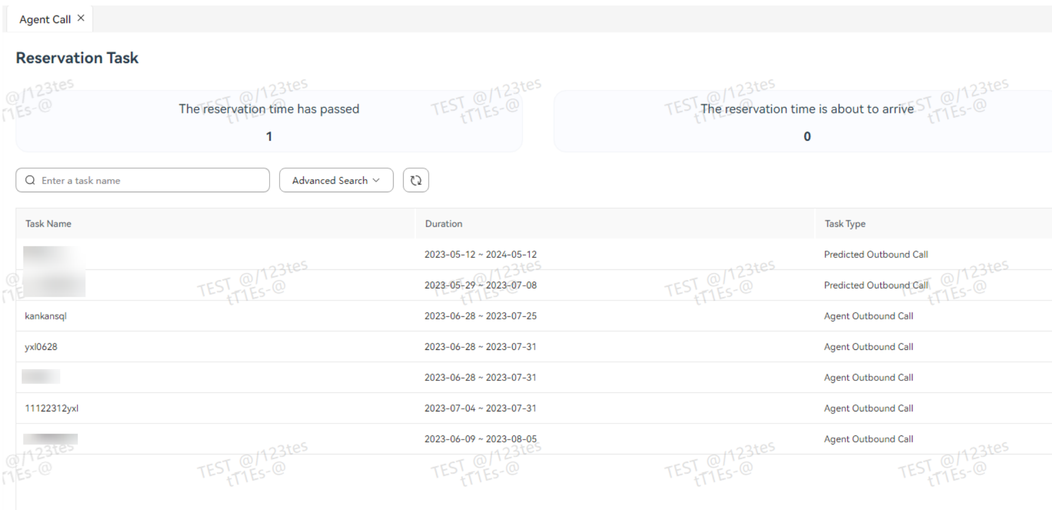
The administrator has created a manual outbound call task for a specified agent and started the task.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-55 Agent outbound call task



Step 3 Click a task to view its details.

Step 4 Click **Extract**. The outbound call data can be extracted only when the outbound call data is not extracted by other agents and the outbound call task is being executed.

Step 5 Click **Number List** to view the outbound number list as described in the following table.

Table 3-19 Elements in the outbound number list

Element/Component	Description
Called Number	Outbound number, which is anonymized.
Operation	Currently, the **Call** button is available.

Step 6 Click **Call** to send a dial-up request to the customer number.

📖 NOTE

An outbound call can be made only when the following conditions are met: The outbound call data is not complete and has been locked, the agent has signed in and is in idle state, and the outbound call task is being executed. If a call fails, it is initiated again until it succeeds or the maximum number of call attempts is reached.

Step 7 After the call ends, view the outbound call result. For details, see **3.11.1.9 Viewing Outbound Call Results**.

----End

3.11.1.3 Viewing and Executing a Previewed Outbound Call

After an administrator creates a previewed outbound call task, an agent can refer to this section to perform operations related to previewed outbound calls in the outbound call task.

Prerequisites

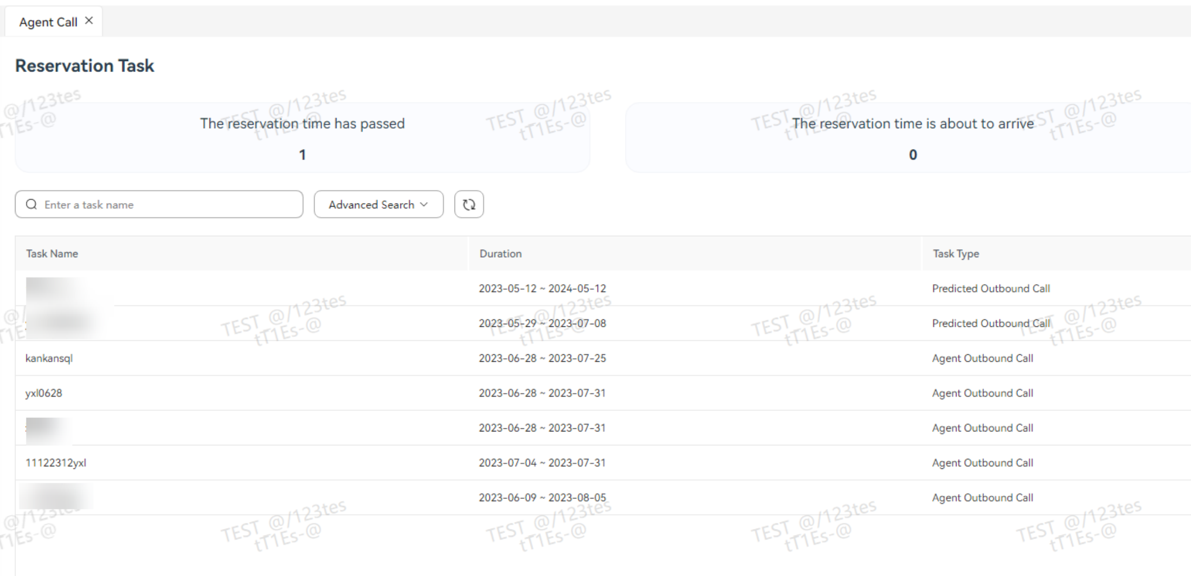
- The administrator has created a previewed outbound call task for a specified agent and started the task.
- The agent is in the idle state. The previewed outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-56 Agent Call



Step 3 In the **Executing a Preview Outbound Call** dialog box, click **Call** to make an outbound call.

Figure 3-57 Executing a Preview Outbound Call

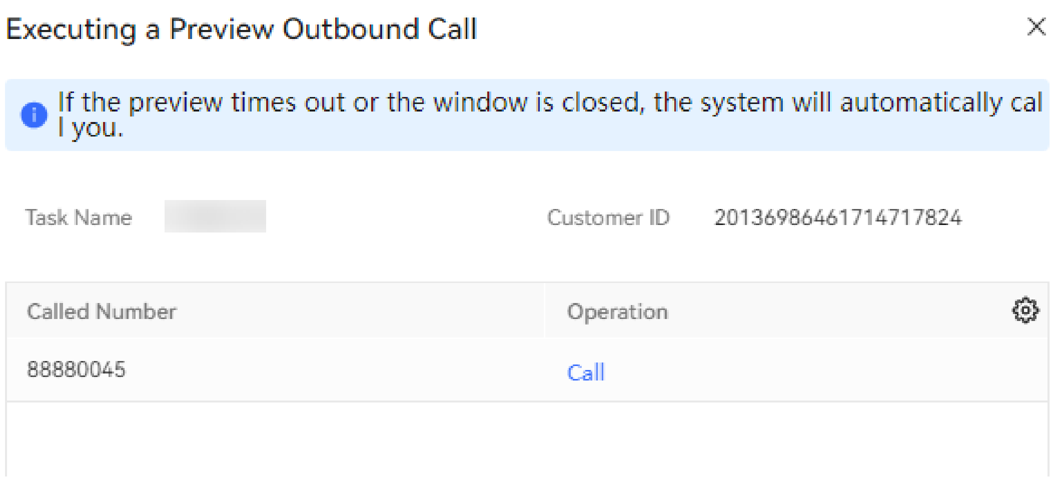


Table 3-20 GUI elements on the Executing a Preview Outbound Call page

Element/Component	Description
Task Name	Outbound call task name.
Customer ID	Customer ID of the current previewed outbound call.
Called Number	Outbound number.
Operation	Operations that can be performed.

Step 4 After the call ends, view the outbound call result. For details, see **3.11.1.9 Viewing Outbound Call Results**.

----End

3.11.1.4 Viewing a Predicted Outbound Call

After an administrator creates a predicted outbound call task, an agent can refer to this section to perform operations related to predicted outbound calls in the outbound call task.

Prerequisites

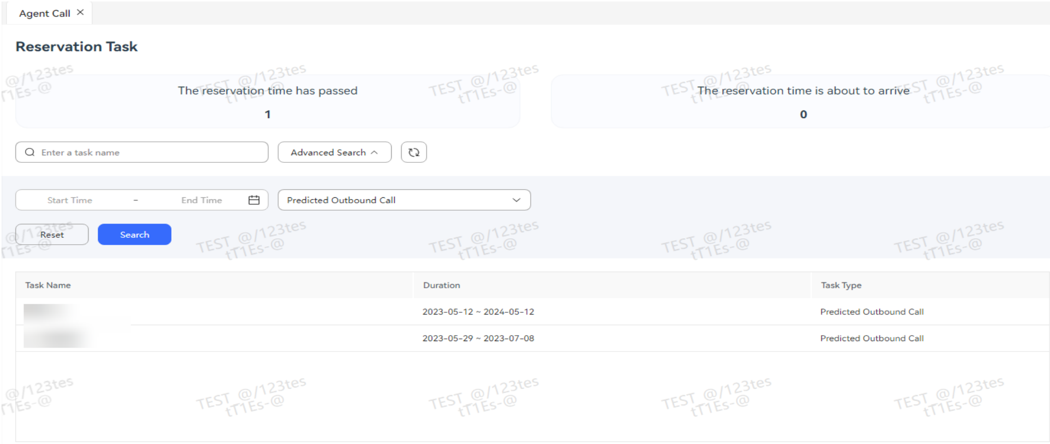
- The administrator has created a predicted outbound call task for a specified agent and started the task.
- The agent is in the idle state. The predicted outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-58 Outbound call task page



Step 3 View the outbound call result. For details, see **3.11.1.9 Viewing Outbound Call Results**.

Table 3-21 GUI elements on the predicted outbound call result page

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Customer ID	Label	Unique ID of a customer.	-	Read-only	-
Outbound Call Status	Label	Outbound call status.	• **To Be Executed** • **Executing** • **Completed**	Read-only	-
Start Time	Label	Call start time.	-	Read-only	-
End Time	Label	Call end time.	-	Read-only	-
Call Result	Label	Call result.	• **Failed** • **Successful** • **Reject**	Read-only	-
Cause	Label	Call failure cause.	-	Read-only	-

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Business Result	Label	Result of the outbound call business selected by an agent.	• **Successful** • **Uncertain** • **Failed**	Read-only	If this parameter is empty, no agent is set.
Sub-status	Label	Sub-status of the outbound call business result.	-	Read-only	-
Business Description	Label	Description of the outbound call business entered by an agent.	-	Read-only	Business description is provided only for manual, predicted, previewed, and preempted outbound calls.
Operation	Button	Details of an outbound call result.	**Details**	Click	-

----End

3.11.1.5 Viewing a Preempted Outbound Call

After an administrator creates a preempted outbound call task, an agent can refer to this section to perform operations related to preempted outbound calls in the outbound call task.

Prerequisites

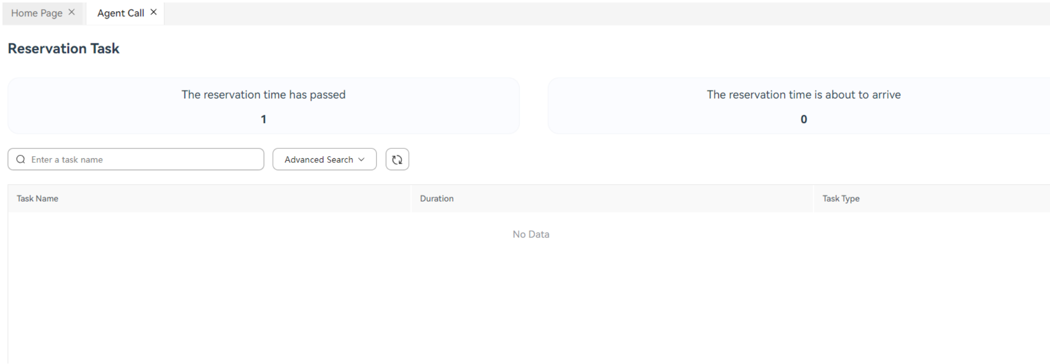
- The administrator has created a preempted outbound call task for a specified agent and started the task.
- The agent is in the idle state. The preempted outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-59 Agent outbound call task



Step 3 Click the outbound call result in the row where the task is located. For details, see **3.11.1.9 Viewing Outbound Call Results**.

----End

3.11.1.6 Creating a Reserved Outbound Call Task

This section describes how to create a reserved outbound call task.

Prerequisites

- The agent is speaking.
- The customer number is not in the blocklist.

Scenario Description

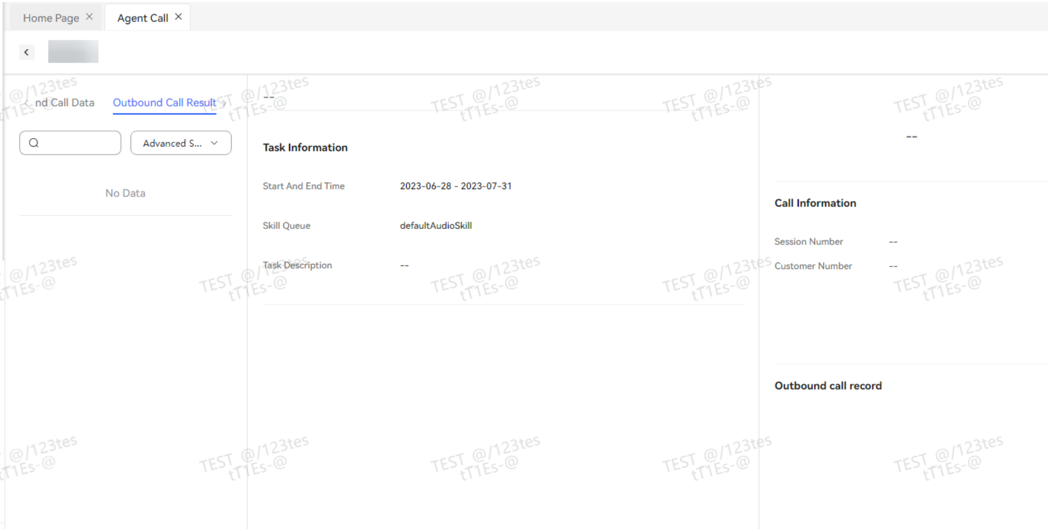
When an agent is executing an outbound call task, if the customer is busy and wants to communicate with the agent at another time, the agent can create an outbound call task and call the customer again at the time specified by the customer.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-60 Outbound call execution



Step 3 Click **Reserved Outbound Call**. The **Create Reserved Outbound Call** page is displayed, as described in the following table.

Table 3-22 GUI elements on the Create Reserved Outbound Call page

Element/Component	Description
Customer Number	Number for which a call needs to be reserved.
Reserved Call Time	Reserved call time.
Remarks	Remarks of a reserved call.

Step 4 Enter the mandatory information and click **Save**. The reserved outbound call task is added successfully.

----End

3.11.1.7 Adding a Customer Number to the Blocklist

Agents can add a customer or the current number of a customer to the blocklist in an agent outbound call task.

Scenario Description

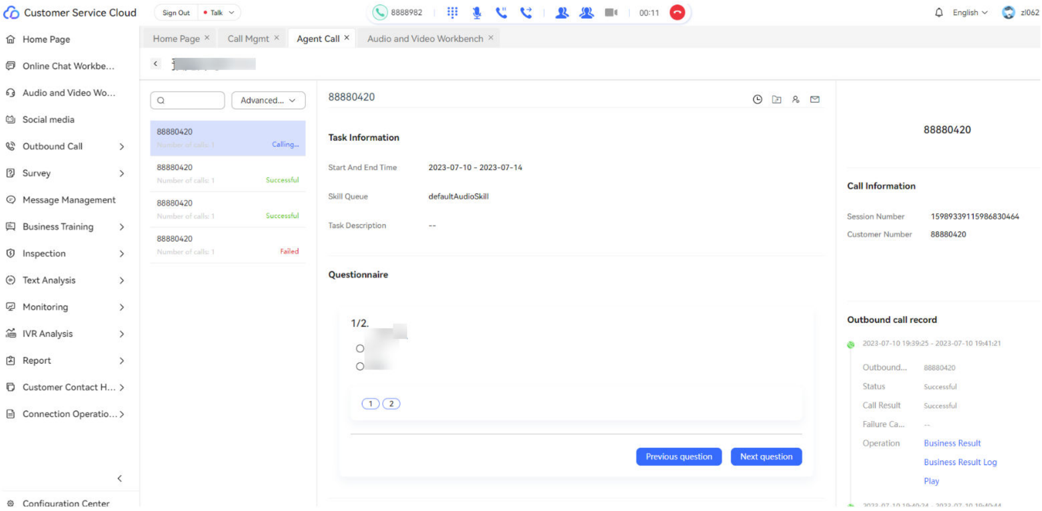
When an agent executes an outbound call task, if a customer does not want to be called anymore, the agent can add the customer to the blocklist.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-61 Outbound call execution

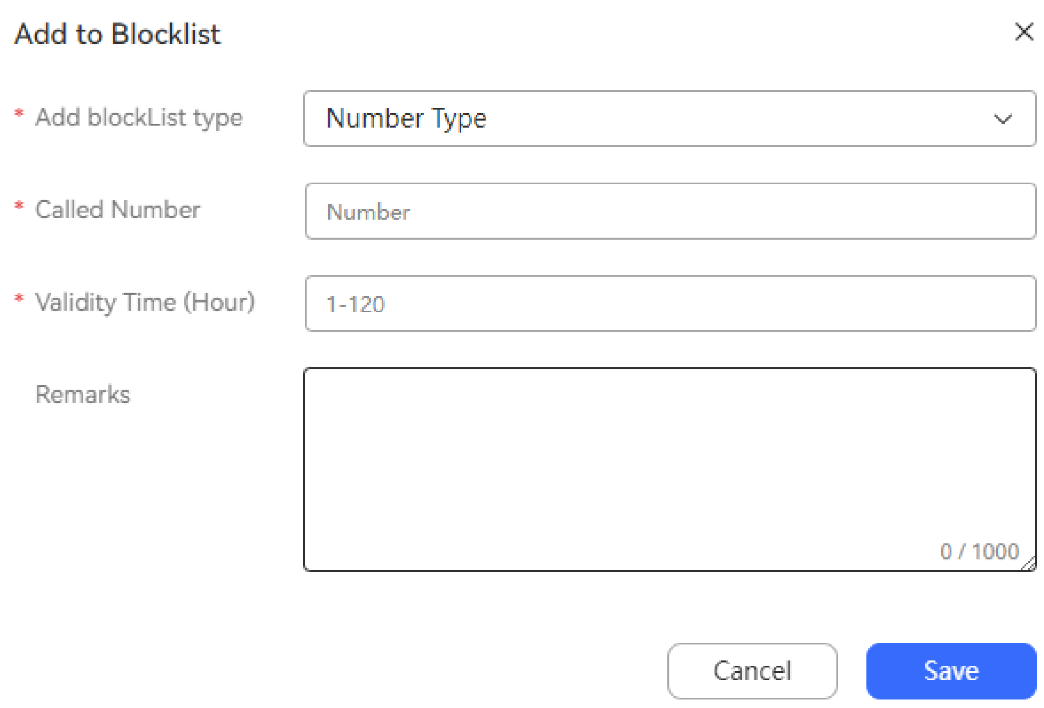


Step 3 Click . The dialog box for adding a number to the blocklist is displayed. The following table describes the GUI elements in the dialog box.

Table 3-23 GUI elements on the page for adding a number to the blocklist

Element/Component	Description
Add blockList type	The options are as follows: ● **Number Type**: A customer has multiple numbers. Only the number is in the blocklist. Other numbers can still be called. ● **Customer Type**: All customer numbers are blocklisted.
Called Number	Blocklisted number. This element is available only when **Add blockList type** is **Number Type**.
Validity Time (Hour)	Validity period of the blocklist, in hours. The value ranges from 1 to 120. For example, if you enter **1**, the blocklist becomes invalid one hour after it is created.
Remarks	Blocklist remarks.

Figure 3-62 Adding a number to the blocklist



Step 4 Set mandatory parameters and click **Save**. The number is added to the blocklist successfully.

----End

3.11.1.8 Changing an Outbound Number

Agents can change the outbound call number of a customer in the outbound call task.

Scenario Description

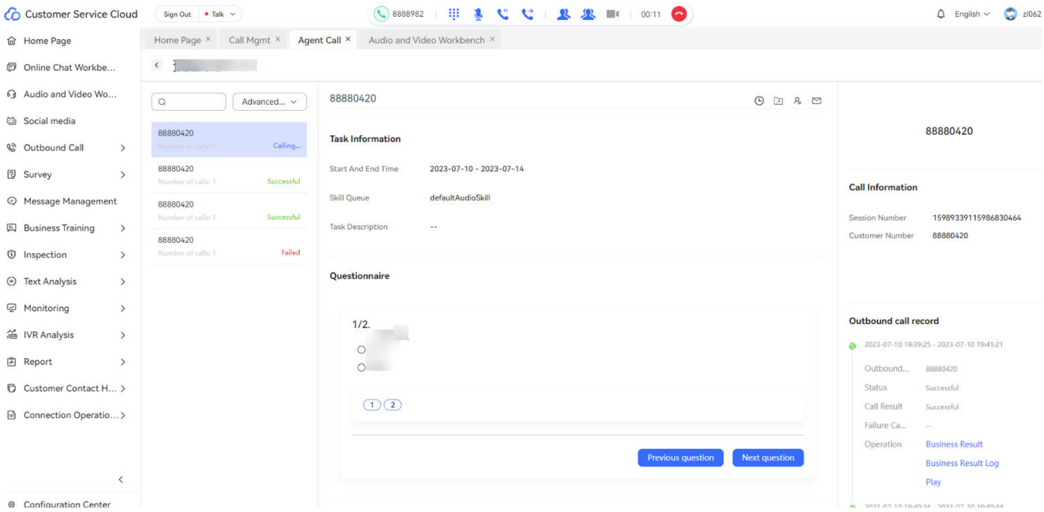
When an agent executes an outbound call task, if a customer wants the agent to call another number, the agent can change the outbound number.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-63 Outbound call execution

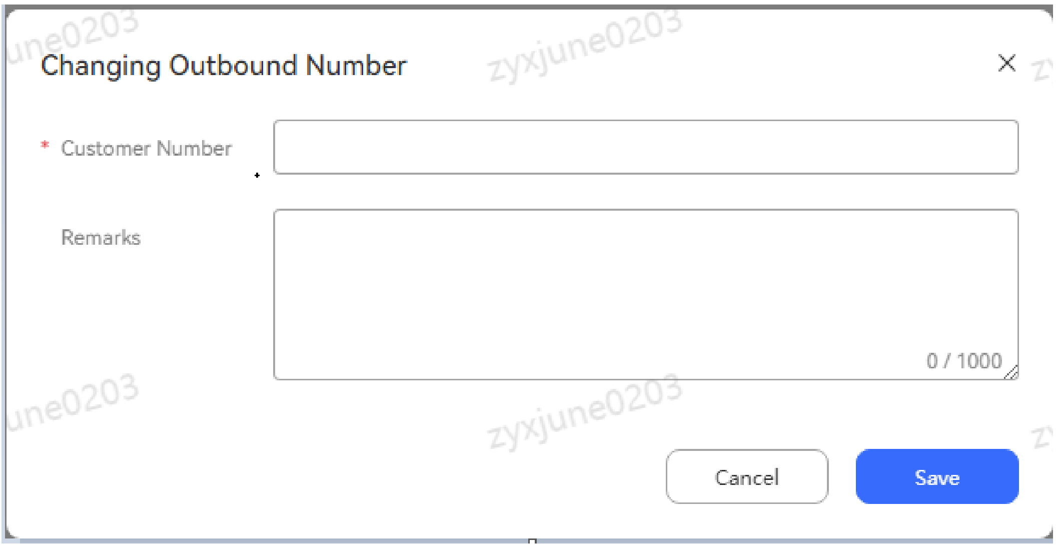


Step 3 Click . The window for changing the reserved outbound call number is displayed. The GUI elements are as follows.

Table 3-24 GUI elements on the Changing Outbound Number page

Element/Component	Description
Customer Number	Customer number to be changed.
Remarks	Remarks of a reserved call.

Figure 3-64 Changing Outbound Numbers



Step 4 Enter the mandatory information and click **Save**. The outbound number is changed successfully.

----End

3.11.1.9 Viewing Outbound Call Results

Agents can view the results of outbound call tasks that have been executed and supplement or modify the business results.

Prerequisites

An outbound call task is executed, such as an agent outbound call task, a preview outbound call task, or a predicted outbound call task.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Step 3 Click the row where the task is located to view the outbound call result details.

Step 4 On the **Outbound Call Result** page, click **Details**.

Step 5 On the outbound call result details page, click **Business Result** to supplement or modify the business result.

Table 3-25 GUI elements on the business result filling page

Element/Component	Description
Task Name	Name of the manual or predicted outbound call for which the business result is entered.
Result	This parameter is controlled by the tenant parameter **Only leaf nodes can be selected for service results**. If the parameter is set to **Yes**, only leaf nodes can be selected.
Description	Business result description.

----End

3.11.2 Reserved Manual or Automatic Outbound Call

When a customer wants to be called at another time during an outbound call, an agent can reserve a manual or automatic outbound call at the expected time so that the agent can continue the talk with the customer at the expected time.

3.11.2.1 Viewing a Reserved Outbound Call

On the **Reserved Call** page, an agent can view the reserved manual and automatic outbound calls associated with the agent.

Prerequisites

The agent has the reserved outbound call task permission.

Procedure

Step 1 Sign in to the AICC as an agent. Choose **Outbound Call** > **Reserved Call**.

Step 2 View the reserved outbound calls of the current agent by reserved time in ascending order.

Table 3-26 Parameters in the reserved outbound call list

Parameter	Description
Customer Number	Customer number to which a reserved call needs to be made.
Reserved Call Time	Reserved call time.
Associate Outbound Call Task	Associated outbound call task.
Result	Call result. • **Failed** • **Successful** • **Reject**
Failure Cause	Failure cause.
Reservation Status	• **Reserved** • **Prepare for callback** (within 5 minutes before the reserved time) • **Callback** • **Completed** • **Expired**
Start Time	Call start time.
End Time	Call end time.
Remarks	Remarks.
Business Result Path	Business result of a call.
Business Description	Description of a business result.
Reserved call type	• **Reservation for manual outbound calls** • **Reserve automatic outbound calls**
Creator	Creator.
Created On	Time when a reserved outbound call is created.

Parameter	Description
Operation	Operations that can be performed on the current call. The options are as follows: • **Call** • **Modify** • **Delete** • **Adjustment Record** • **Business Result** • **Survey Result** (This button is available when the outbound call task is associated with a survey.)

Step 3 Set search criteria based on **Table 3-27**, and click **Search** to search for reserved outbound calls that meet the search criteria.

Table 3-27 Search criteria for searching for reserved outbound calls

Parameter	Description
Customer Number	Customer number. Fuzzy search by suffix is supported.
Task Name	Task name.
Start time of a reserved call – End time of a reserved call	Start time and end time of a reserved call.
Reset	Reset the search criteria and refresh the list.
Search	Search for reserved outbound calls.

Step 4 Click **Modify**, set **Remarks**, and click **Save**.

Step 5 Click **Delete** to delete a reserved outbound call record. Only numbers that have not been used to make calls can be deleted.

----End

3.11.2.2 Adding a Reserved Outbound Call

An agent can reserve an outbound call so that the agent can perform the outbound call task again at another time.

Prerequisites

- The reserved time must not be earlier than the current time.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Outbound Call** > **Reserved Call**.

Step 2 Click **New**.

Figure 3-65 Creating a reserved manual outbound call

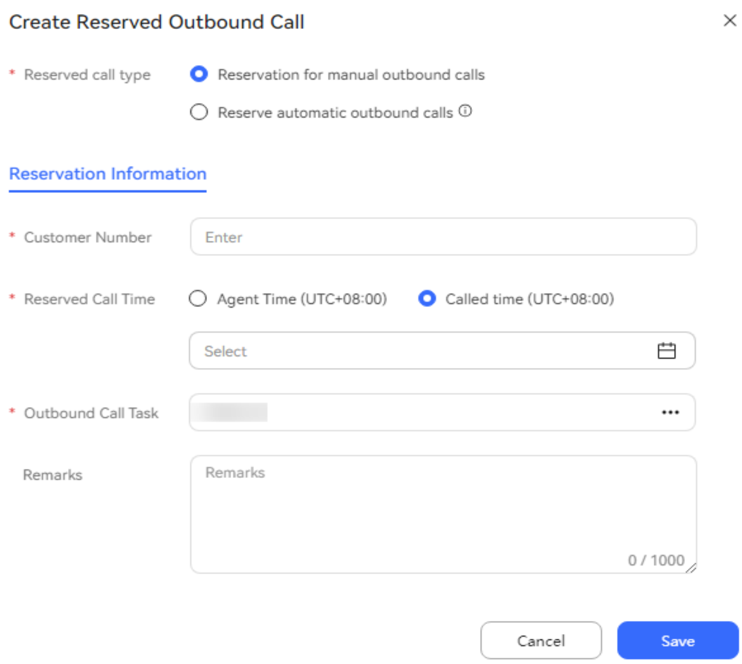
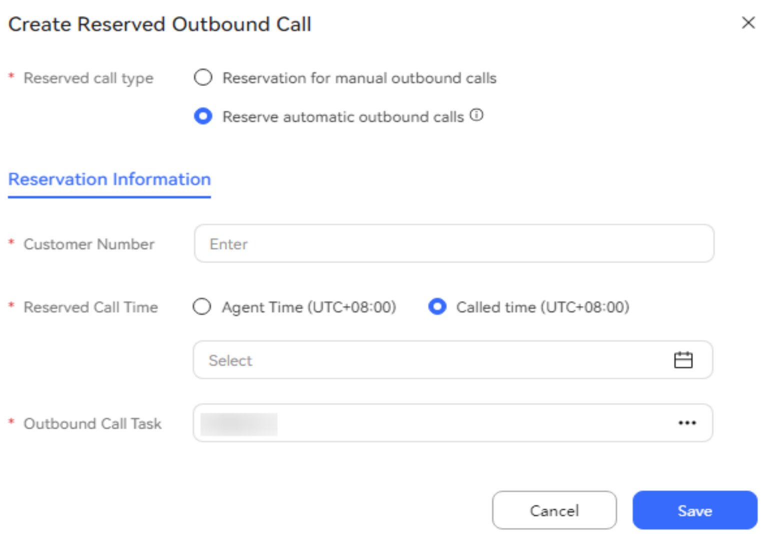


Figure 3-66 Creating a reserved automatic outbound call



Step 3 Set mandatory parameters and click **Save**.

----End

3.11.2.3 Executing a Reserved Outbound Call

An agent can go to the **Reserved Call** page and execute a reserved outbound call task during the reserved outbound call time. If the reserved outbound call task has expired, the system reminds the agent to handle the task when the agent enters the **Agent Call** page.

Context

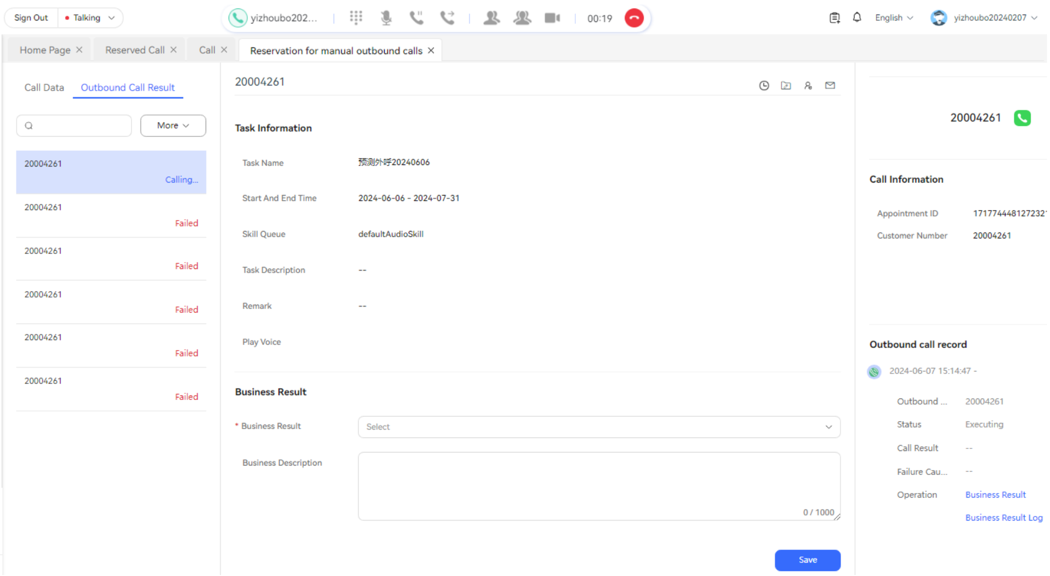
The total number of reserved outbound call tasks that have expired and that of reserved outbound call tasks that are about to expire within 5 minutes are displayed and refreshed every minute on the **Agent Call** page to remind an agent to handle the reserved outbound call tasks on the **Reserved Call** page promptly.

Procedure

Step 1 Sign in to the AICC as an agent. Choose **Outbound Call** > **Reserved Call**.

Step 2 Click **Call** corresponding to the reserved manual outbound call to be executed.

Figure 3-67 Reserved manual outbound call workbench



NOTE

The **Call** button is available only when a reserved outbound call has not been executed, and the agent has signed in and is in idle state.

----End

3.12 OpenEye Help Document

3.12.1 OpenEye Help Guide

The OpenEye Desktop help guide provides description about login, system settings, software functions, and personal data in the OpenEye Desktop.

- **Obtaining Help Information**
- **Installation Description**
- **Login and Logout**
- **Introduction to System Settings**
- **Introduction to Software Functions**
- **Description of Personal Data**
- **Uninstallation Description**

3.12.2 Change History

Release Date	Issue	Description
2019-12-30	V1.0	This issue is the first official release.
2021-03-08	V1.1	This issue is the second official release.
2022-03-03	V2.0	This issue is the third official release.
2022-10-30	V2.0	This issue is the fourth official release.
2023-07-31	V2.0	This issue is the fifth official release.
2024-09-30	V2.0	This issue is the sixth official release.

3.12.3 Installation Description

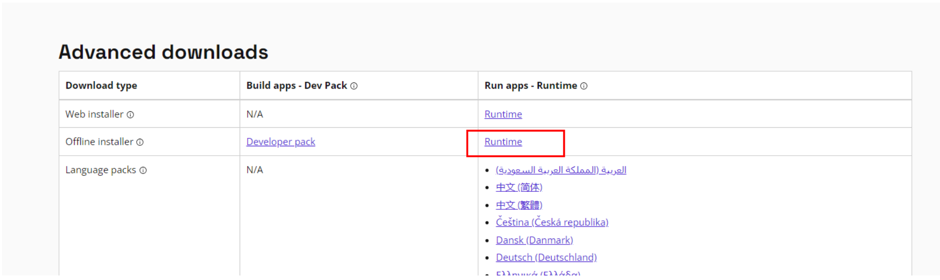
- The requirements of installation scenarios are as follows:
  a. Install the OpenEye directly. In this scenario, the OpenEye is not installed before.
  b. Upgrade the OpenEye. You need to uninstall the OpenEye of the original version and install the new version.
- The requirements of installation environments are as follows:
  a. Windows 10 or Windows 11 environment: 2-core, 2.6 GHz or higher CPU and 4 GB memory or higher; .NET Framework 4.5.2 or later; and Visual C ++ runtime environment.

NOTE

If the .NET Framework 4.5.2 and Visual C++ plug-ins are not installed in the installation environment, download the installation packages from the following websites, double-click the installation packages, and install the plug-ins following the installation steps.

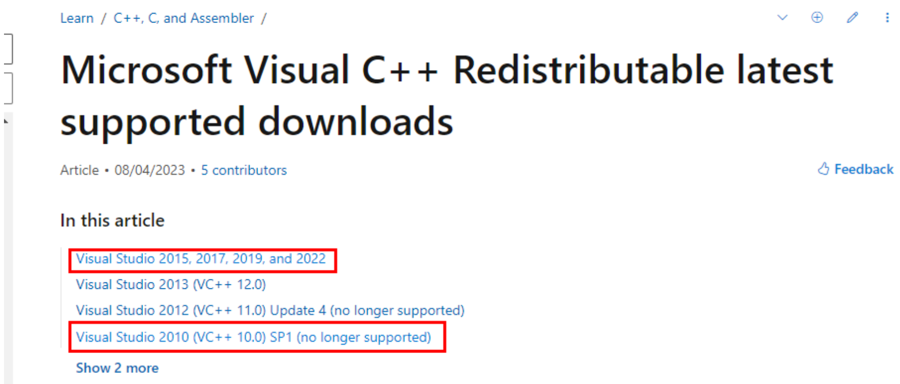
- .NET Framework 4.5.2: https://dotnet.microsoft.com/en-us/download/dotnet-framework/net452

  Click the **Runtime** installation package in **Offline installer** for installation.



- Visual C++: https://learn.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist?view=msvc-170#visual-studio-2015-2017-2019-and-2022

  Select the **Visual Studio 2015** and **Visual Studio 2010** installation packages for installation.



b. China-made environment: Phytium Arm chip (D2000) + UOS V20 1050; Zhaoxin x86 chip (4-core) + UOS V20 1050; or Phytium Arm chip (D2000) + Kylin V10 SP1.

c. Device requirements:

- CPU frequency: 2.3 GHz or above.
- Remaining memory: 4 GB or more memory and 1 GB or more free memory.
- Available disk space: 1 GB or more free space in the **/opt/apps** directory. If logs are continuously captured, it is recommended that the space be 5 GB or above.
- Other devices: camera of 720p at 30 Hz, PC with built-in audio card, and NIC of 100 Mbit/s or higher (1000 Mbit/s recommended).

- To obtain the OpenEye installation package, go to the **AICC software download page** on the support website, click a desired AICC version, obtain the OpenEye installation package based on the operating system version in the software list, decompress the OpenEye installation package, and obtain the installation program.

- The installation package for the Windows operating system is **OpenEye_*xx*.c.zip**, for example, **OpenEye_V2.0.zip**.
- The installation package for the UnionTech operating system is **openeye_*x.x*_amd64_uos.zip** or **openeye_*x.x*_arm64_uos.zip**, for example, **openeye_2.0_amd64_uos.zip**.
- The installation package for the Kylin operating system is **openeye_linux.zip** or **openeye_linux_x86.zip**.

After obtaining the software package, you must verify the integrity of the package. For details, see **3.12.3.3 Verifying Software Package Integrity**. Only verified software packages can be deployed.

NOTE

In the current version, the **Authenticate Administrator** function is supported in the general settings of the OpenEye. If authentication is enabled, install the OpenEye as an administrator.

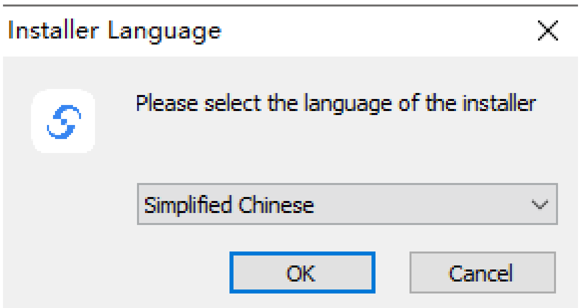
3.12.3.1 Installation

3.12.3.1.1 Common Installation

Procedure

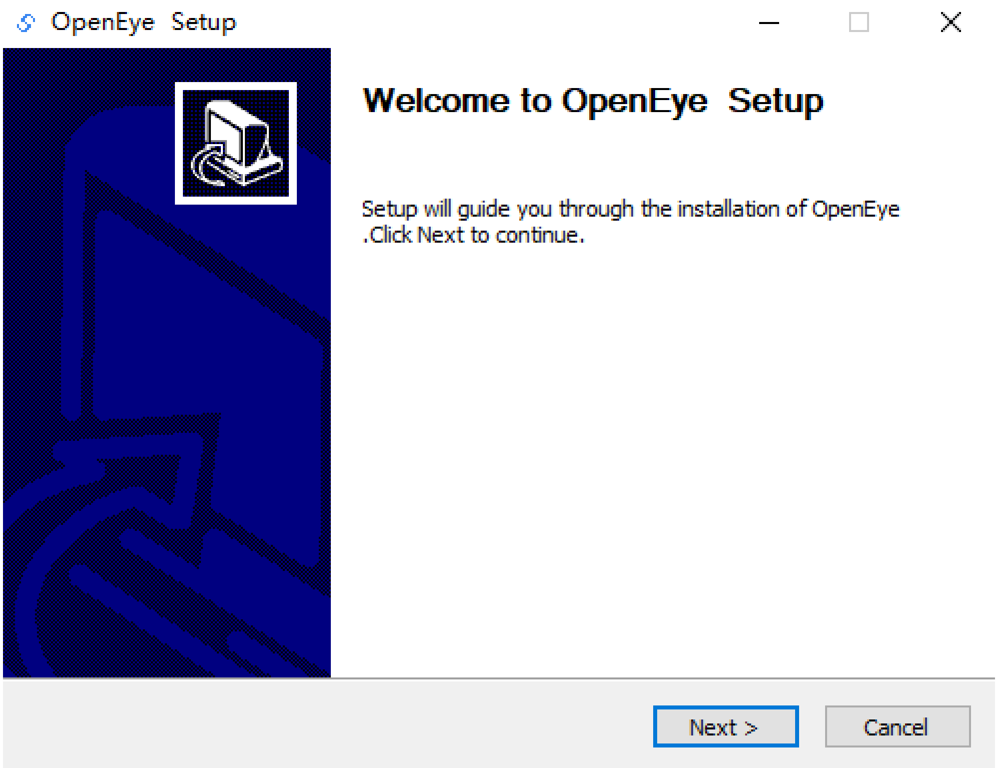
Step 1 Double-click **OpenEyeSetup.exe** to install the program. Select a language. You can change the language later under **Settings** > **General**. Click **OK**.

Figure 3-68 Installation language



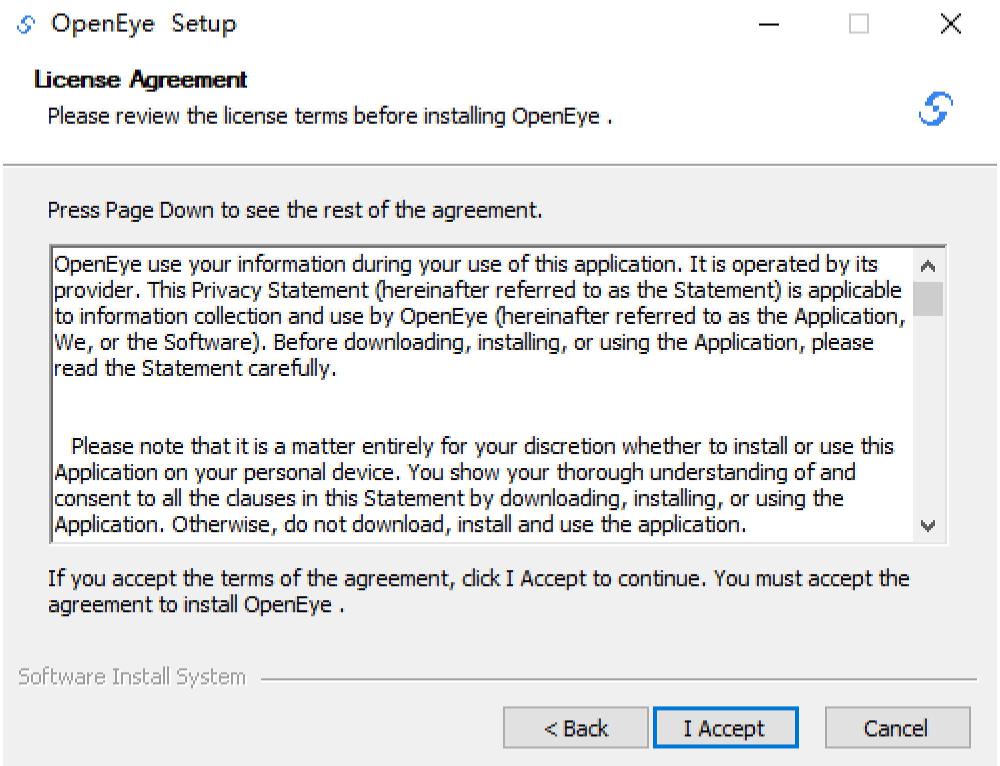
Step 2 Perform the installation according to the installation wizard. Click **Next**.

Figure 3-69 Installation wizard



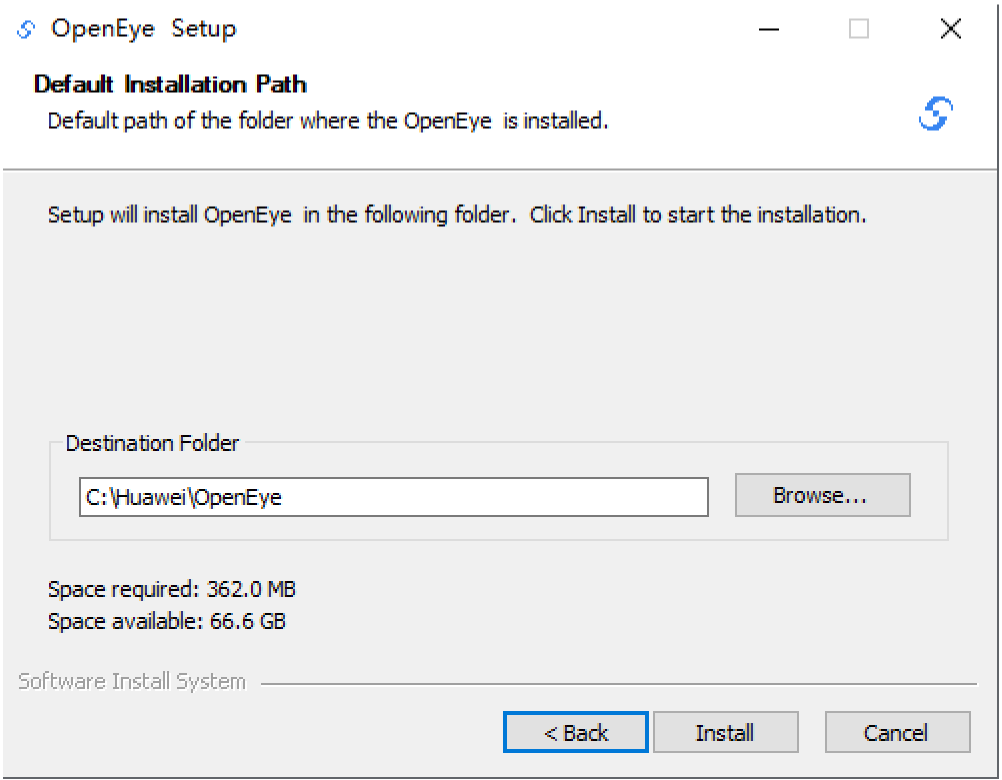
Step 3 Read the license agreements and click **I Accept**. If you do not accept the agreements, click **Cancel** to end the installation.

Figure 3-70 License Agreement window



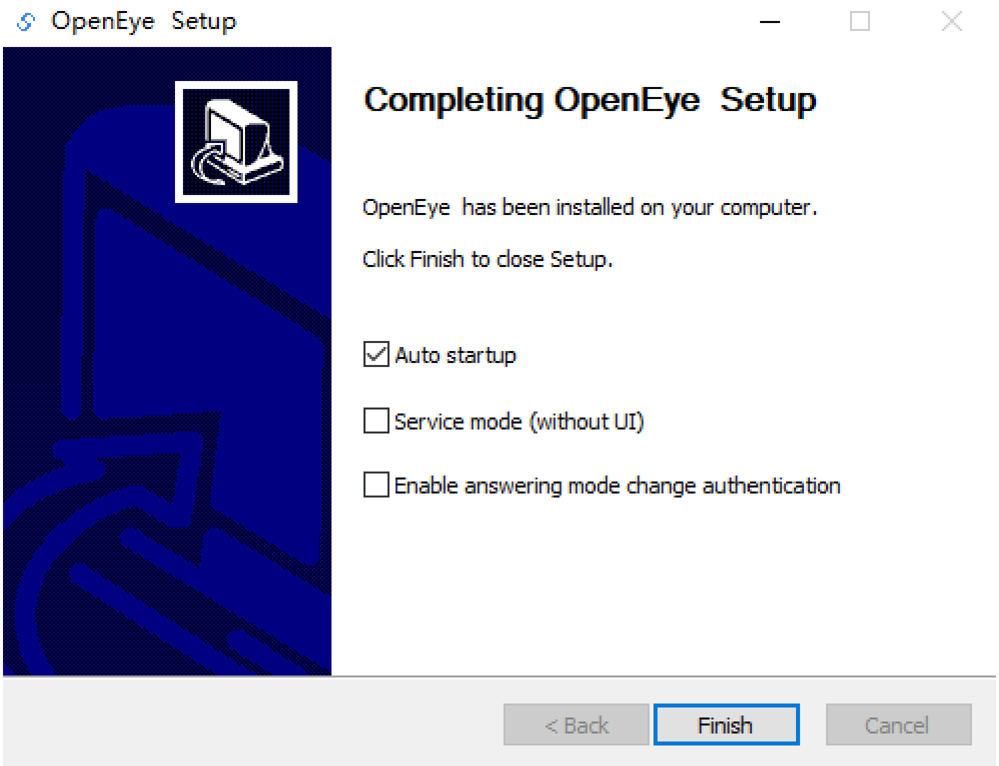
Step 4 The OpenEye provides a default installation path. Click **Browse** to change the installation path.

Figure 3-71 Installation path



Step 5 Click **Install**. The program will be installed automatically. After the installation is complete, you can modify some program settings.

Figure 3-72 Installing the OpenEye



NOTE

Auto startup: Whether the OpenEye is automatically started upon system startup.

Service mode (without UI): If this option is selected, after the OpenEye is started, the OpenEye window is hidden and the OpenEye icon appears in the task bar.

Enable answering mode change authentication: This option is selected by default. When this option is selected, only the administrator can change **Answering Mode** in general settings and select **Ring for 0 Seconds Before Auto-answer**. If this option is not selected, common operators can also change **Answering Mode**.

Preset files: The version for Windows supports the preset files replacing configurations and inbound call prompt tones during installation. The configured **config.xml** file is placed in the directory where the installation program is located, and is automatically imported for configuration when the installation is complete. The audio files are renamed (as **In.wav** for the inbound call prompt tone and **ring.wav** for the RBT), placed in the **\ring** folder in the directory where the installation program is located, and automatically replace the default prompt tones when the installation is complete. Currently, WAV files are supported, in PCMA, PCMU, or G.729 format or containing PCM data with the sampling precision of 8 or 16 bits and sampling rate of 8 kHz to 48 kHz. Dual channels are supported.

----End

3.12.3.1.2 Silent Installation

Procedure

Step 1 **Optional:** Open the CLI as an administrator and run the following commands to go to the folder where the **OpenEyeSetup.exe** installation program is located.

Figure 3-73 Commands for opening the installation program directory

```
Administrator: C:\windows\system32\cmd.exe

D:\>cd soft\OpenEye_V2.0

D:\Soft\OpenEye_V2.0>
```

NOTICE

The name of the path for storing the OpenEye installation package cannot contain Chinese characters or special characters. Otherwise, the installation fails.

Step 2 Perform the installation.

- **OpenEyeSetup.exe /S**: silent installation in the default path

  Figure 3-74 Command for installation in the default path

  ```
  D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S
  ```

- **OpenEyeSetup.exe /S /D=D:***xxxx******xxxx*: silent installation in a specified installation path

  Figure 3-75 Command for installation in a specified path

  ```
  D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S /D=D:\HUAWEI\OpenEye
  ```

- **OpenEyeSetup.exe /S /A=1**: silent installation in the default path, with the answering mode change authentication enabled

  Figure 3-76 Command for setting parameters for installation

  ```
  D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S /A=1
  ```

- **OpenEyeSetup.exe /S /A=1 /D=D:***xxxx******xxxx*: silent installation in a specified installation path, with the answering mode change authentication enabled

  Figure 3-77 Command for setting parameters and specifying the installation path

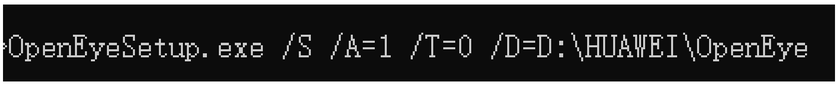
  ```
  D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S /A=1 /D=D:\HUAWEI\OpenEye
  ```

- **OpenEyeSetup.exe /S /L=2052 /D=D:***xxxx******xxxx*: silent installation in a specified installation path, with the language set to English

Figure 3-78 Command for setting the language and specifying the installation path

- **OpenEyeSetup.exe /S /A=1 /T=0 /D=D:***xxxx******xxxx*: silent installation in a specified installation path, with the answering mode change authentication enabled and answering mode interval set

Figure 3-79 Command for enabling the answering mode change authentication, setting the answering interval, and specifying the installation path



- **OpenEyeSetup.exe /S /WebMode=1 /AutoBoot=0**: web integration mode set to the service mode, with the auto startup upon system startup disabled

Figure 3-80 Command for setting the web integration mode to the service mode and disabling the auto startup upon system startup

NOTE

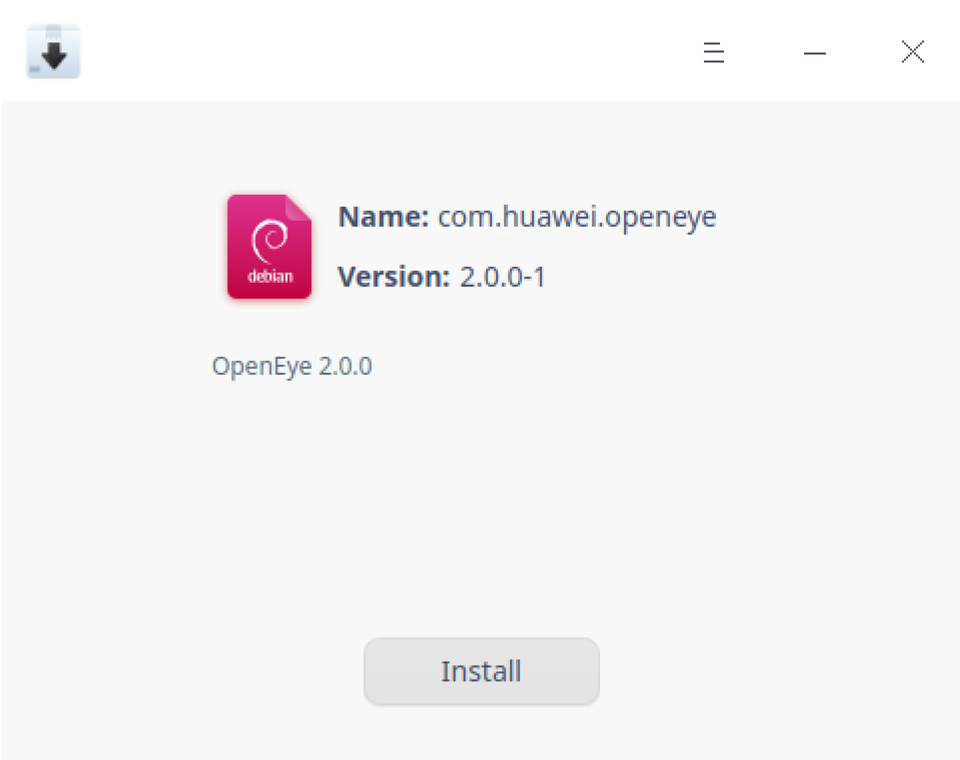
- **/S** indicates silent installation.
- **/A=1** indicates that answering mode change authentication is enabled.
- **/D=***Installation path* indicates the specified installation path.
- **/L=2052** indicates the language setting. **2052** indicates Chinese, **1033** indicates English, **1034** indicates Spanish, and **1054** indicates Thai. If this parameter is not set, the default language of the operating system is used.
- **/T=0** indicates that the answering interval is **0**. If this parameter is not set, the default interval (0) is used.
- **/T** takes effect on the OpenEye only when **/A** is set to **1**.
- **/WebMode=1** indicates that the web integration mode is set to the service mode. The value **0** indicates the common mode where the program window is displayed after the program is started. The value **1** indicates the service mode where the program window is hidden and the program icon appears in the task bar after the program is started.
- **/AutoBoot=0** indicates that the OpenEye is not started upon system startup. By default, the OpenEye is started upon system startup. You can use **/AutoBoot=0** to disable the function.

Use spaces to separate parameters. **/S** is mandatory for silent installation. If you want to specify an installation path, place **/D** as the last parameter in the installation command. Otherwise, the parameters following **/D** are regarded as a part of the path.

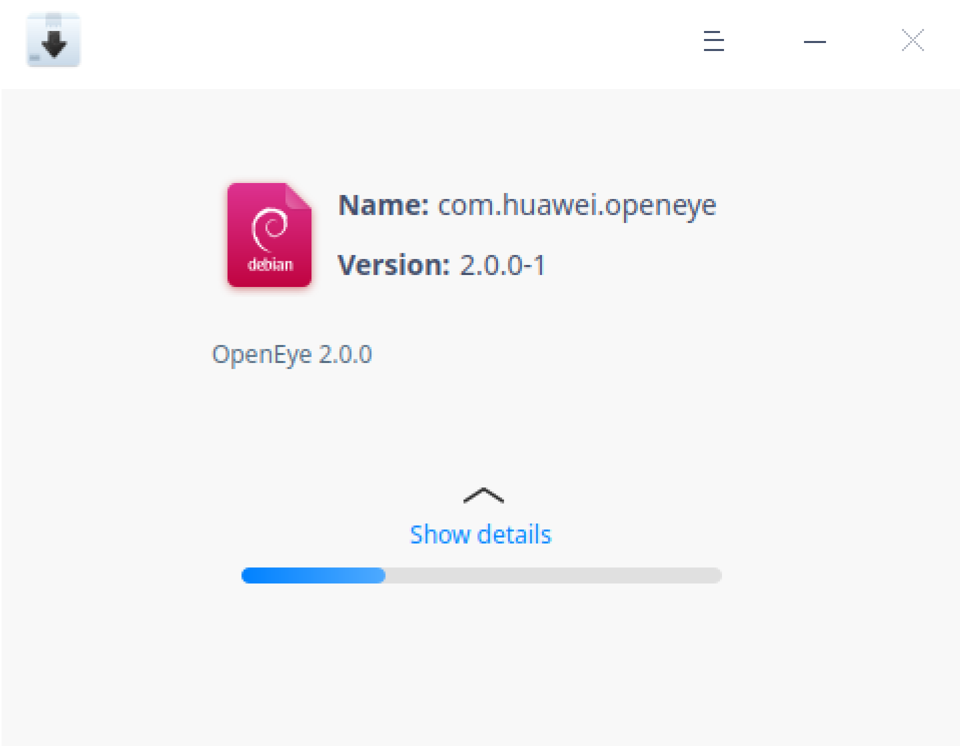
----End

3.12.3.1.3 Chinese Version Installation

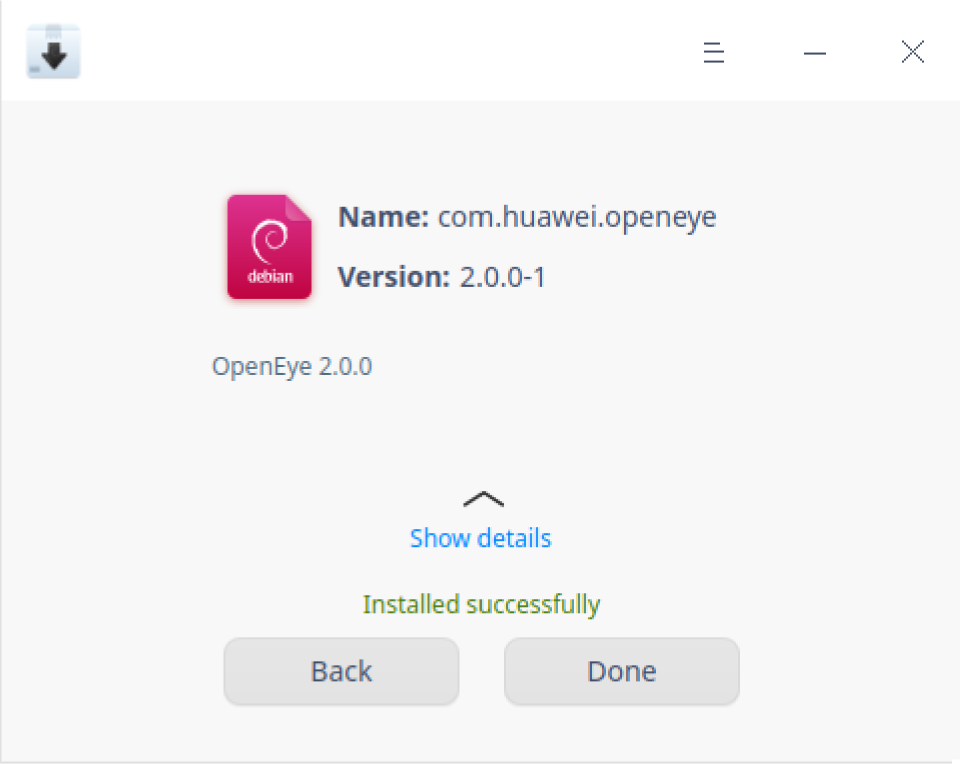
Step 1 Double-click the installation package to run the installation program



Step 2 Click **Install**. (You may need to enter the computer user password for authorization.)



Step 3 Complete the installation.



----End

NOTE

- After the installation is complete, you can run **DefaultWebMode.sh** in the installation directory to switch the program to the service mode (where the program window is hidden and the program icon appears in the task bar after the program is started).
- If you run the **sudo dpkg -i com.huawei.openeye*.deb** command to install the software, when the message "launch mode without UI: yes/no ?" is displayed, you can enter **yes** to select the service mode.

3.12.3.2 Version Upgrade

3.12.3.2.1 Windows Version Upgrade

Overview

Version upgrade requires uninstalling the original version and installing the new version.

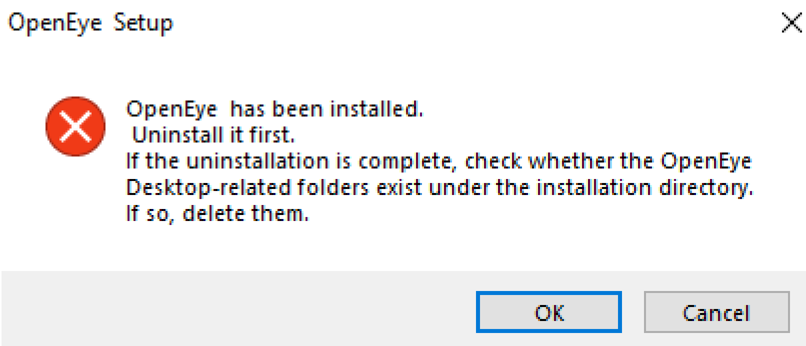
You can perform the upgrade in either of the following ways:

- Overwrite upgrade: Overwrite the original OpenEye client, which retains the original configuration.
- Upgrade after uninstallation: Manually uninstall the original client and install the new version. You can choose whether to retain the original client configuration.

Overwrite Upgrade

Step 1 Double-click **OpenEyeSetup.exe** to install the program. An uninstallation prompt is displayed. Click **OK** to uninstall the OpenEye of the original version.

Figure 3-81 Uninstallation prompt



Step 2 Wait until the uninstallation is complete. After the uninstallation is complete, install the new version. For details, see **Procedure**.

----End

Upgrade After Uninstallation

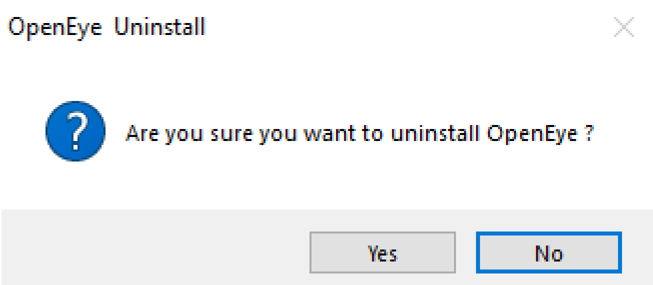
Step 1 Manually uninstall the OpenEye program of the original version.

You can choose either of the following ways as required:

- Click the **Start** button, go to **Settings** > **Apps**, find the OpenEye application in the installed application list, and click **Uninstall** to manually uninstall it.
- Go to the OpenEye installation directory, for example, **C:\Huawei\OpenEye**. Double-click the uninstallation program uninst.exe to manually uninstall it.

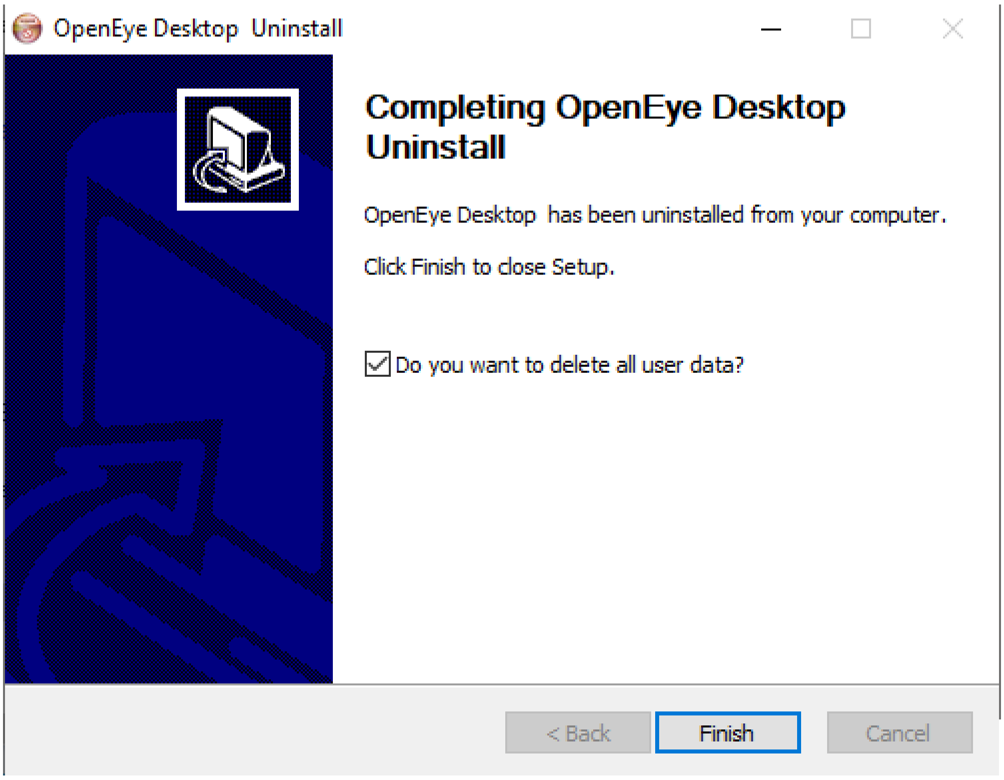
Step 2 Confirm the uninstallation and click **OK**.

Figure 3-82 Information confirmation



Step 3 When the uninstallation is complete, select **Do you want to delete all user data?** and click **Finish**.

Figure 3-83 Uninstalling the program



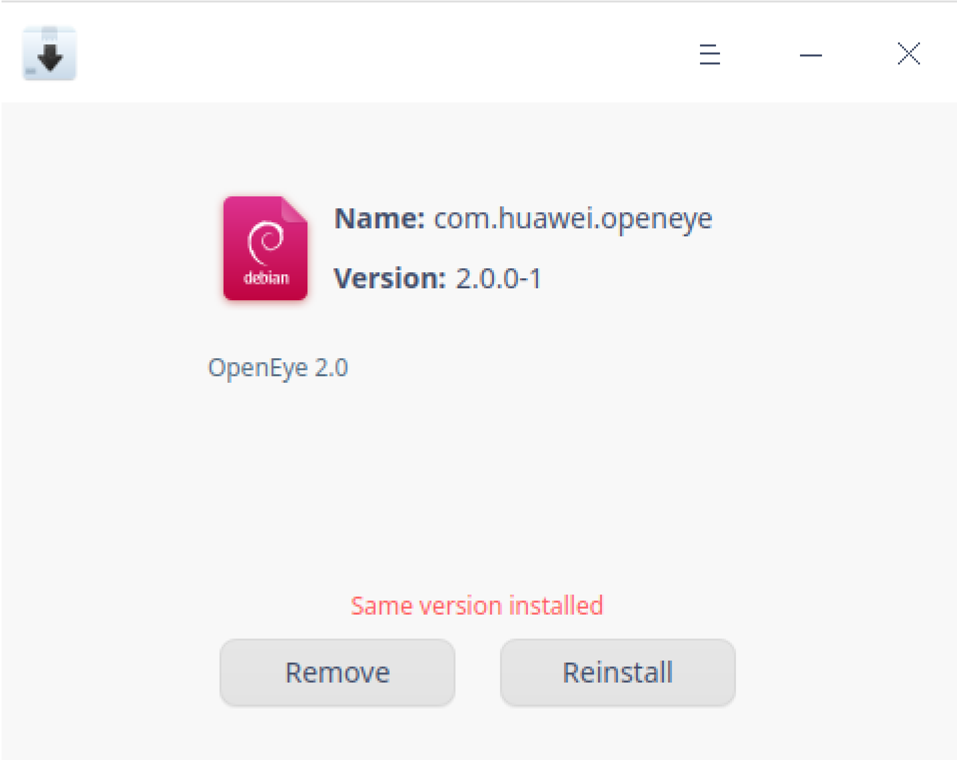
Step 4 Double-click **OpenEyeSetup.exe** to run the installation program. For details, see **Common Installation**.

----End

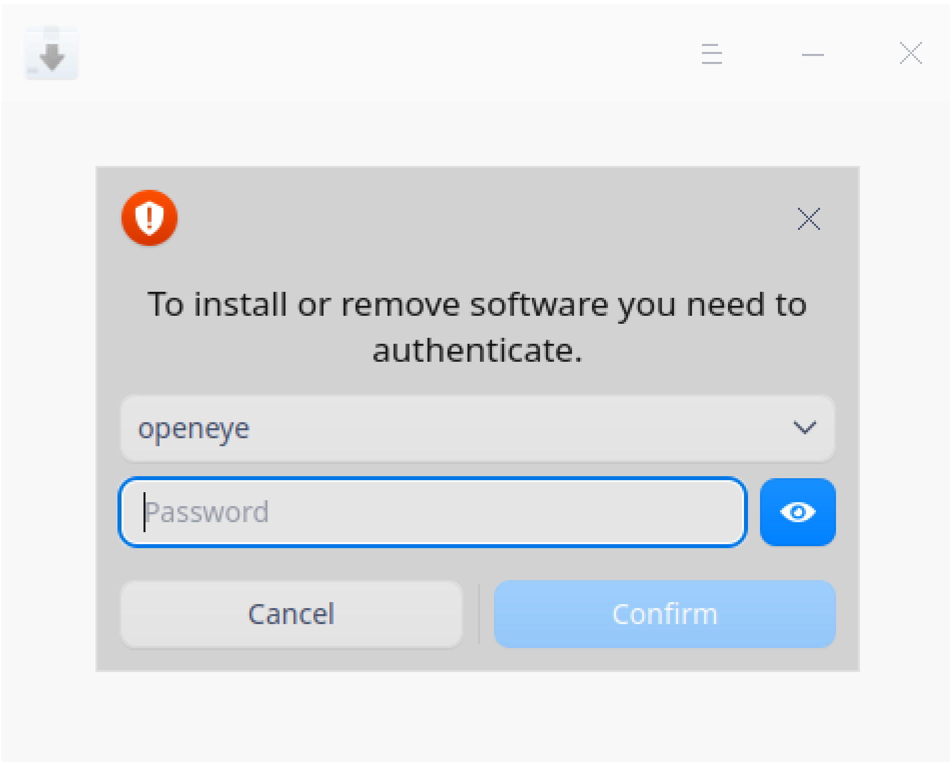
3.12.3.2.2 Upgrade for Chinese Version

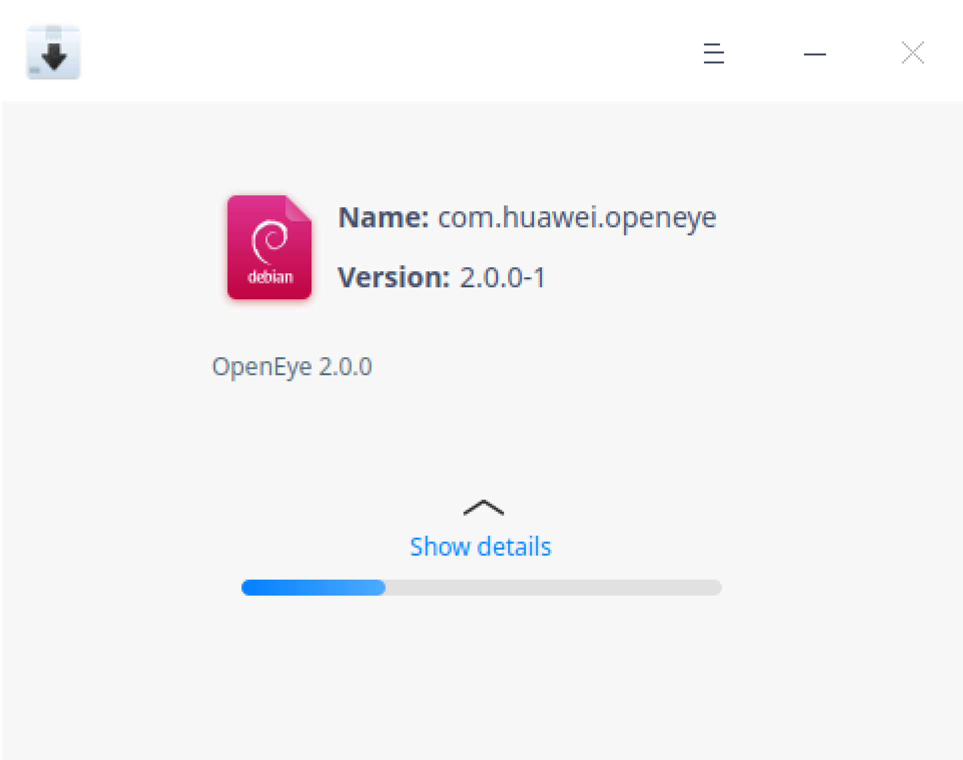
Overwrite Upgrade

Step 1 Double-click the **com.huawei.openeye_2.0.0-1_arm64.deb** installation program. A message is displayed, indicating that the same version has been installed. Click **Reinstall**.

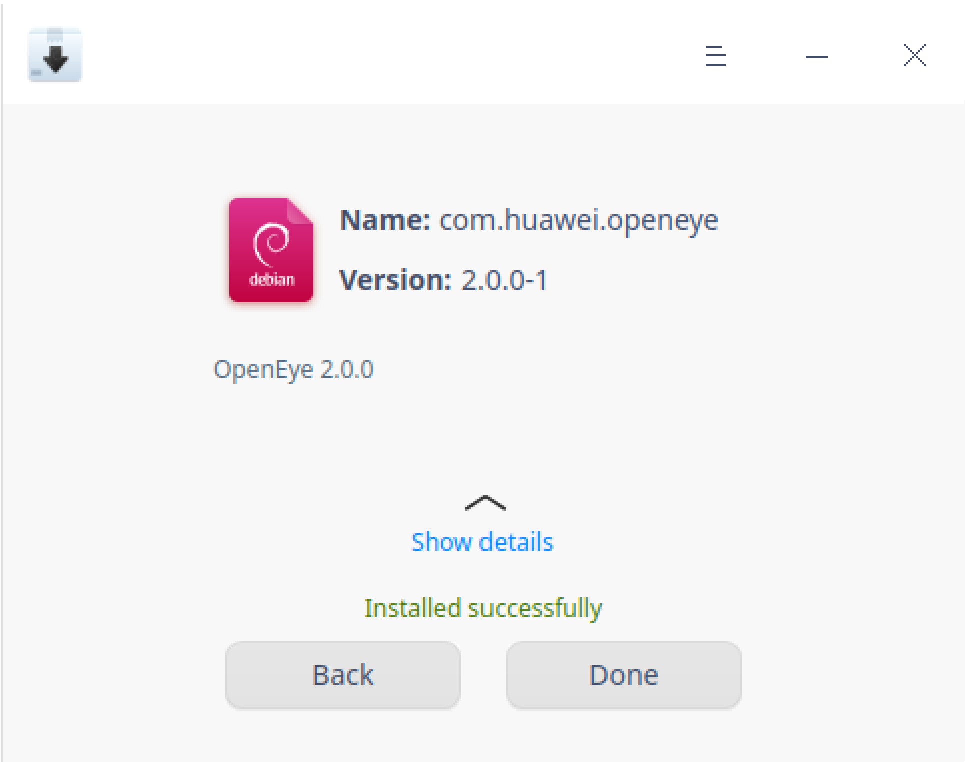


Step 2 In the displayed dialog box, enter the password and click **Confirm**.





Step 3 Complete the installation.



----End

3.12.3.3 Verifying Software Package Integrity

To prevent software packages from being tampered with or damaged during transmission, which may threaten the carrier network security, you need to verify the integrity of the software packages after obtaining them. Software packages can be deployed only after they pass the verification.

Context

Each software package and its signature file are stored in the same directory. Each software package corresponds to a verification file, which is used to verify the integrity of the software package. To download the digital signature file of a software package, click **pgp** or **cms** corresponding to the software package on the support website.

- You can click **pgp** to download a signature file in .asc format for manually verifying the integrity of a software package. To use a software package independently, you need to manually verify the integrity of the software package. For details, see **Procedure**.

  NOTE

  This method can be used to verify the integrity of all software packages.
- You can click **cms** to download a signature file in .p7s format for automatically verifying the integrity of a software package. You need to import a software package together with its CMS signature for the NMS or deployment tool to verify the digital signature.

Procedure

Step 1 Visit **https://support.huawei.com/carrierindex/en/hwe/index.html**.

Step 2 Download *OpenPGP Signature Verification Guide*.

The download URL is **https://support.huawei.com/carrier/docview!docview?nid=PK100000008**.

Step 3 Verify software package integrity by referring to *OpenPGP Signature Verification Guide*.

----End

Troubleshooting

If a software package fails the verification, do not use the software package, and contact Huawei technical support.

3.12.4 Help Information Obtaining

3.12.4.1 Obtaining Help Information

To obtain the help document, select the OpenEye client software and press **F1**.

3.12.5 Login and Logout

The login module of the OpenEye client software provides the functions of login, logout, password remembering, and automatic login.

NOTE

The login module does not provide the password change function. The UAP server does not provide the API function interface for changing user passwords. Therefore, the client based on the API function interface of the UAP server cannot implement this function. From the perspective of customer requirements, no agent can proactively change phone account passwords of a carrier's businesses. Phone accounts are created by an administrator in a unified manner, and passwords are set and changed by the administrator.

3.12.5.1 Login

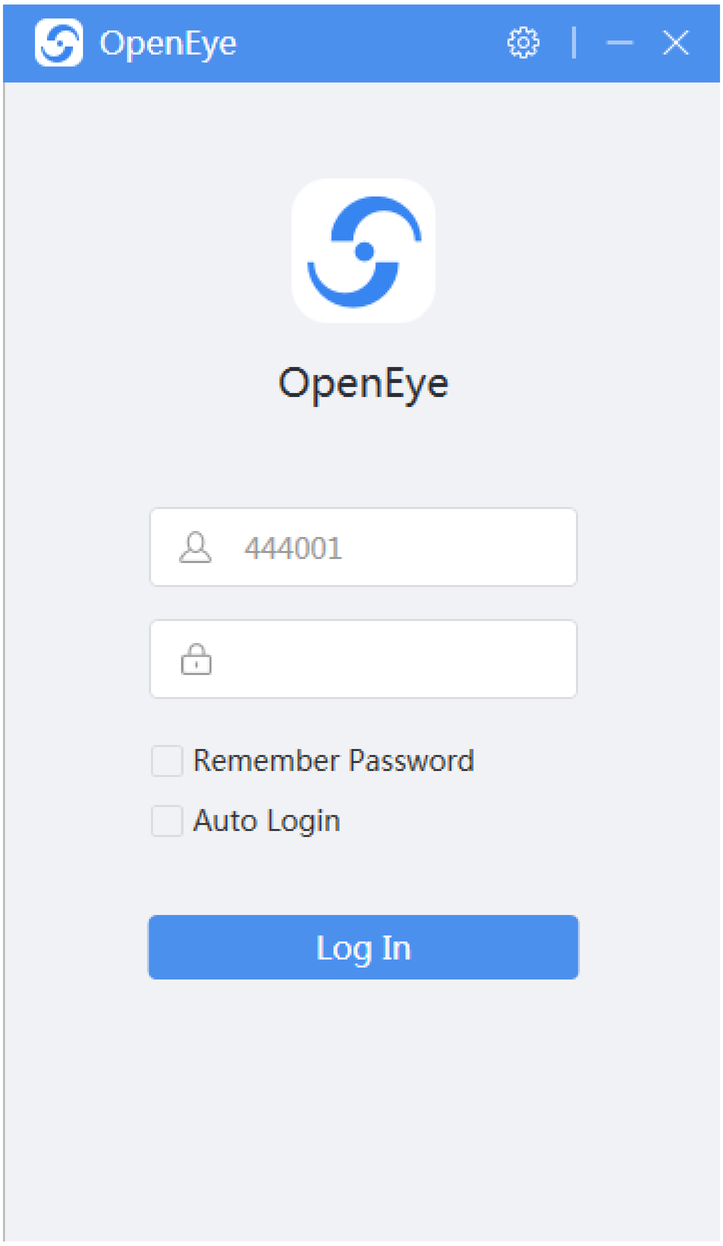
Prerequisites

You have completed the configurations in **Settings** > **Server Settings**.

Procedure

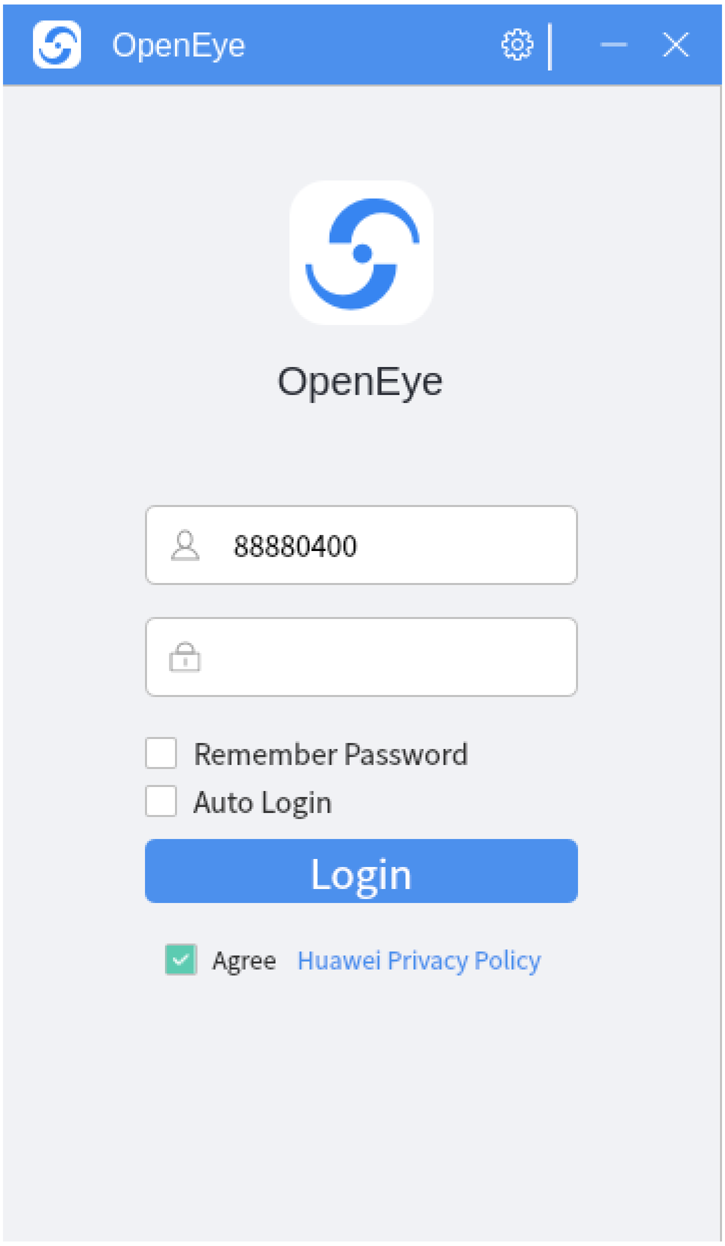
Step 1 Double-click the OpenEye and enter the softphone number and password on the login page. You can select **Remember Password** or **Auto Login** as required. Click **Log In**.

Figure 3-84 Login page



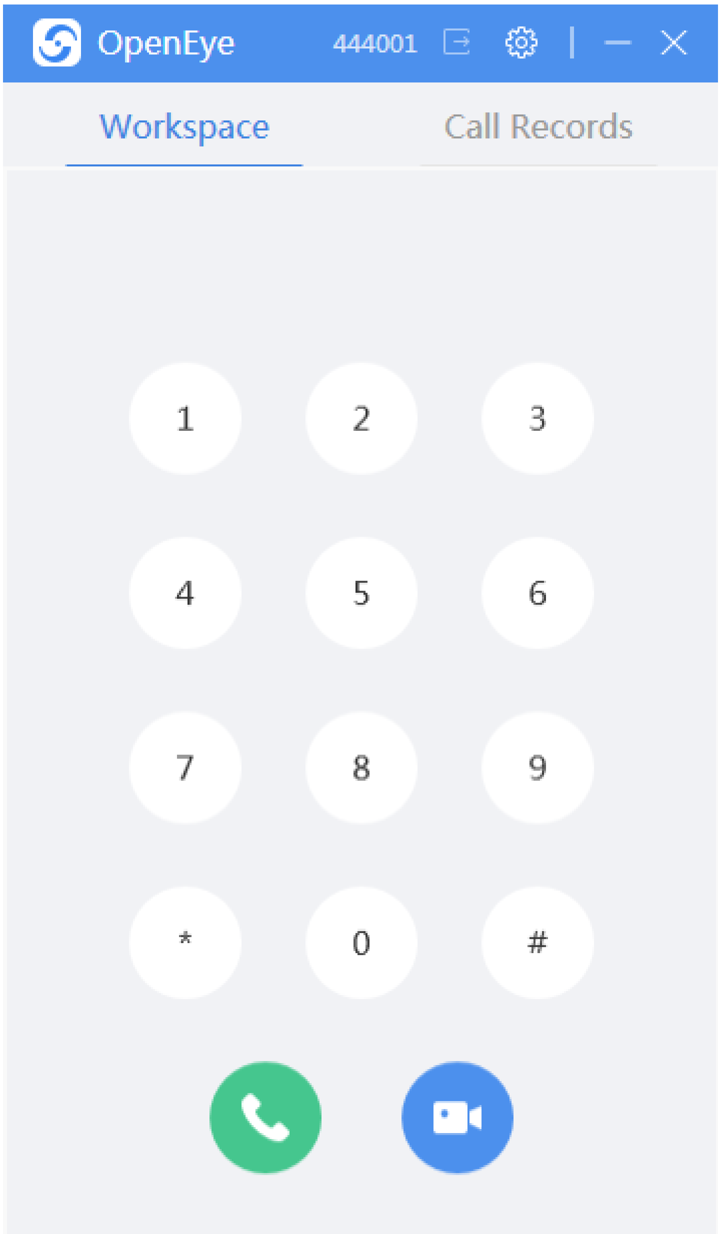
Before logging in to the Chinese version and making anonymous calls, select **Agree Huawei Privacy Policy**.

Figure 3-85 Login Page - Chinese Version



Step 2 Log in to the OpenEye workspace page. If the login fails, a dialog box is displayed, prompting you to change the account or password.

Figure 3-86 OpenEye workspace

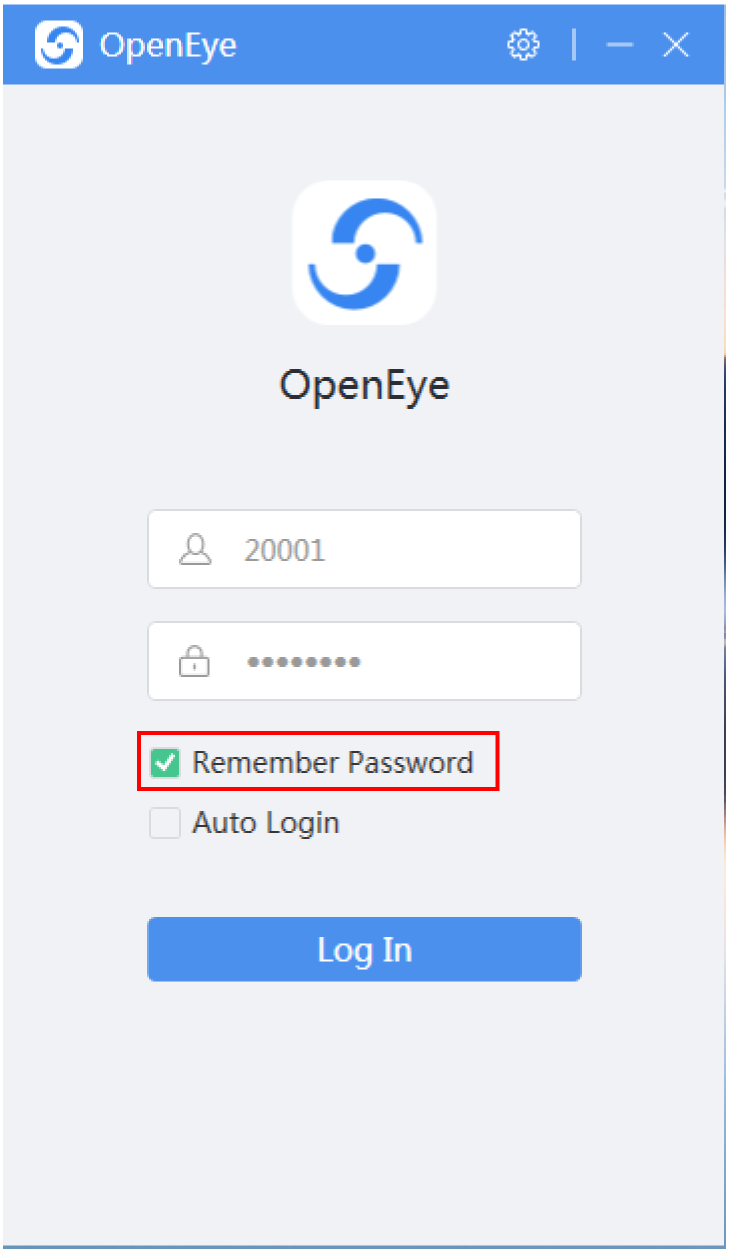


----End

3.12.5.2 Remember Password

The **Remember Password** function is supported on the login page. You can select **Remember Password** to save the password so that you do not need to enter the password in the next login.

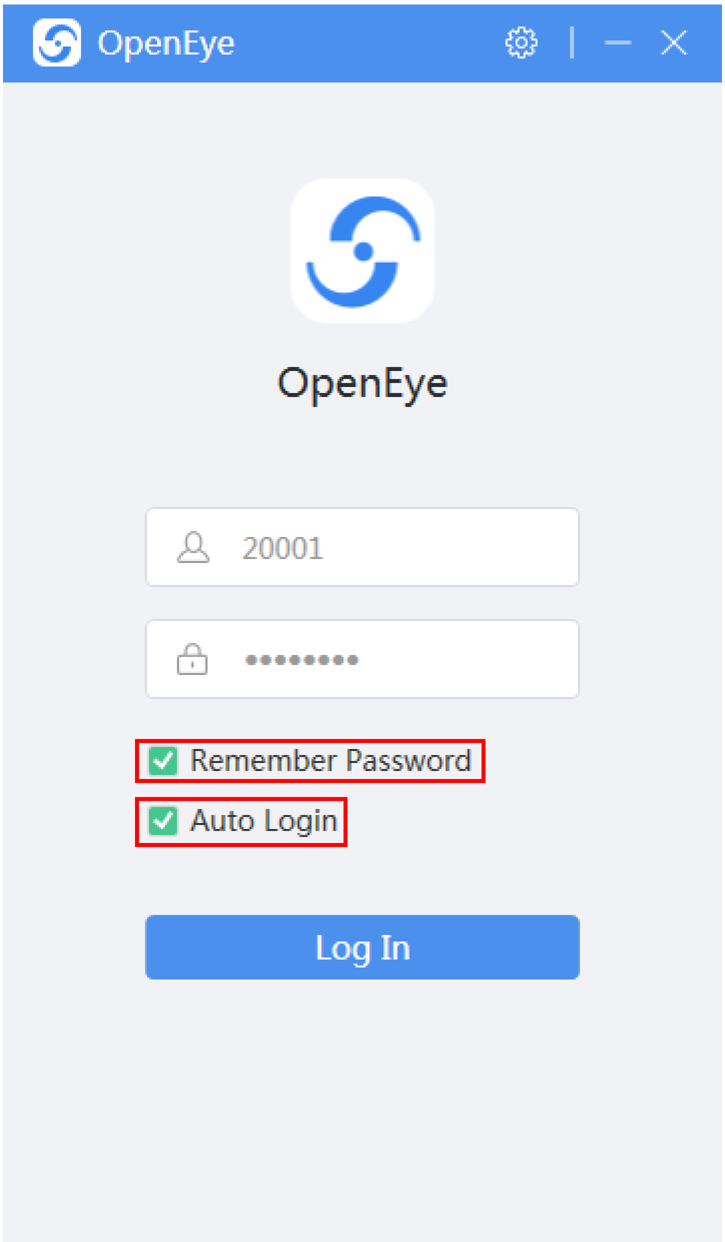
Figure 3-87 Remember Password



3.12.5.3 Auto Login

The **Auto Login** function is supported on the login page, which takes effect after the login is successful. The login information used for the successful login are automatically used for the next login to the OpenEye.

Figure 3-88 Auto Login



NOTE

You can select both **Remember Password** and **Auto Login** or only one of them.

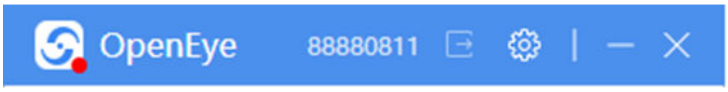
3.12.5.4 Login Status

NOTE

After login, a dot is added to the logo on the home page. The login status is displayed in green, red, or gray respectively. Move the pointer to the logo on the home page. A dialog box is displayed, indicating *IP address*:*Port number* of a server. The registration status (dot in different colors) is displayed. The server registration status is displayed in green or gray. In pool networking, the registration status of all servers is displayed. In non-pool networking, only the status of the server registered successfully is displayed.

Logo displayed (green, red, and gray) after successful login is as follows.

Figure 3-89 Logo on the home page



Login status is as follows.

Figure 3-90 All servers are registered and logged in

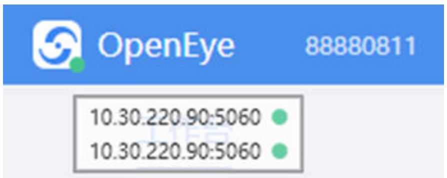


Figure 3-91 Red: some servers failed to be registered or logged in

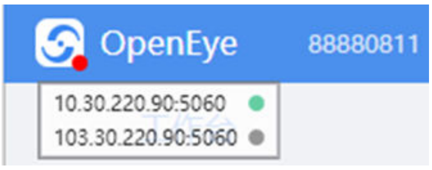
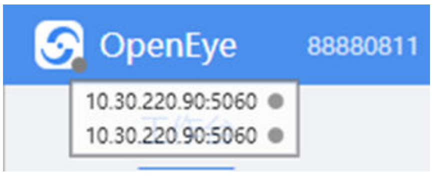


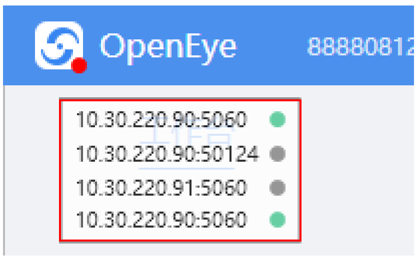
Figure 3-92 All servers are offline



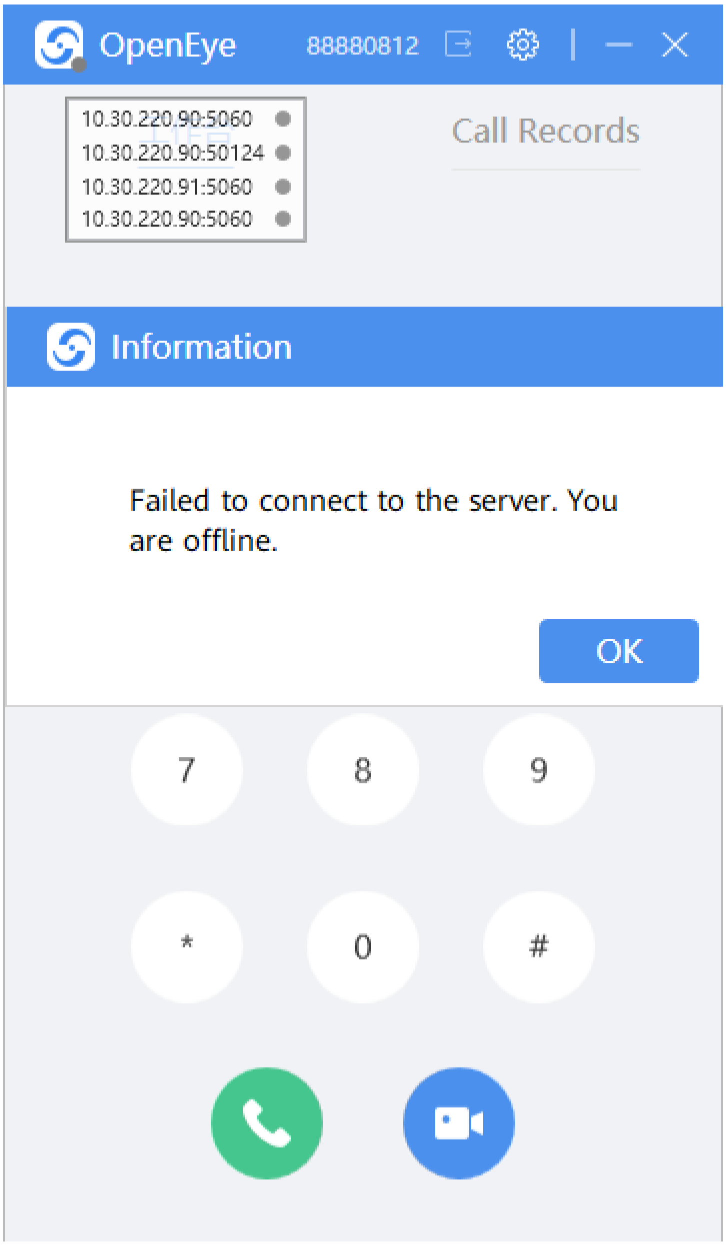
Elements in the server status dialog box:

IP address:*Port number*

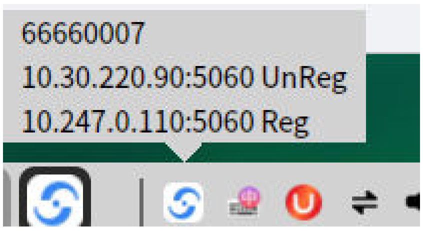
Figure 3-93 Green: registration successful; gray: registration failed



All servers are offline, the login status turns gray, and a dialog box is displayed, indicating that the servers are offline.



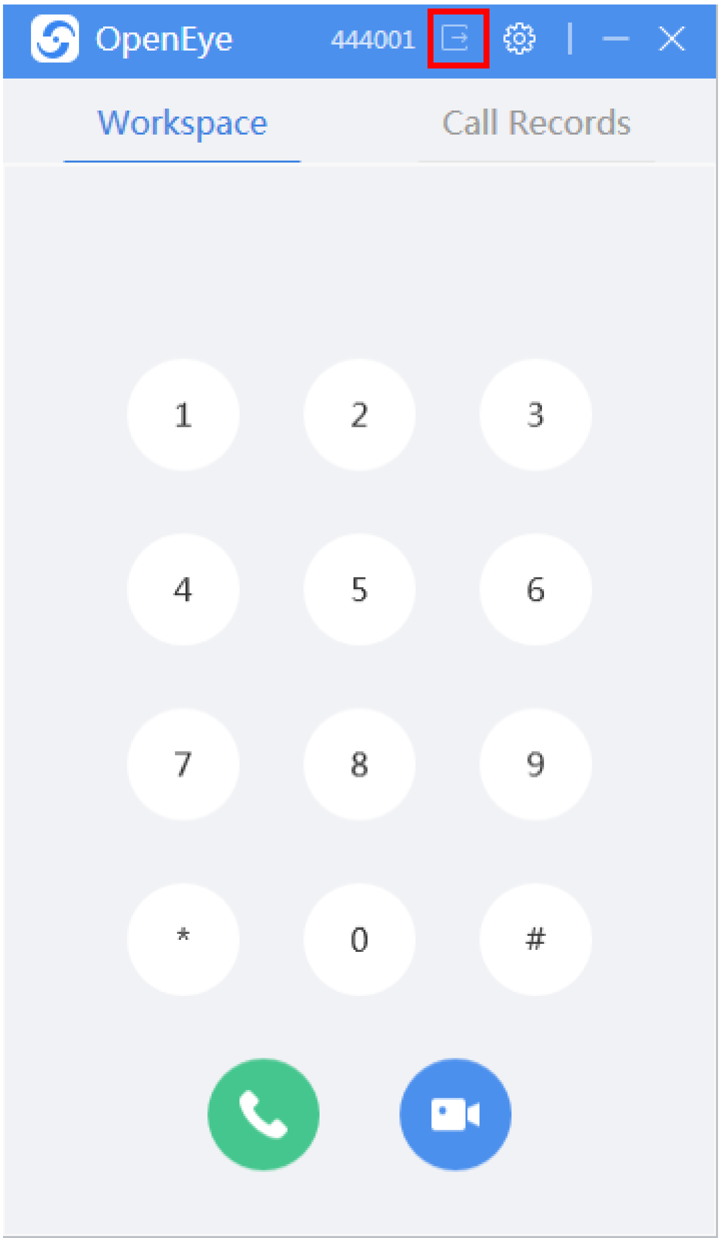
After the login, when you move the cursor over the OpenEye icon in the task bar, an infotip is displayed, showing the server registration status. **Reg** indicates that the registration is successful while **UnReg** indicates that the registration fails.



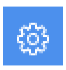
3.12.5.5 Logout

After login, you can click  on the workspace to log out of the system and return to the login page.

Figure 3-94 Logout



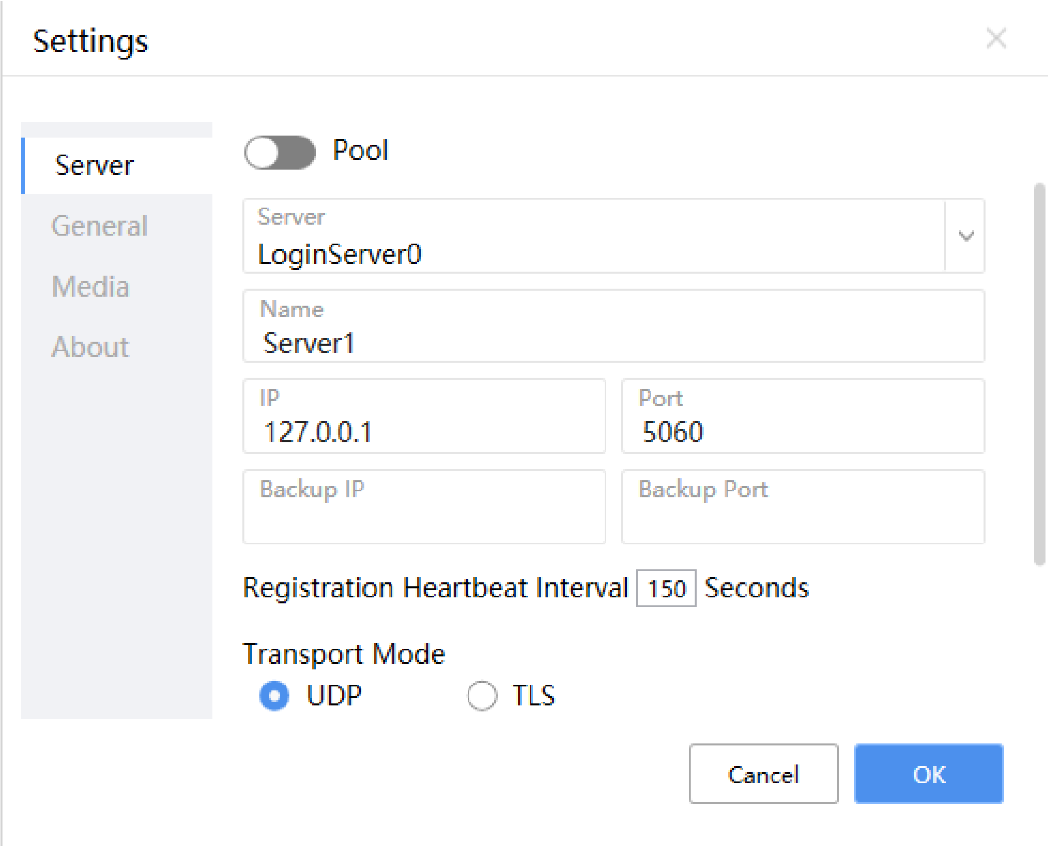
3.12.6 Introduction to System Settings

The OpenEye client allows customers to customize some system parameters to meet personalized requirements. You can click  to go to the setting page and set parameters.

3.12.6.1 Server Settings

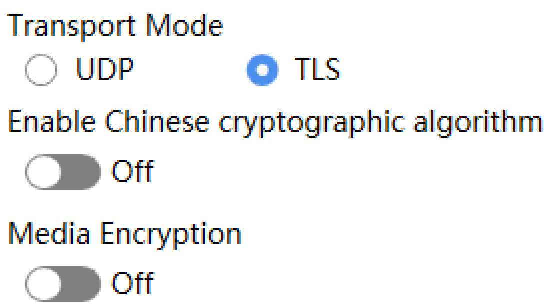
Server settings support the pool networking mode and common server setting mode.

Figure 3-95 Settings page



- Common networking: single-server configuration. The configuration information is as follows:
  - **Server**: Select a server from the drop-down list. A maximum of five servers can be configured.
  - **Name**: server name
  - **IP**: IP address of the server
  - **Port**: port number of the server
  - **Backup IP**: IP address of the backup server
  - **Backup Port**: port number of the backup server
  - **Registration Heartbeat Interval**: The default value is **150**. The minimum value is **30**, which is half of the login expiration time.
  - **Transport Mode**: UDP and TLS modes are supported.

  In TLS transmission mode, you can choose whether to enable **Enable Chinese cryptographic algorithm** and **Media Encryption**.

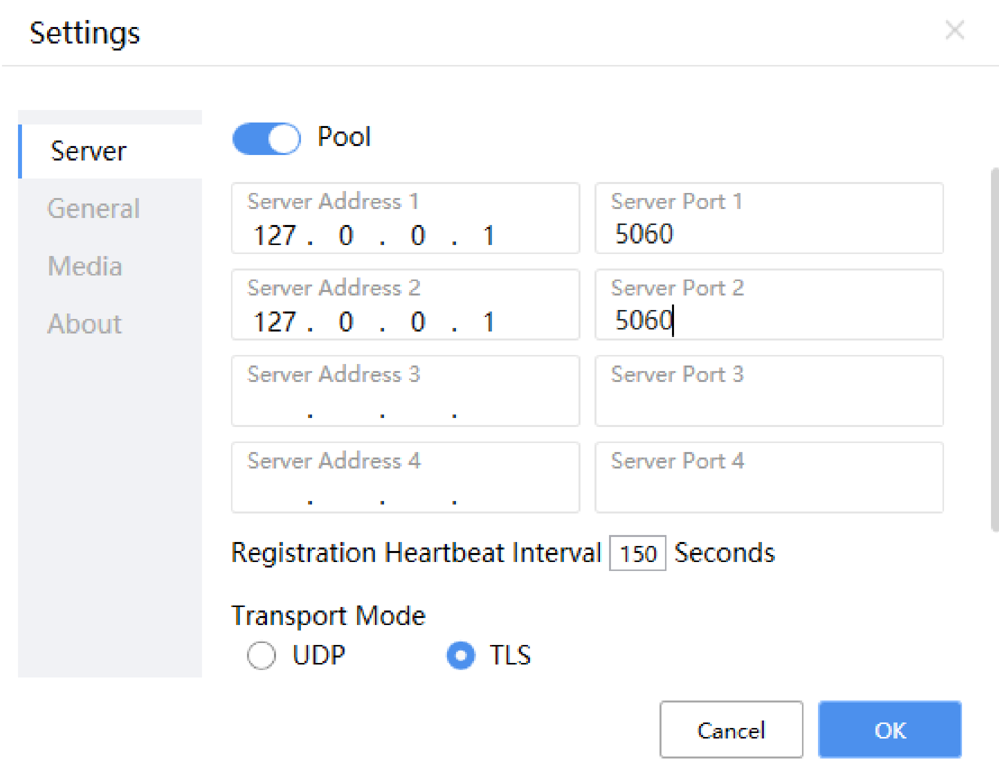


To use the TLS transmission mode, you need to configure the certificates and keys in the **config.xml** file in the program installation directory.

```
<!--Non-Chinese cryptographic algorithm-->
<setting key="tlsParam" caCertPath="" clientCertPath="" clientKeyPath="" clientPrivkeyPwd="" />
<!--Chinese cryptographic algorithm-->
<setting key="smTlsParam" smSignCertPath="" smSignKeyCertPath="" smSignKeyFilePwd="" smEncCertPath="" smEncKeyCertPath="" smEncKeyFilePwd="" smGmCaDirPath="" />
```

- Pool networking: One account can be used to log in to multiple servers at the same time. Currently, a maximum of four servers are supported. In this mode, the login account can answer inbound calls from any server in the pool. When an outbound call is made, the first server set in the pool is used as the primary server. That is, only the account on the first server set in the pool can be used to make outbound calls.

Figure 3-96 Configuring the pool networking



NOTE

- The minimum heartbeat interval that can take effect is determined by the minimum login expiration time configured on the connected server.
- Server setting operations are not allowed during a call. To set server information, log out of the OpenEye.
- After the registration is successful, the OpenEye sends Option messages every 30 seconds to keep the UDP port alive. Maintenance personnel can modify Option message sending configuration in the **config.xml** file as follows: Add **<optionInterval value="***30***" />** under the **configuration/settings** node. **optionInterval value** indicates the interval. If it is set to **0** or a value greater than or equal to the registration heartbeat interval, Option messages are not sent. The minimum interval is 10 seconds. If **optionInterval value** is set to a value less than 10, Option messages are sent every 10 seconds.

3.12.6.2 General Settings

General settings of the OpenEye allow you to set the language, answering mode, shortcut key for screenshots, path for saving screenshots, and screenshot format.

Figure 3-97 General settings 1 (administrator)

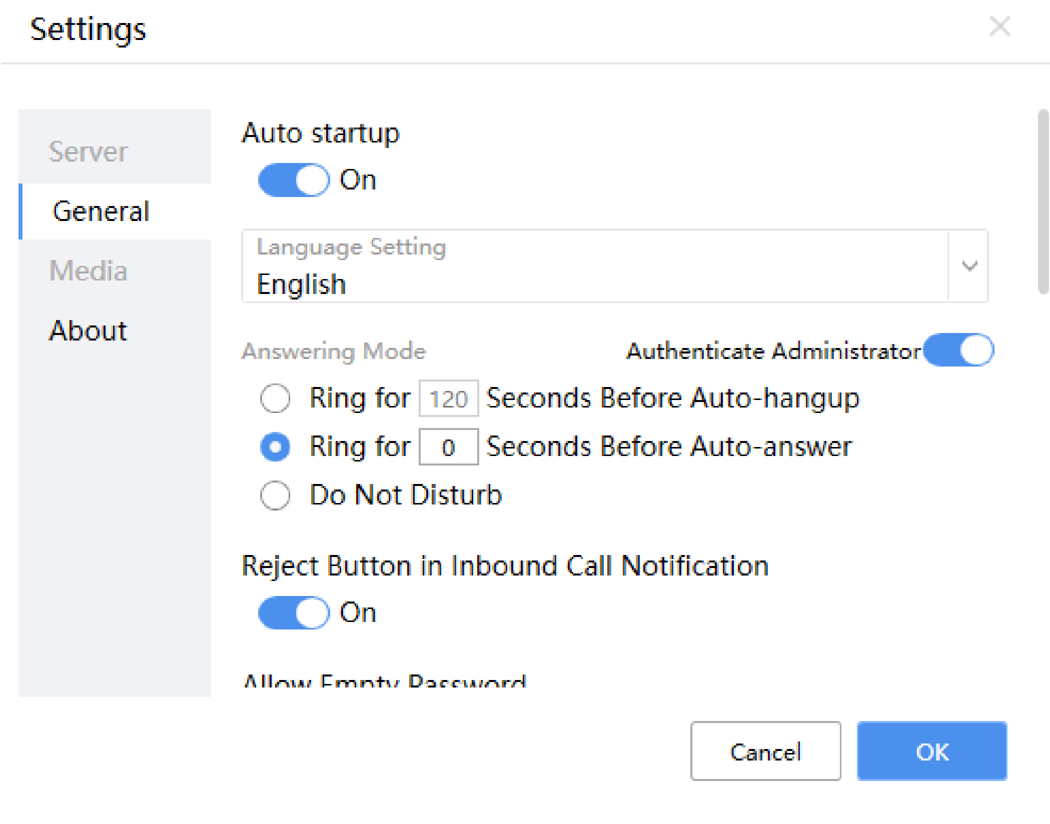


Figure 3-98 General settings 2

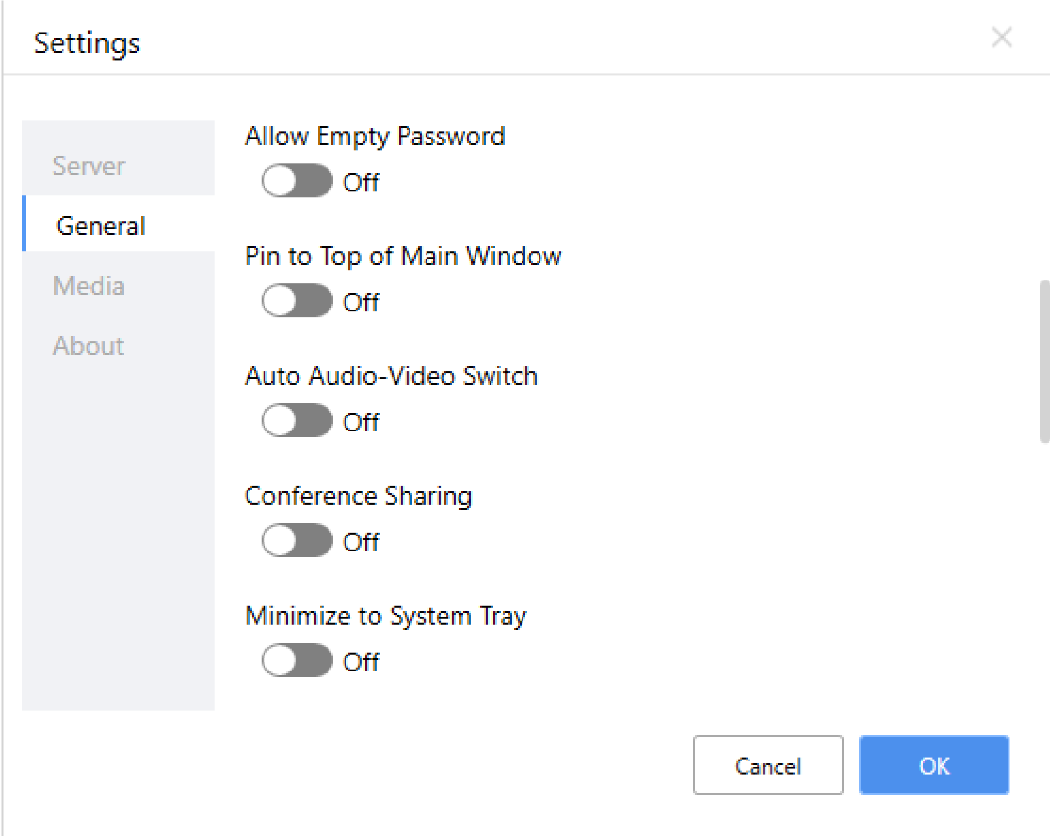


Figure 3-99 General settings 3

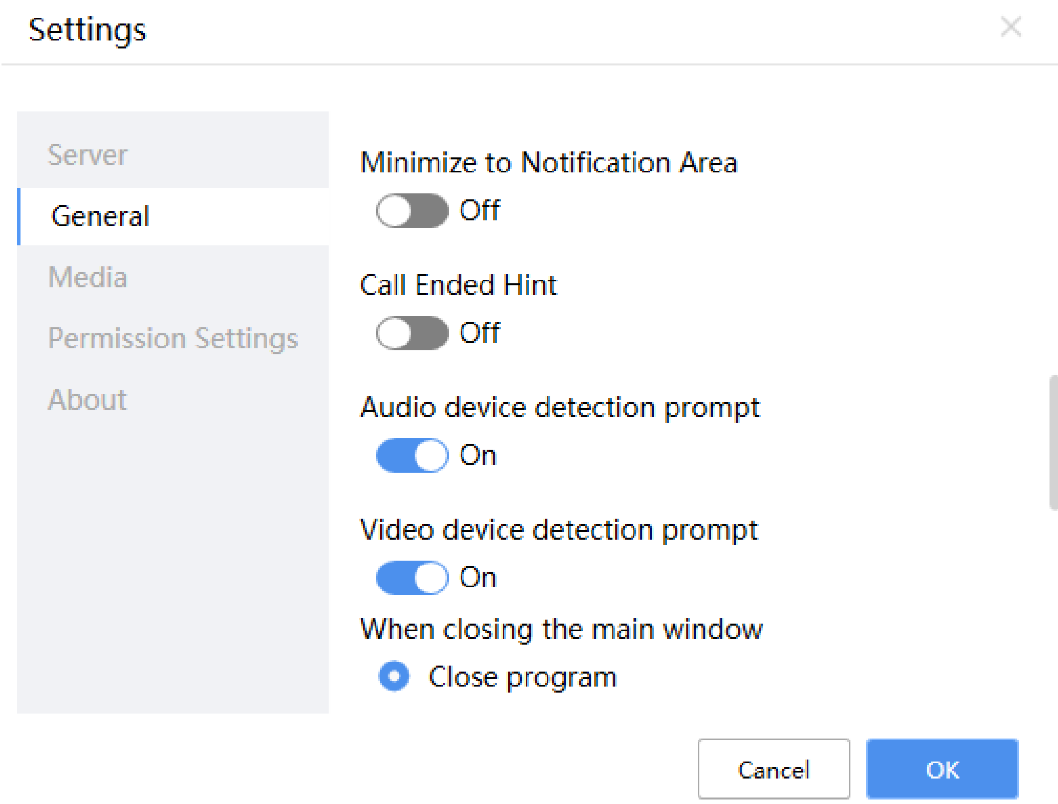


Figure 3-100 General settings 4

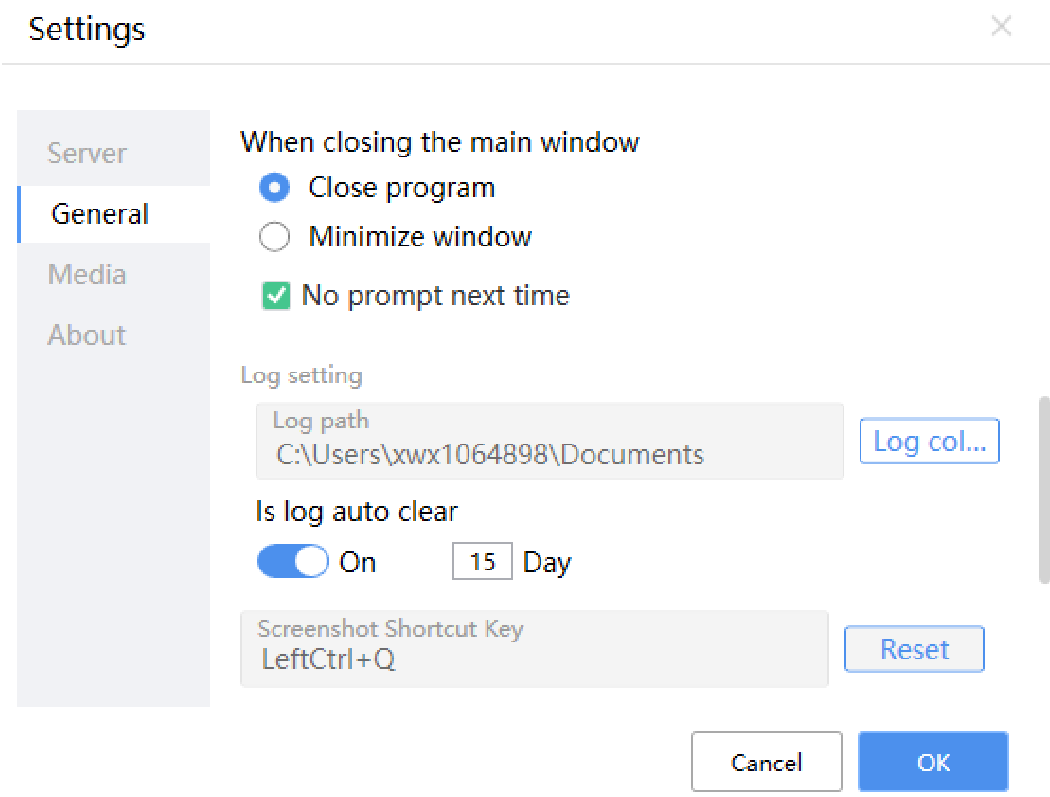
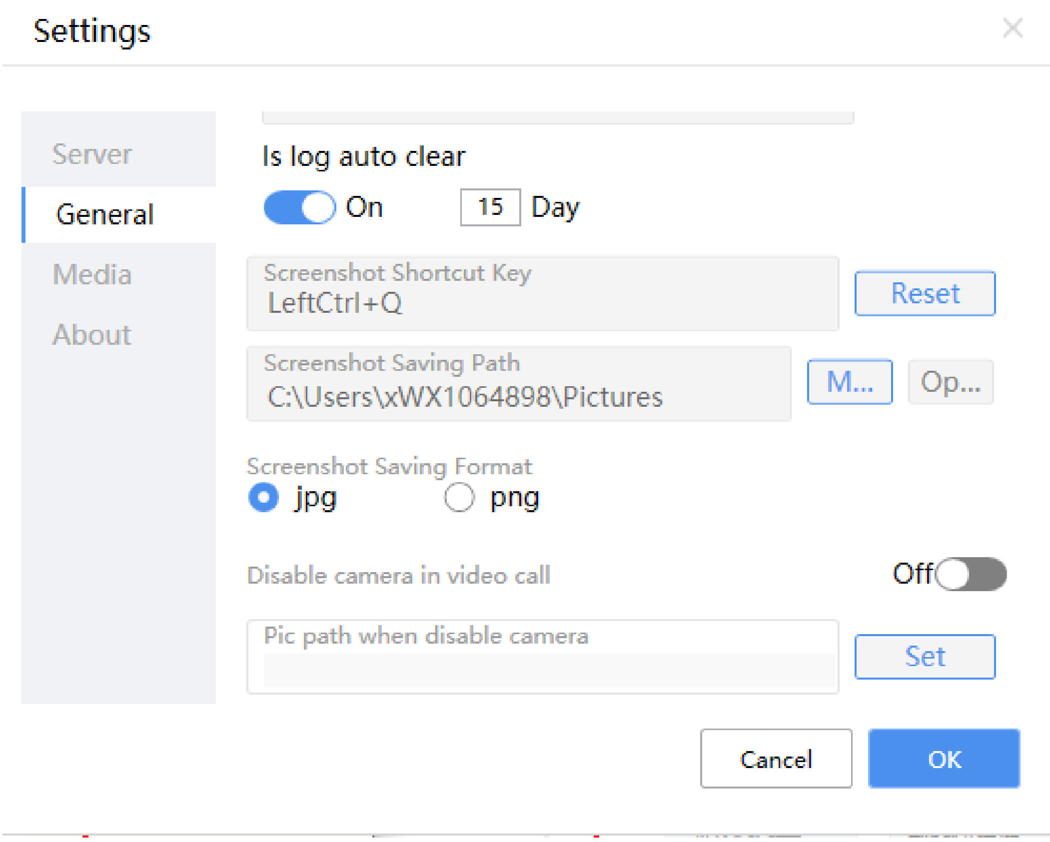


Figure 3-101 General settings 5



- **Auto startup**

  Set whether the OpenEye starts with the Windows OS. This function is disabled by default.

  NOTE

  You can enable the OpenEye auto startup function for the China-made environment on the **Settings** page.

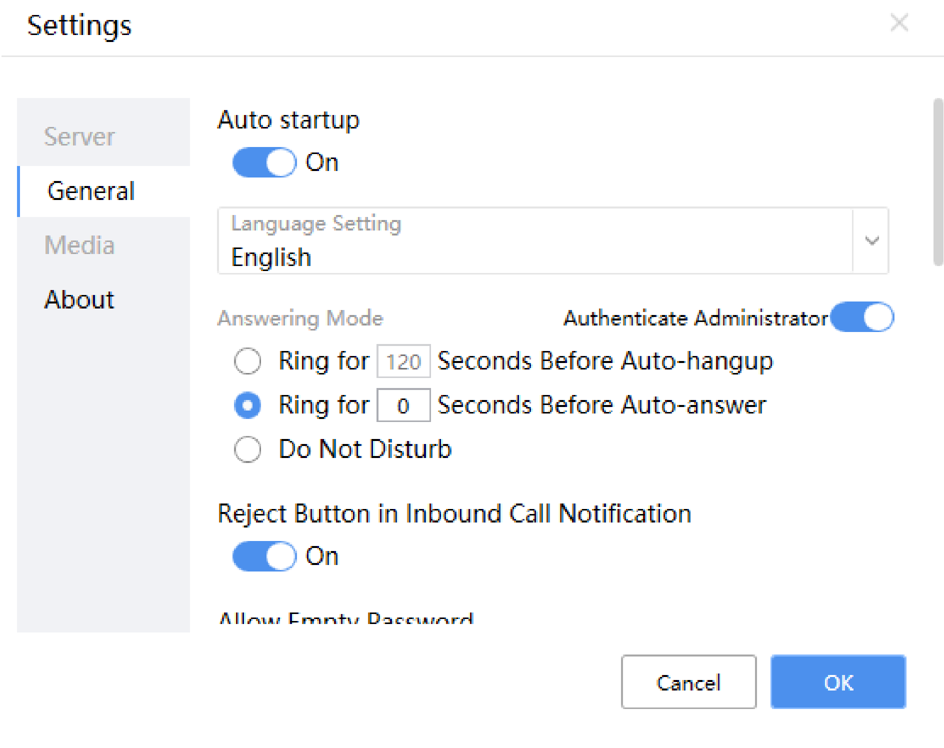
- **Language Setting**

  Simplified Chinese and English are supported. The setting takes effect after restart. The default language is simplified Chinese.

- **Answering Mode**
  - If the answering mode change authentication is enabled:

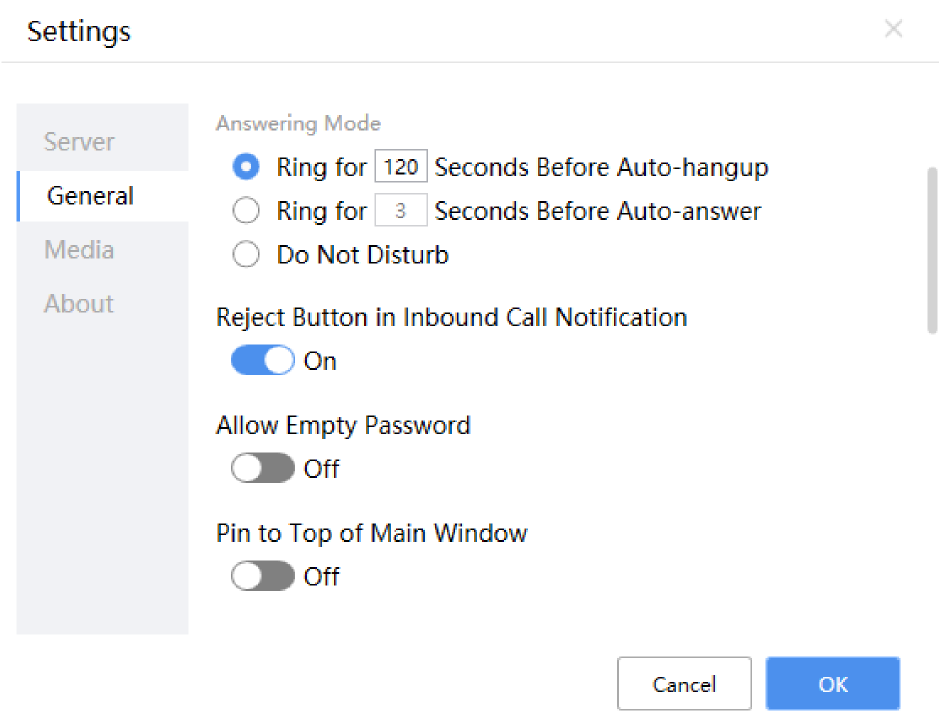
    When an administrator logs in to the OpenEye, the **Authenticate Administrator** switch is displayed and **Answering Mode** can be changed. **Figure 3-97** shows the details.

    A common operator cannot change the answering mode.



– If the answering mode change authentication is disabled:

Both the administrator and common operators can change **Answering Mode** and **Authenticate Administrator** is not displayed.



a. **Ring for *N* Seconds Before Auto-hangup**

The system automatically releases an inbound call after the preset waiting time. *N* is the waiting time configured by users, in seconds. The default value is **120**. The recommended value ranges from 1 to 120.

b. **Ring for *N* Seconds Before Auto-answer**

The system automatically answers an inbound call after the preset waiting time. *N* is the waiting time configured by users, in seconds. The default value is **3**. The recommended value ranges from 1 to 120.

NOTE

If this parameter is set to **0**, the call is automatically answered and no message is displayed.

c. **Do Not Disturb**

The system will not notify you of calls from any contact or unknown person and will automatically reject the calls.

- **Reject Button in Inbound Call Notification**

  This function is enabled by default. If this function is disabled, the **Reject** button in the lower right corner of the **Inbound Call Notification** window is hidden.

Figure 3-102 Inbound Call Notification - the Reject button displayed

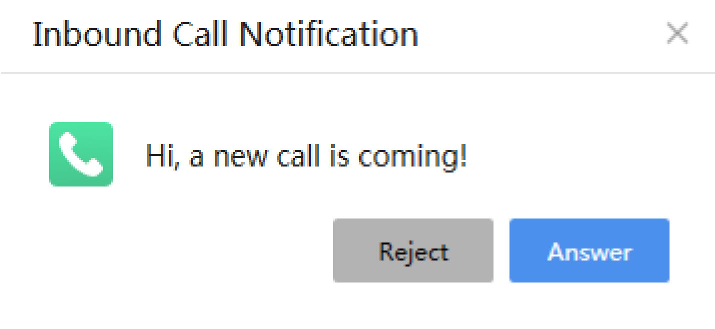
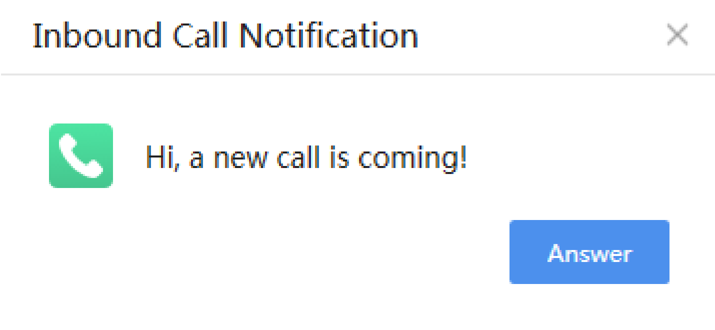


Figure 3-103 Inbound Call Notification - the Reject button hidden



- **Pin to Top of Main Window**

  After this function is enabled, the main window can be displayed on the top and is not covered by other windows. This function is disabled by default.

- **Allow Empty Password**

  When this function is disabled, if the password text box is empty, the login request is rejected and no login request is sent to the server. After this function is enabled, the system does not check whether the password text box is empty. Instead, the system sends a login request to the server for password verification. This function is disabled by default.

NOTE

- By default, the **Allow Empty Password** function is disabled. If this function is enabled, security risks exist. Exercise caution when enabling this function.

- **Auto Audio-Video Switch**

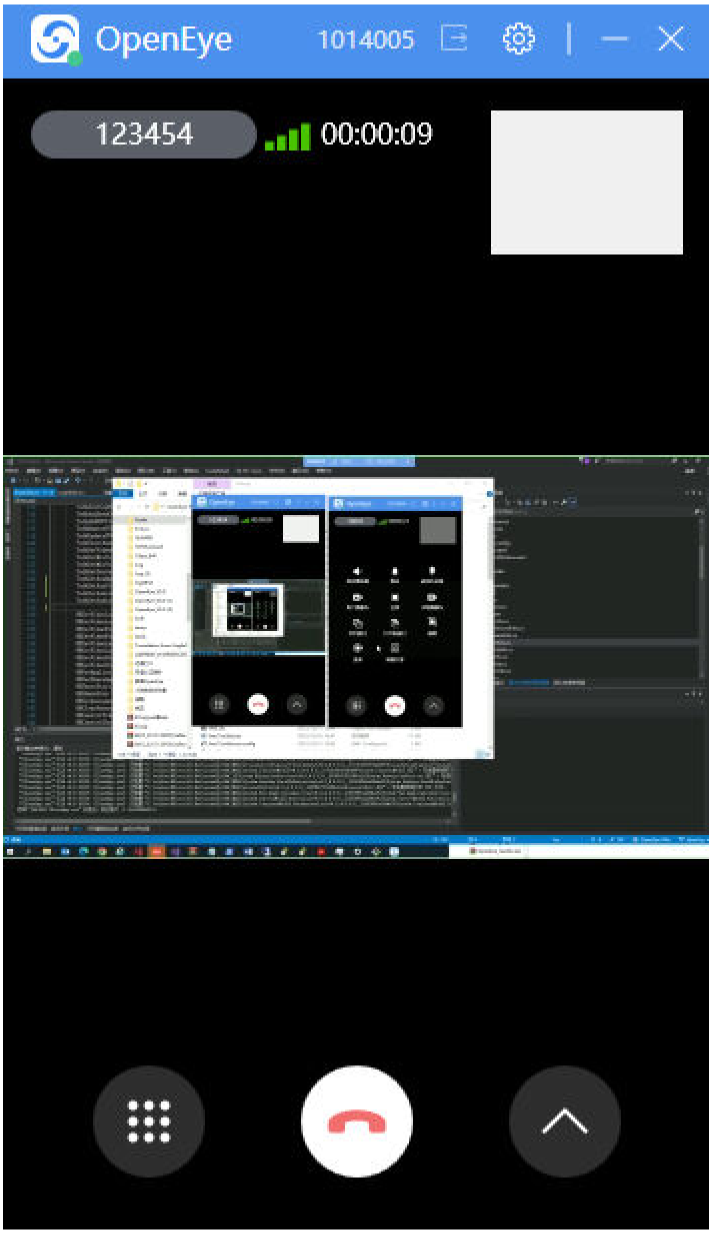
  When the voice call mode is changed by the agent, the OpenEye does not display a confirmation dialog box and automatically switches the call mode. This function is disabled by default.

- **Conference Sharing**

  The UAP's screen sharing function for self-developed video conferences is supported. By default, this option is not selected and cannot be modified after login.

NOTE

After this option is selected, if the UAP provides the self-developed conference function, a user dials the access number to connect to an agent. The agent shares the screen and the image is displayed on the customer video call page.



If the UAP does not provide the self-developed conference function, the customer cannot view the screen being shared, and the call is not affected.

- **Call Ended Hint**

  This function is disabled by default. After this function is enabled, a prompt tone is played when the called party ends the call.

- **Audio device detection prompt**

  This function is enabled by default. If this function is disabled, no dialog box is displayed when no audio device is detected.

- **Video device detection prompt**

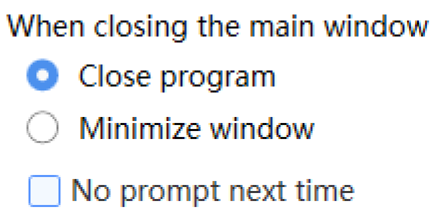
This function is enabled by default. If this function is disabled, no dialog box is displayed when no video device is detected.

- **Minimize to System Tray**

  NOTE

  This function is disabled by default. If you have enabled this function, click  in the main window, the main window is minimized and the taskbar icon is not displayed.

  Selecting **Minimize window** in the **When closing the main window** area has the same effect.

- **When closing the main window**

  When the main window is closed, the program supports the following status:

  – **Close program**
  – **Minimize window**
  – **No prompt next time**

- **Log setting**
  – **Log path**: The value is the **Documents** directory of the user.
  – **Log collect**: After you click this button, the OpenEye logs are automatically collected and saved to the path specified by **Log path**.

- **Auto Clear**

  Expired logs are deleted every 24 hours or when the OpenEye is started. By default, this function is enabled and logs generated 15 days ago are deleted.

- **Screenshot Shortcut Key**

  The shortcut keys can be customized. The default shortcut key is **LeftCtrl+Q**.

  – **Reset**: Restore shortcut key settings to default.

- **Screenshot Saving Path**

  The saving path can be customized. Click **Modify** to configure the saving path or click **Open** to open the folder for storing screenshots.

- **Screenshot Saving Format**

  The OpenEye screenshots can be in JPG or PNG format. The default format is JPG.

- **Disable camera in video call**

  During a video call, images can be used to replace the actual scenario. By default, the local camera is enabled.

- **Pic path when disable camera**

  When the **Disable camera in video call** function is disabled, this function is disabled by default. When the **Disable camera in video call** function is enabled, the image configured in this function is used by default. Click **Set** to update the image path.

NOTE

1. After the display language is changed, you must restart the system for the setting to take effect. You are advised not to change the language during business handling.
2. Shortcut key settings may conflict with that of the operating system or other software. In this case, shortcut keys will fail to be set. You need to set shortcut keys again until they are set successfully.

3.12.6.3 Media Settings

Media settings allow you to set the audio devices, video devices, video quality, video resolution, and virtual camera.

NOTE

The client of the Chinese version does not support the following functions:

- **Virtual Camera**
- **Replace Background**
- **Beautification**

Figure 3-104 Media setting 1

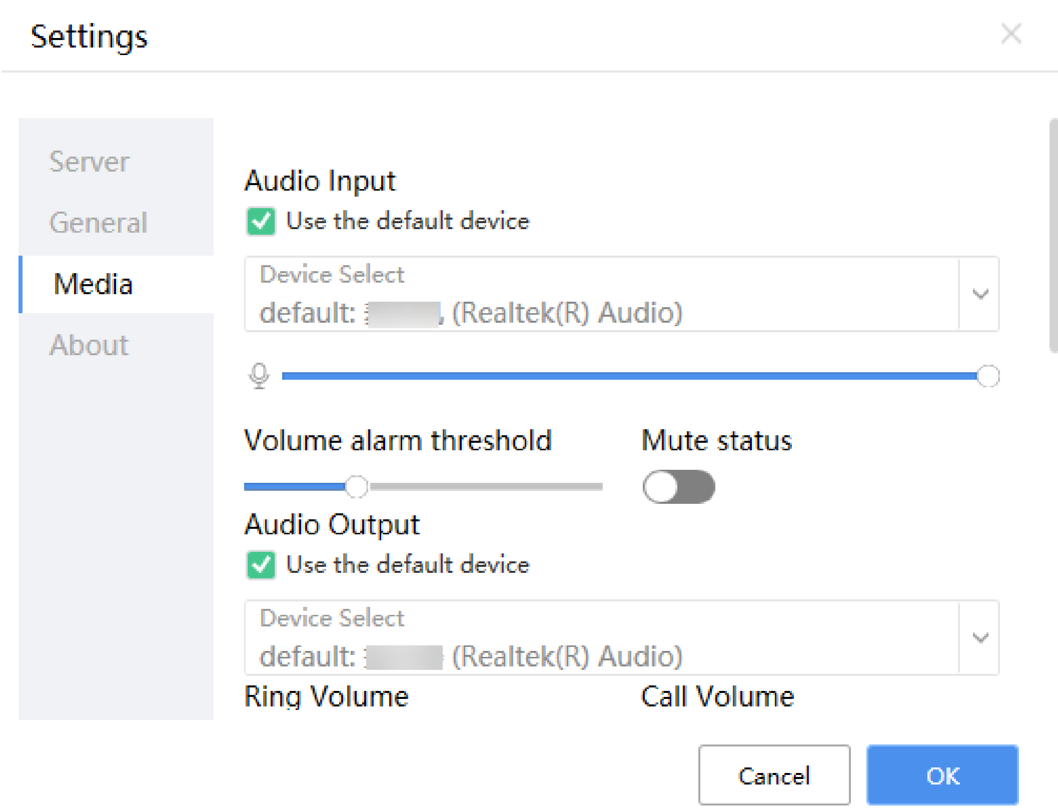


Figure 3-105 Media setting 2

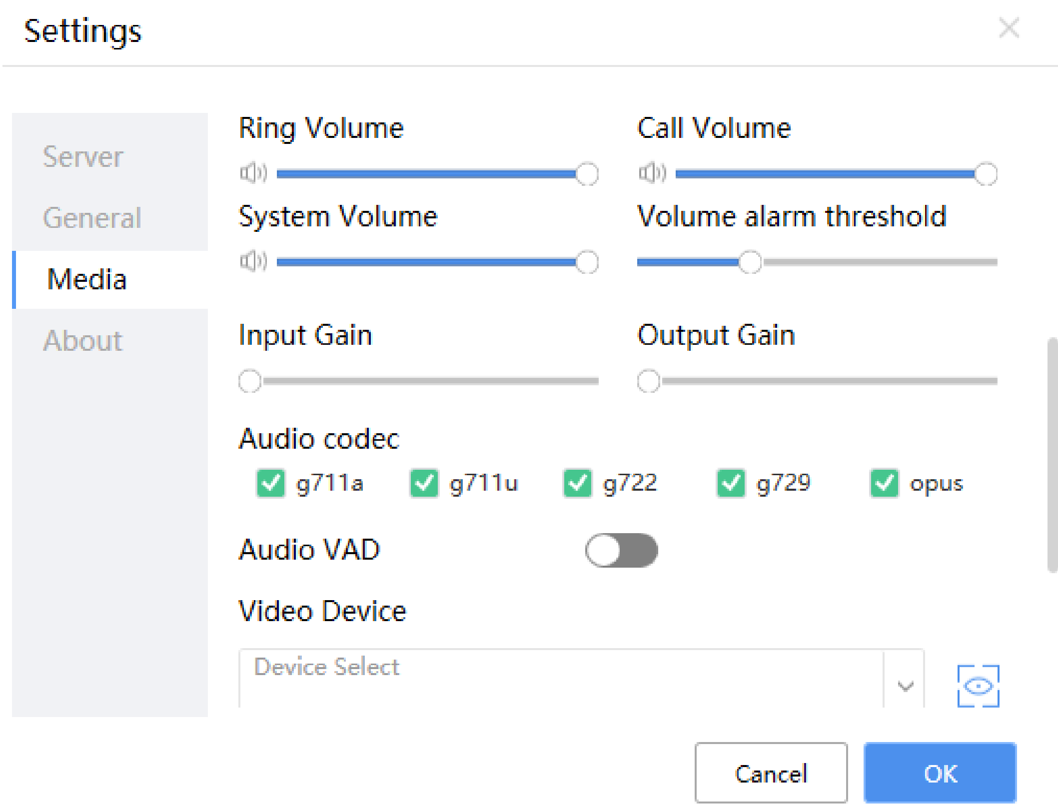
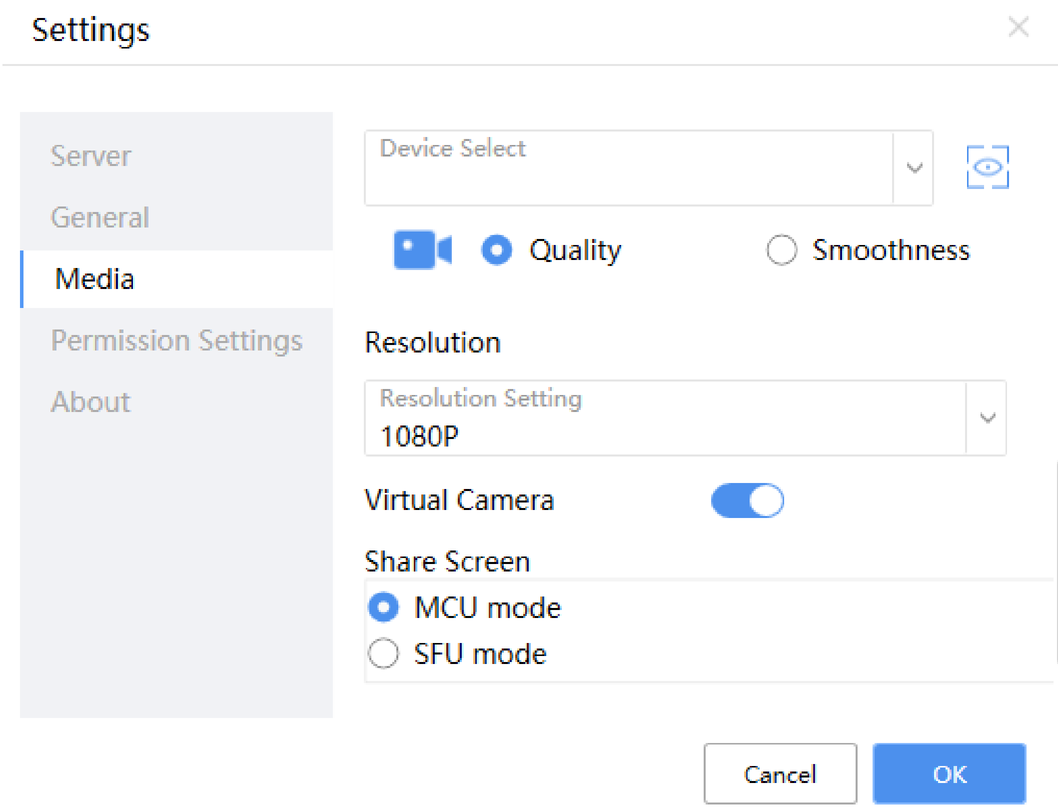
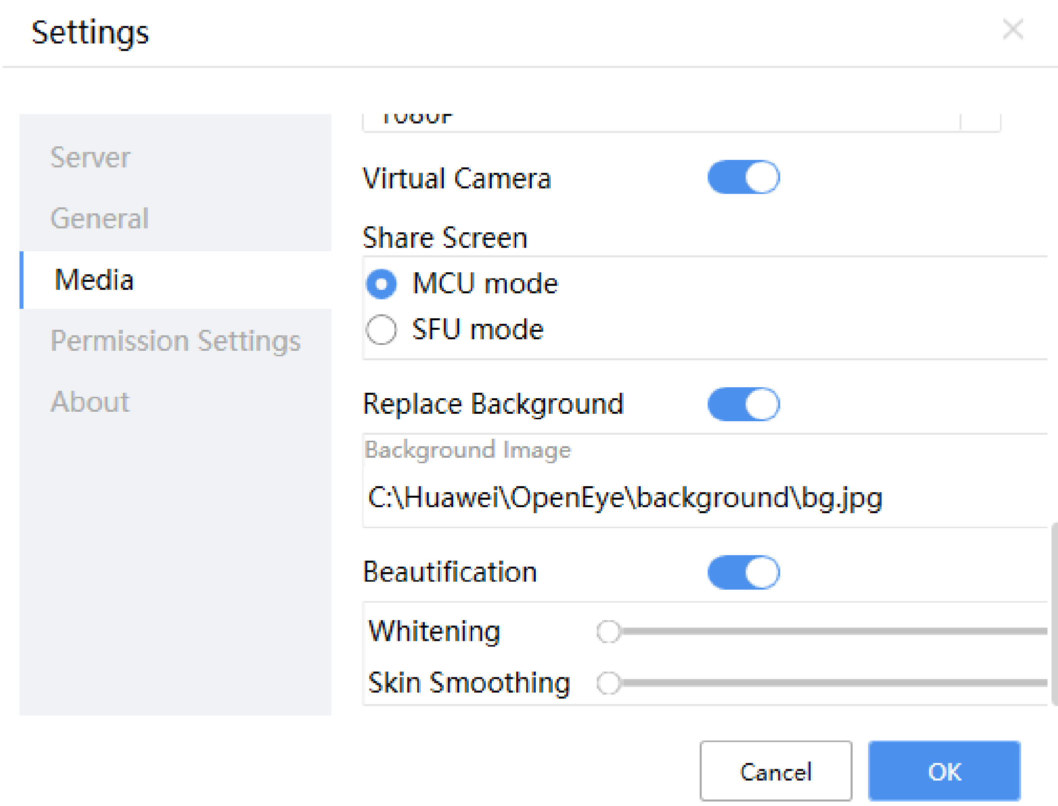


Figure 3-106 Media setting 3





- **Audio Input**

  After deselecting **Use the default device**, you can manually select an audio input device.

  When the volume of the system microphone is lower than the threshold or the device is muted, the OpenEye displays a corresponding message. The mute switch can be used to mute the system microphone.

  NOTE

  1. If the audio input volume is configured, the system automatically decreases the volume to an appropriate level when the volume of the collected audio input of the microphone is too high.

  2. Click the microphone icon before the volume slider to mute or unmute the microphone during a call (only for calls, not for devices).

  3. The mute setting function is not implemented in the Chinese version.

- **Audio Output**

  After deselecting **Use the default device**, you can manually select an audio output device.

- **Ringing volume** and **Call volume**

NOTE

1. Set the ringing volume and call volume separately.
2. When there is an inbound or outbound call, the speaker volume is the preset ringing volume. If the call is not connected, the speaker volume is restored to the call volume after the ringing.
3. Click the speaker icon before the slider which adjusts the ringing volume to mute or unmute the ringtone for inbound calls.
4. Click the speaker icon before the slider which adjusts the call volume to mute or unmute the speaker during a call (only for calls, not for devices).
5. The mute setting function is not implemented in the Chinese version.

You can adjust the volume of the system device. Click the speaker icon on the left of the volume bar to mute the system speaker.

When the volume of the system speaker is lower than the volume alarm threshold or the device is muted, the OpenEye displays a corresponding message.

- **Input Gain**, **Output Gain**

  The decibel values of the input and output audio are increased.

- **Codec param**

  Audio data codec format supported by the local end during a call. If this option is deselected, the local media capability does not support the corresponding codec during signaling negotiation.

- **Audio VAD**

  After this function is enabled, data packets are sent only when human voices are detected during audio calls using the G.711 encoding format. This reduces bandwidth usage.

- **Video Device**

  Multiple types of video devices are supported. Click  to preview the image quality of the video device.

- Video policy

  The **Quality** and **Smoothness** policies are supported.

  If you select **Quality**, the system ensures image quality first during video communication. If you select **Smoothness**, the system ensures image smoothness first during video communication.

- **Resolution**

  Customers can select a proper resolution based on the network condition. 1080p, 720p, and 360p are supported. 1080p is used by default.

- **Virtual Camera**

  After this function is enabled, screen sharing (mainstream transmission), video background replacement, and beautification are supported in SFU mode.

NOTE

When the CPU has fewer than four cores or multiple instances are started, the function is not displayed.

The graphics card driver must support OpenGL 4.5.

This function is not supported in the Chinese version.

- **Share Screen**
  - **MCU mode**: Data is shared through substream transmission.
  - **SFU mode**: Data is shared through mainstream transmission.
- **Replace Background**

  After this function is enabled, the background image of the local video will be replaced with the preset image during a video call.
- **Beautification**

  Whitening and **Skin Smoothing** are supported. The beautification degree can be adjusted as required.

3.12.6.4 Introduction to Permission Settings

The OpenEye supports the creation of management accounts to control some operation permissions. (If a management account is created for multiple times, only the latest one takes effect.)

The password contains 8 to 16 characters and must contain at least two types of the following characters: lowercase letters, uppercase letters, digits, and special characters. The password cannot be the same as the account.

3.12.6.4.1 Permission Settings - Windows Version

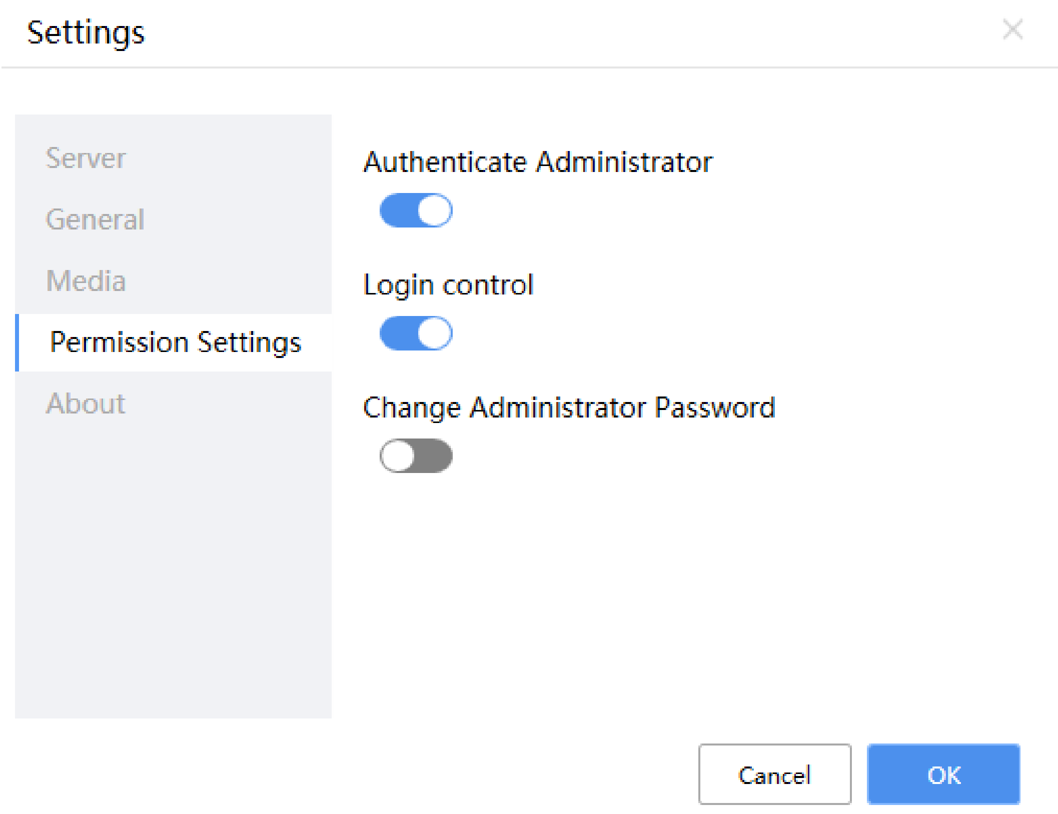
Create a management account:

Open the cmd window as an administrator, switch to the OpenEye installation directory, and run the **KmcToolkit.exe addAdmin** command.

Enter the username, password, and confirm password as prompted.

Permission settings:

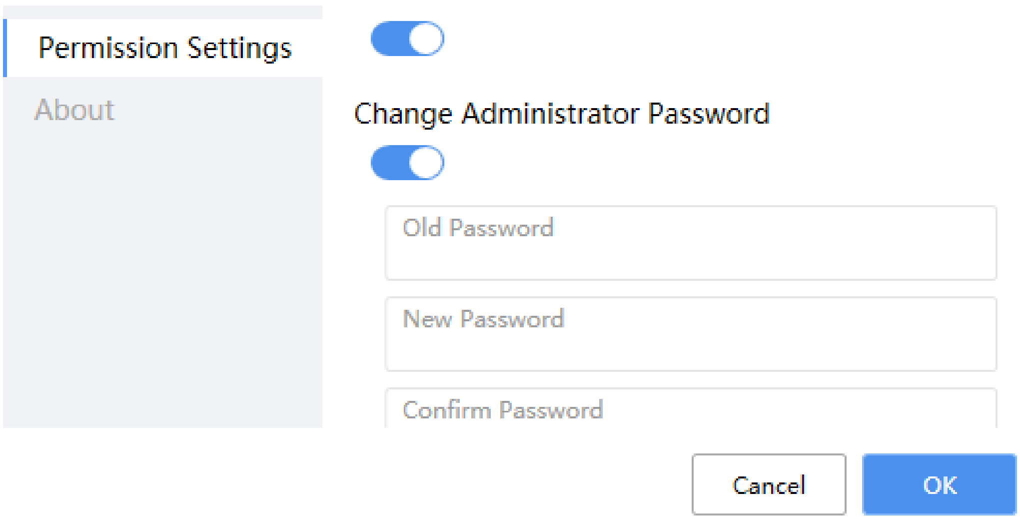
After a management account is added, the **Permission Settings** page is displayed when the system administrator starts the OpenEye.



The **Authenticate Administrator** option is selected by default. If this option is selected, authentication is required for opening the **Settings** window and exiting the program.

The **Login control** option is deselected by default. If this option is selected, authorization is required for modifying the login account and setting automatic login.

The password can be changed if the **Change Administrator Password** option is selected.



3.12.6.4.2 Permission Settings - Chinese Version

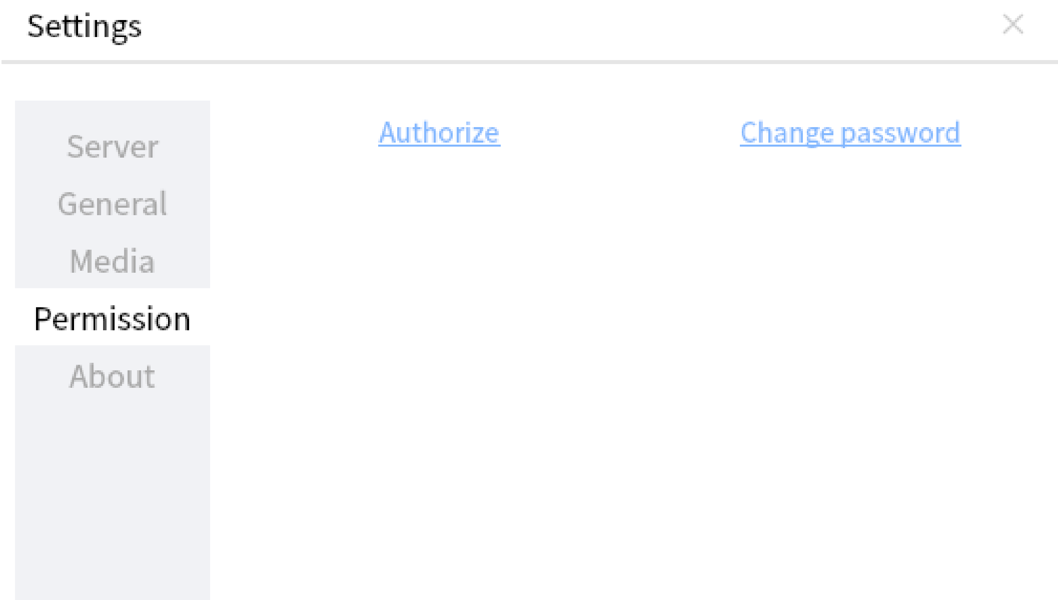
Create a management account:

Run the **./AddAdmin.sh** command in the OpenEye installation directory.

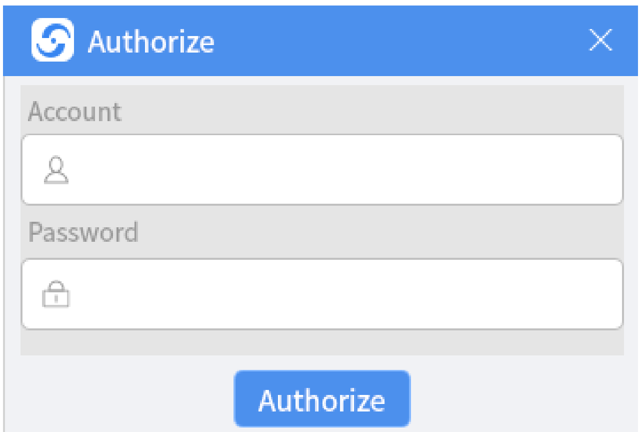
Enter the username and password and confirm the password as prompted. Set parameters in the configuration information as follows:

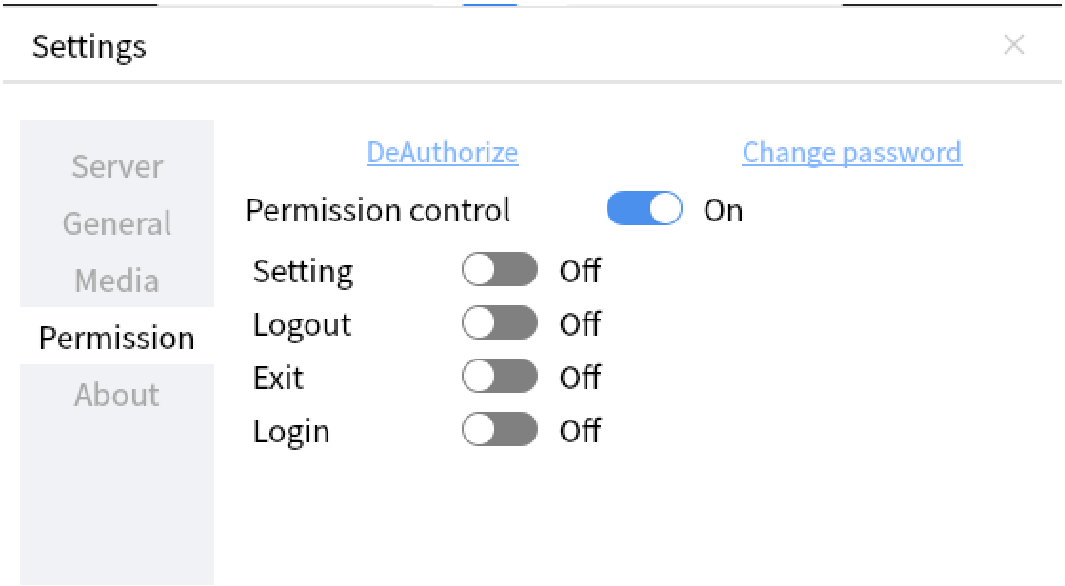
Permission settings:

After a management account is added, the **Permission** page is displayed when the system administrator starts the OpenEye.



Permissions can be set after the management account is authorized.





The **Permission control** option is selected by default. If this option is deselected, all operations do not need to be authorized.

The **Setting** option is deselected by default. Enter **settingctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for opening the **Settings** window.

The **Logout** option is deselected by default. Enter **logoutctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for logout.

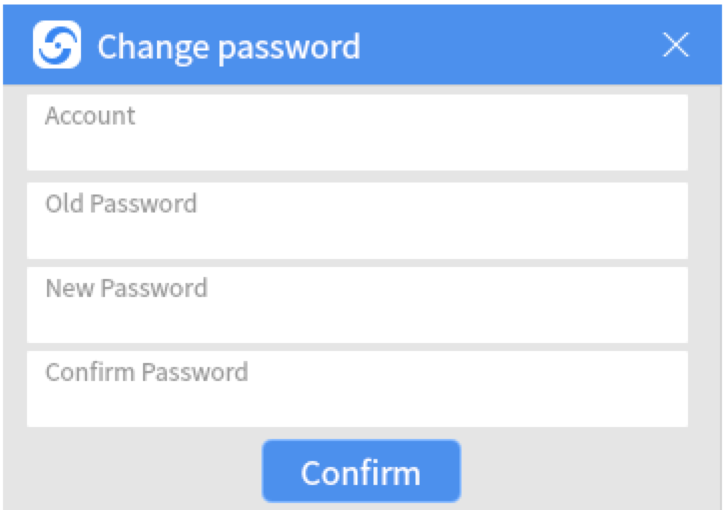
The **Exit** option is deselected by default. Enter **exitctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for exiting the program.

The **Login** option is deselected by default. Enter **loginctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for modifying the login account and setting automatic login.

Separate multiple configuration parameters with spaces.

The authorization is valid until the program is restarted and the authorization can be canceled.

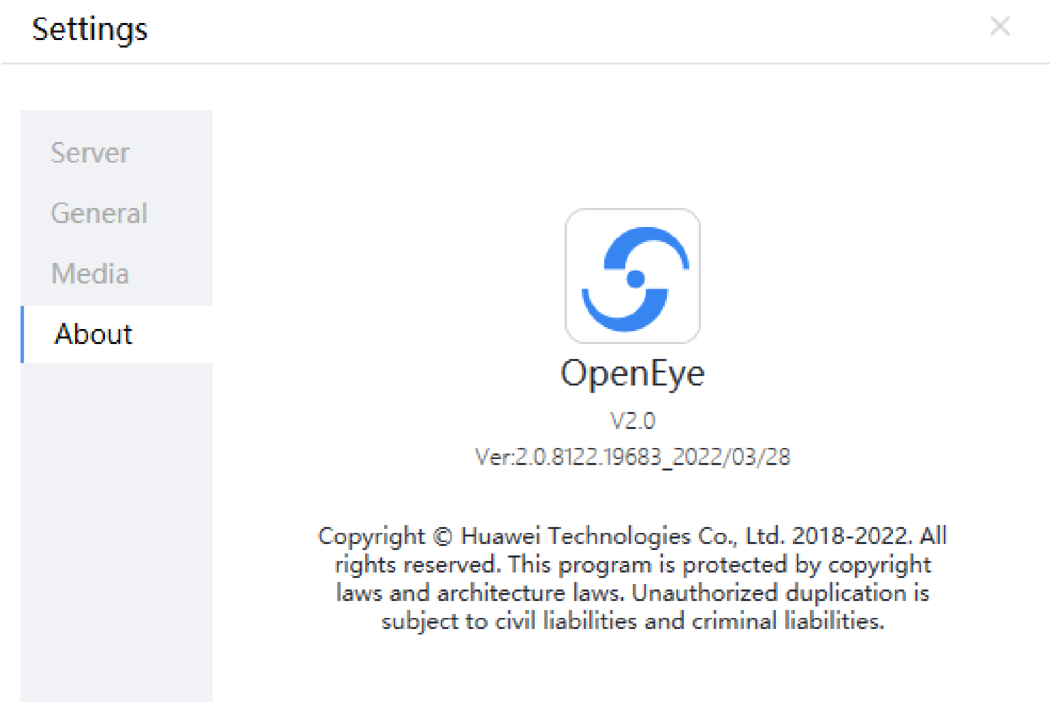
The password of the management account can be changed.



3.12.6.5 About

You can query the OpenEye version information, including the version ownership and legal liability.

Figure 3-107 About



3.12.7 Introduction to Software Functions

The OpenEye supports voice communication, video communication, and call record functions.

- Voice communication provides functions of initiating calls, answering calls, hanging up calls, adjusting call volume, and holding calls.
- Video communication makes communication between customers and agents more entertaining.
- Call records store detailed call information. Other operations can also be performed in call records, such as initiating a call.

3.12.7.1 Voice Communication

The OpenEye supports functions of initiating calls, answering calls, rejecting calls, hanging up calls, and adjusting call volume.

3.12.7.1.1 Initiating a Call

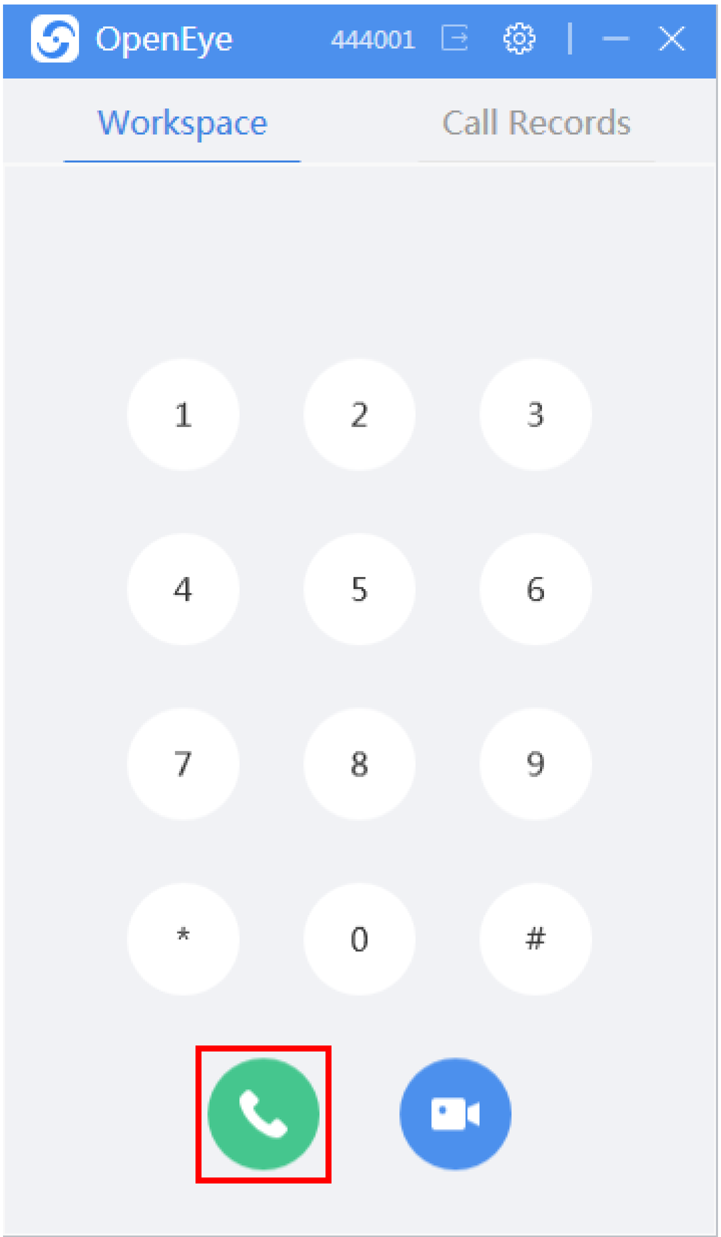
A voice call can be initiated by dialing a number or from call records. For details about how to initiate a call from call records, see **3.12.7.3.3 Initiating a Call**.

Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 On the **Workspace** tab and enter the called number as required.

Figure 3-108 OpenEye workspace

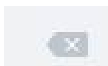


Step 3 Click  to make a voice call.

Step 4 After the customer answers the call, the agent can talk with the customer.

----End

NOTE

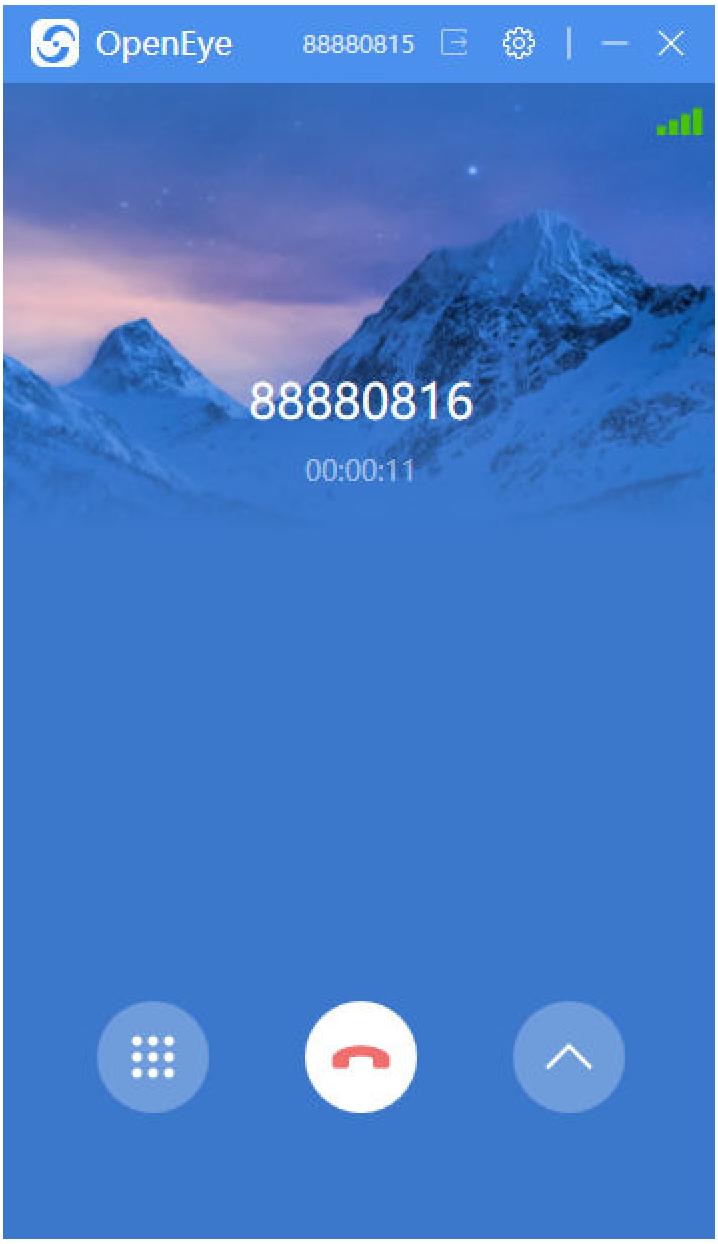
When entering a called number, you can click  to delete a character each time or press the **Delete** or **Backspace** key to delete one or more characters.

3.12.7.1.2 Answering a Call

An inbound call can be answered. The inbound call can be displayed on the home screen or as an inbound call notification. A voice call can be answered in either of the two methods.

- Home page: Click  to answer the call.

Figure 3-109 Call page



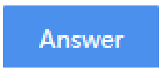
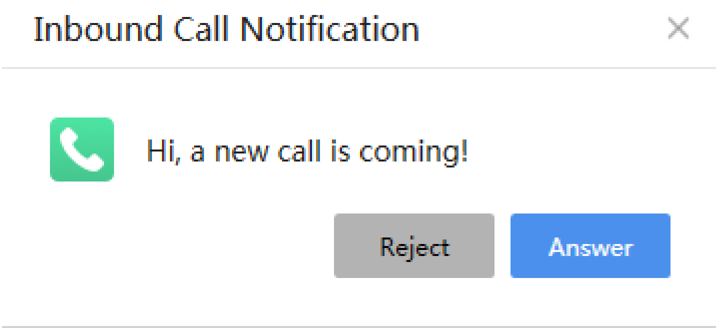
- **Inbound Call Notification**: Click  to answer the call.

Figure 3-110 Inbound Call Notification

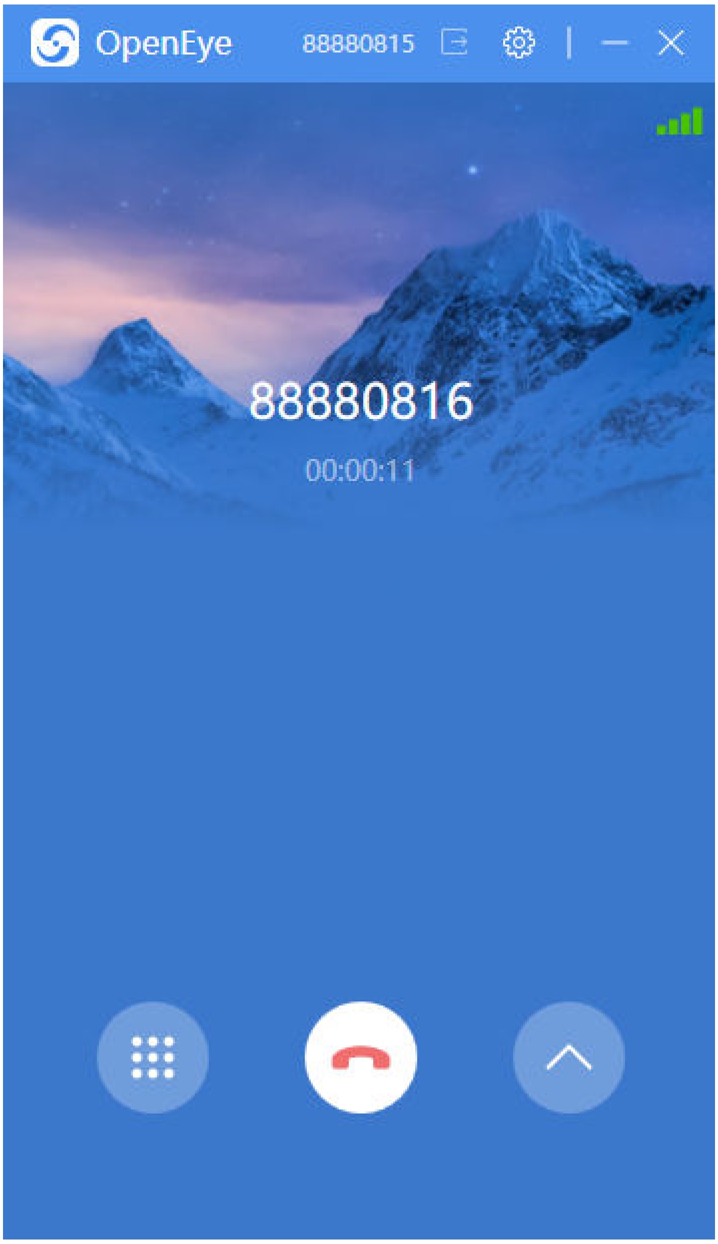


3.12.7.1.3 Rejecting a Call

An inbound call can be rejected. The inbound call can be displayed on the home screen or as an inbound call notification. A voice call can be rejected in either of the two methods.

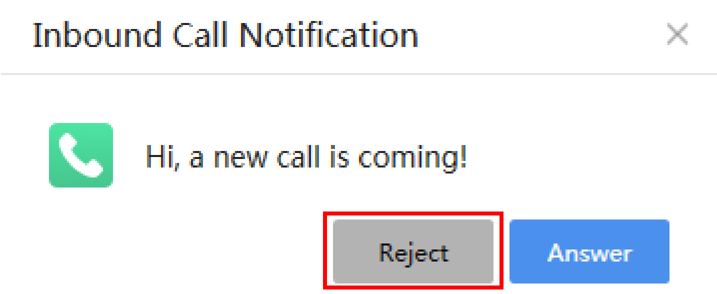
- Home page: Click  to reject the call.

Figure 3-111 Call page



- **Inbound Call Notification**: Click Reject to reject the call.

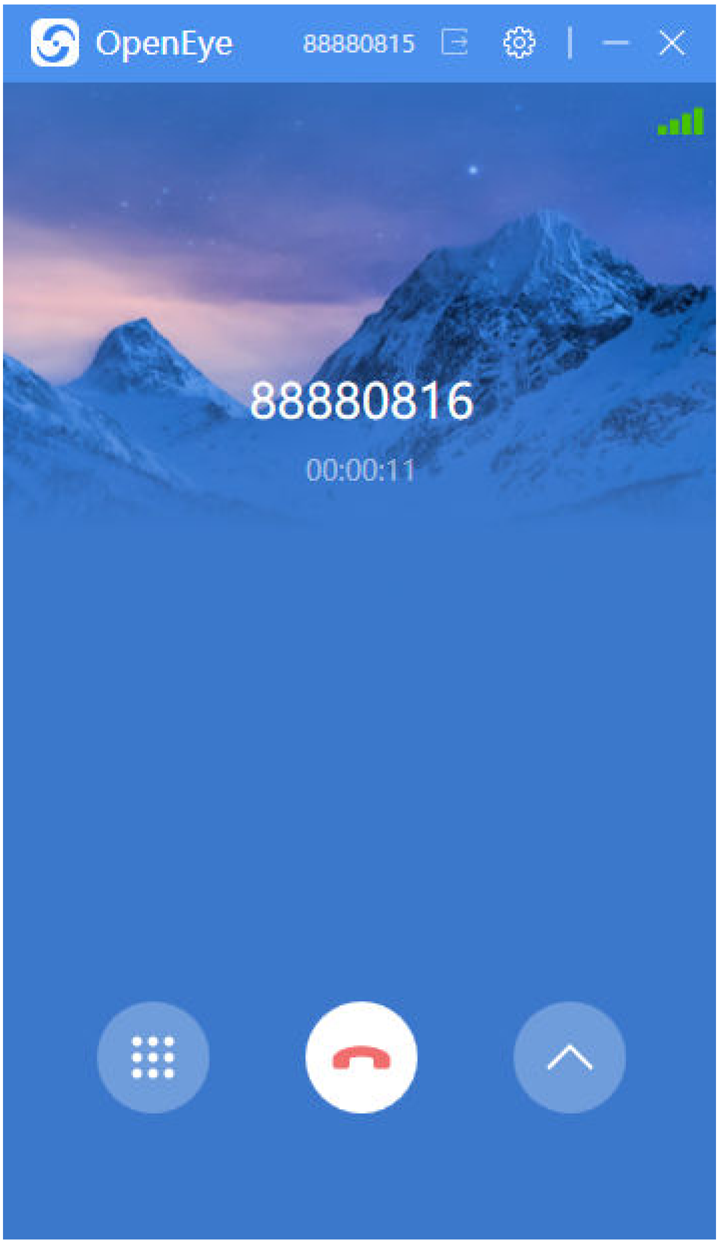
Figure 3-112 Inbound Call Notification



3.12.7.1.4 Hanging Up a Call

During a voice call, you can click  to end the call.

Figure 3-113 Voice call window

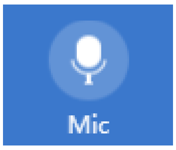


3.12.7.1.5 Adjusting Volume

After an inbound call is answered, the volume of the microphone and speaker can be adjusted to ensure that the call is smooth.

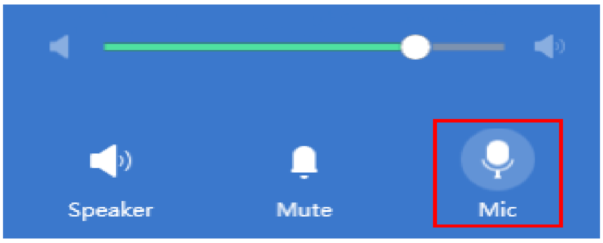
Procedure

Step 1 During a voice call, click  to access the function area and adjust the volume.

Step 2 Click 

and drag the dot in the volume slider to adjust the microphone volume.

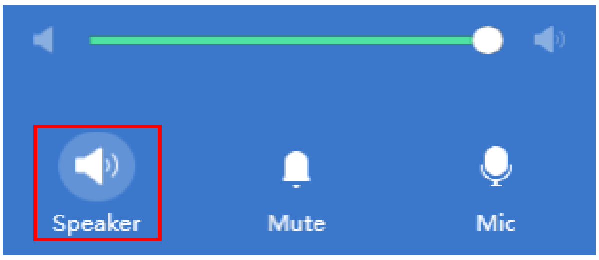
Figure 3-114 Adjusting the microphone volume

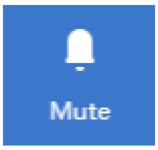


Step 3 Click 

and drag the dot in the volume slider to adjust the speaker volume.

Figure 3-115 Adjusting the speaker volume



Step 4 (Optional) Click 

to mute the microphone. In this case, the other party cannot hear your voice. Click 

to unmute the local microphone for talking with each other.

----End

3.12.7.1.6 Initiating an Anonymous Call

The local number can be hidden using the anonymous call function.

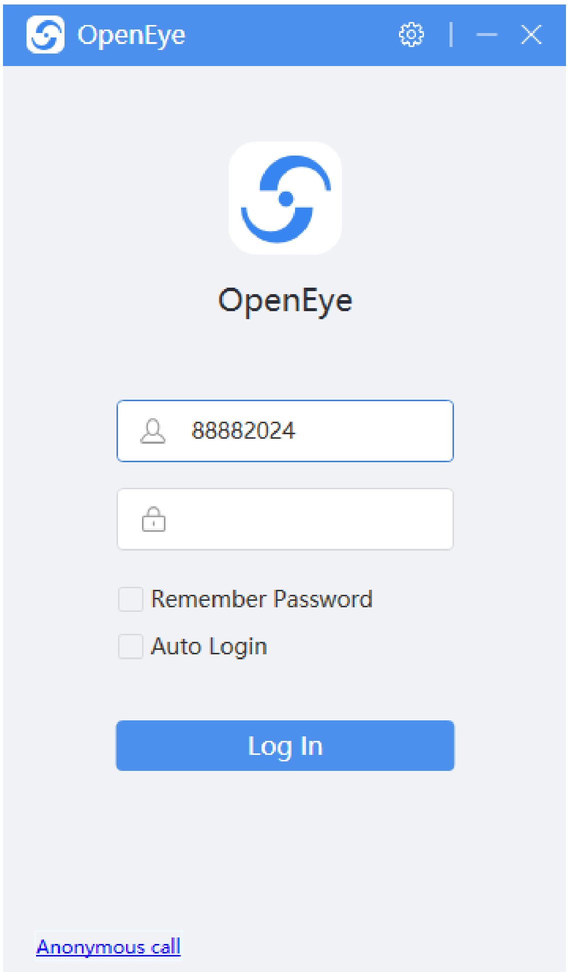
NOTE

- To enable the anonymous call function, set **isvalid** to **true** in the **/configuration/settings/anonymousSetting/setting section in the userconfig.xml** file in the program installation directory.

Procedure

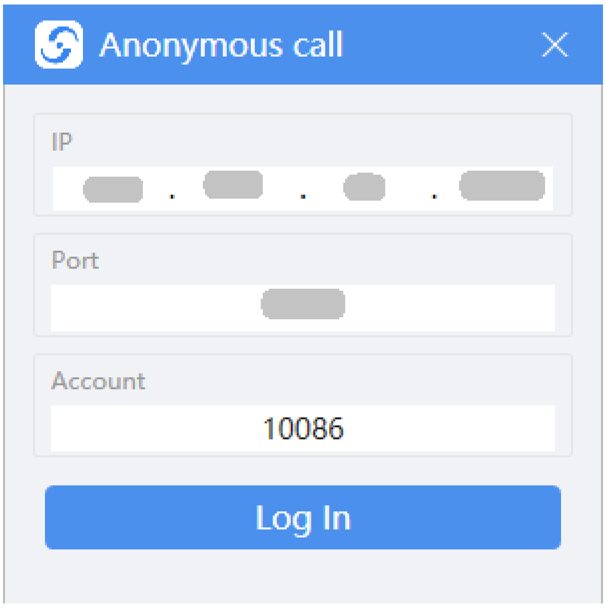
Step 1 On the login page of the OpenEye client, click **Anonymous Call** in the lower left corner.

Figure 3-116 Initiating an anonymous call



Step 2 On the **Anonymous call** configuration panel, set the IP address and port number of the SBC, and set the account to the anonymous card character string configured on the UAP.

Figure 3-117 Anonymous call configuration



Step 3 Click **Log In** and initiate a call on the workbench.

----End

3.12.7.2 Video Communication

The OpenEye supports video communication functions, including voice calls, video calls, video window setting, screenshot, screen sharing, label, and virtual camera.

3.12.7.2.1 Initiating a Call

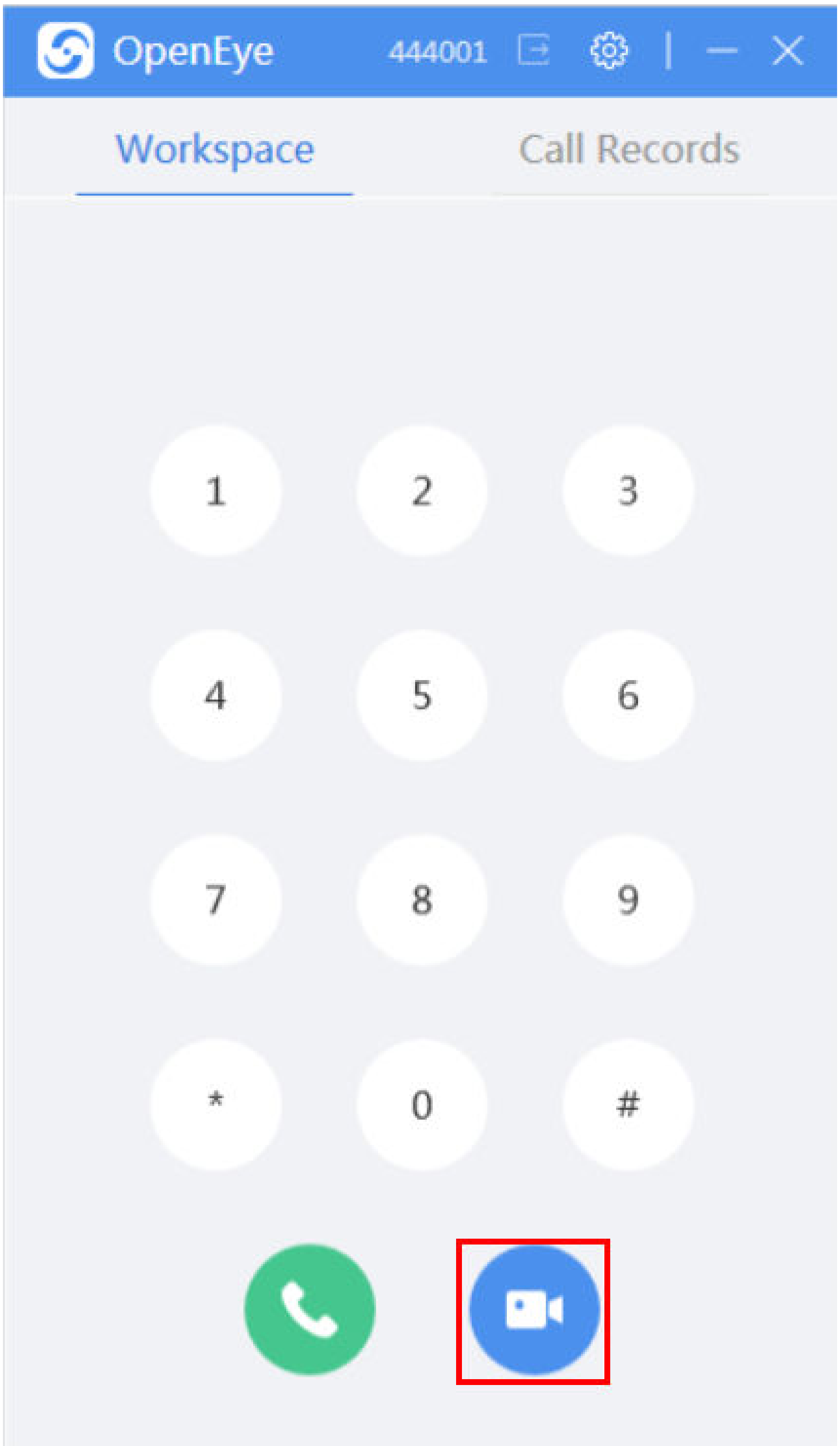
A video call can be initiated by dialing a number or from call records. For details about how to initiate a call from call records, see **3.12.7.3.3 Initiating a Call**.

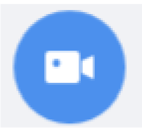
Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Click the **Workspace** tab and enter the called number as required.

Figure 3-118 OpenEye workspace



Step 3 Click  to make a video call.

Step 4 After the customer answers the call, the agent can talk with the customer through the video call.

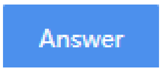
----End

NOTE

When entering a called number, you can click  to delete a character each time or press the **Delete** or **Backspace** key to delete one or more characters.

3.12.7.2.2 Answering a Call

An inbound call can be answered. The inbound call can be displayed on the home screen or as an inbound call notification. A video call can be answered in either of the two methods.

- **Home page**: Click  to answer the call.
- **Inbound Call Notification**: Click 

to answer the call.

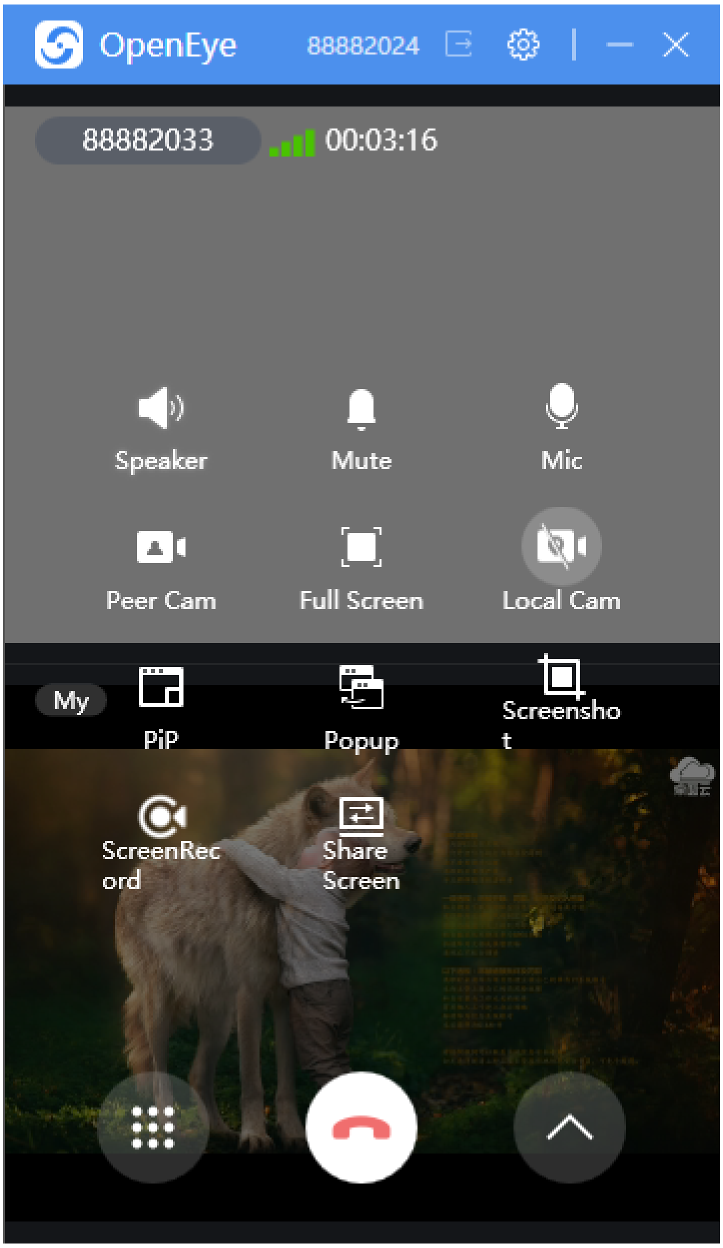
3.12.7.2.3 Rejecting a Call

Video calls can be rejected. For details, see **3.12.7.1.3 Rejecting a Call**.

3.12.7.2.4 Hanging Up a Call

During a video call, you can click  to end the video call.

Figure 3-119 Video call window



3.12.7.2.5 Adjusting Volume

The procedure for adjusting the video volume is the same as that for adjusting the voice volume. For details, see **Adjusting Volume**.

3.12.7.2.6 Enabling/Disabling a Camera

Local and peer cameras can be configured during a video call.

Procedure

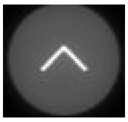
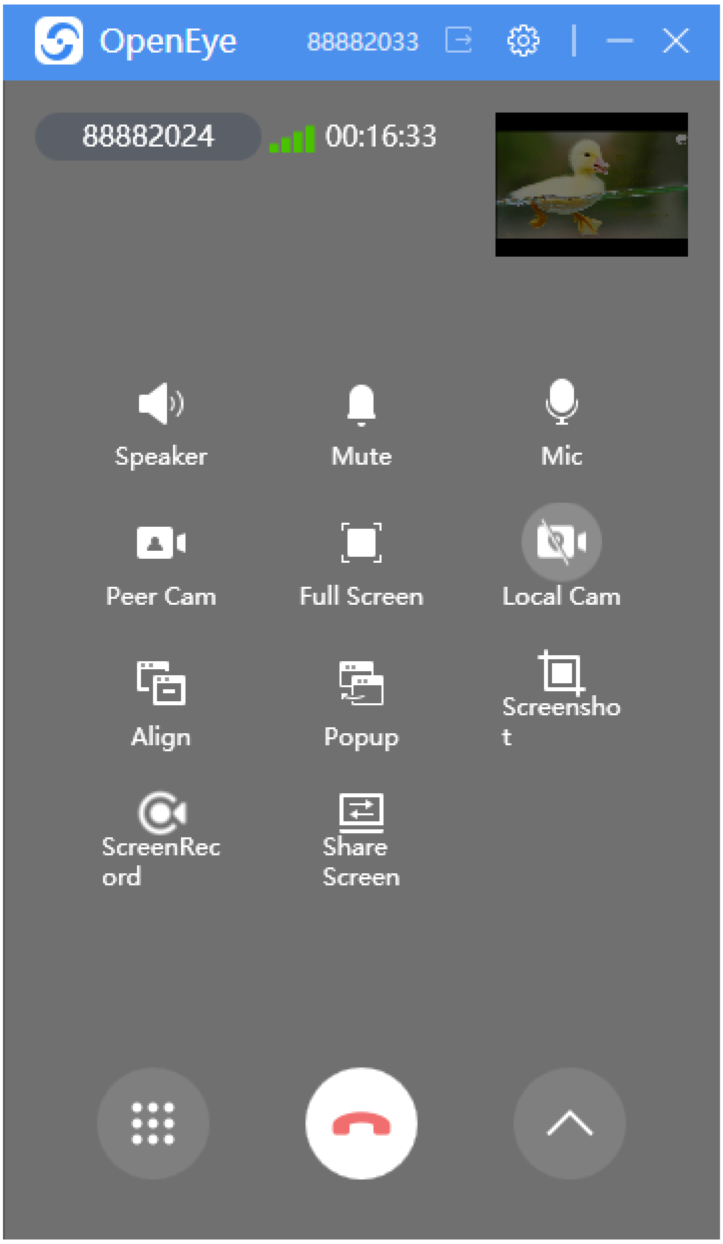
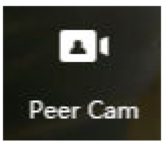
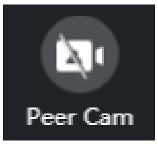
Step 1 During a video call, click  to access the function area and configure the camera function.

Figure 3-120 Video call function area



Step 2 Set the peer camera.

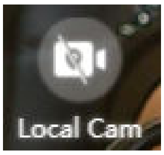
- You can click  to disable the peer camera.

- You can click 

to enable the peer camera.

Step 3 Set the local camera.

- Click 

to disable the local camera. The preset image for the camera image is displayed on the peer client.
- Click 

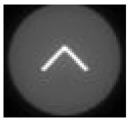
to enable the local camera.

----End

3.12.7.2.7 Window Mode Switching

The video call window supports the **PiP** and **Align** mode. The **PiP** mode is used by default.

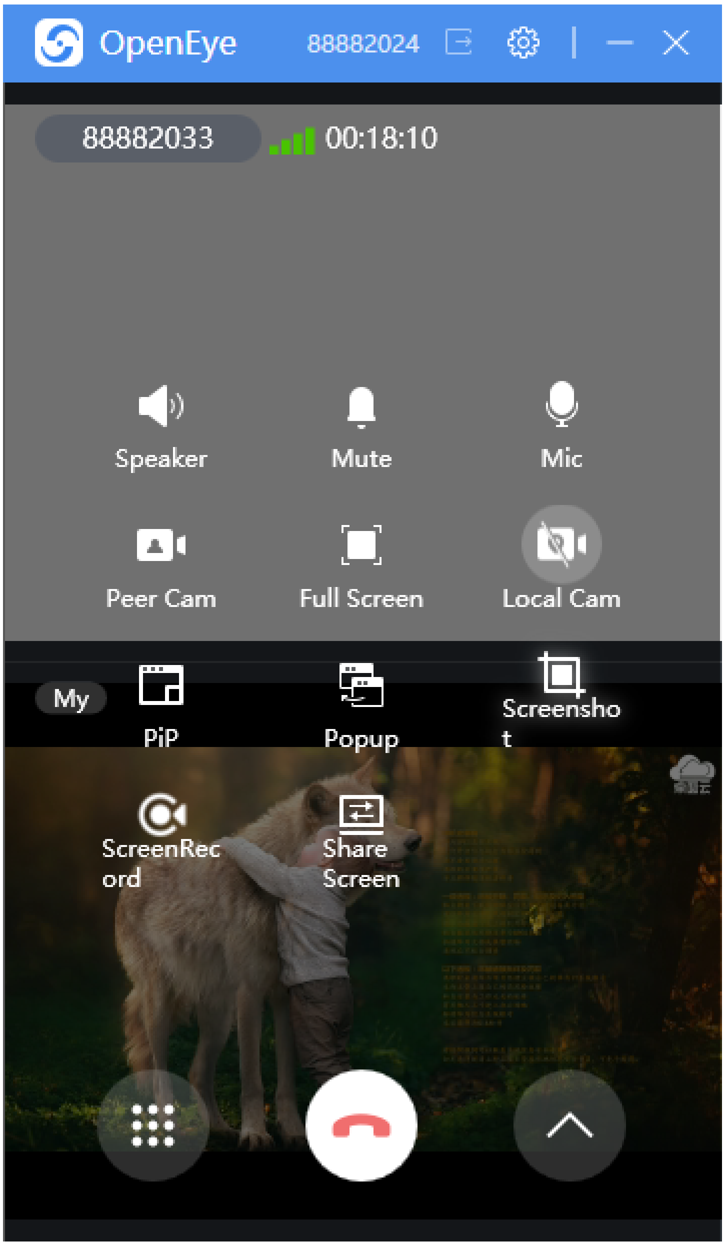
Procedure

Step 1 After the video call starts, click  to access the function area to switch the window mode.

Step 2 In **PiP** mode, click 

to switch to the **Align** mode.

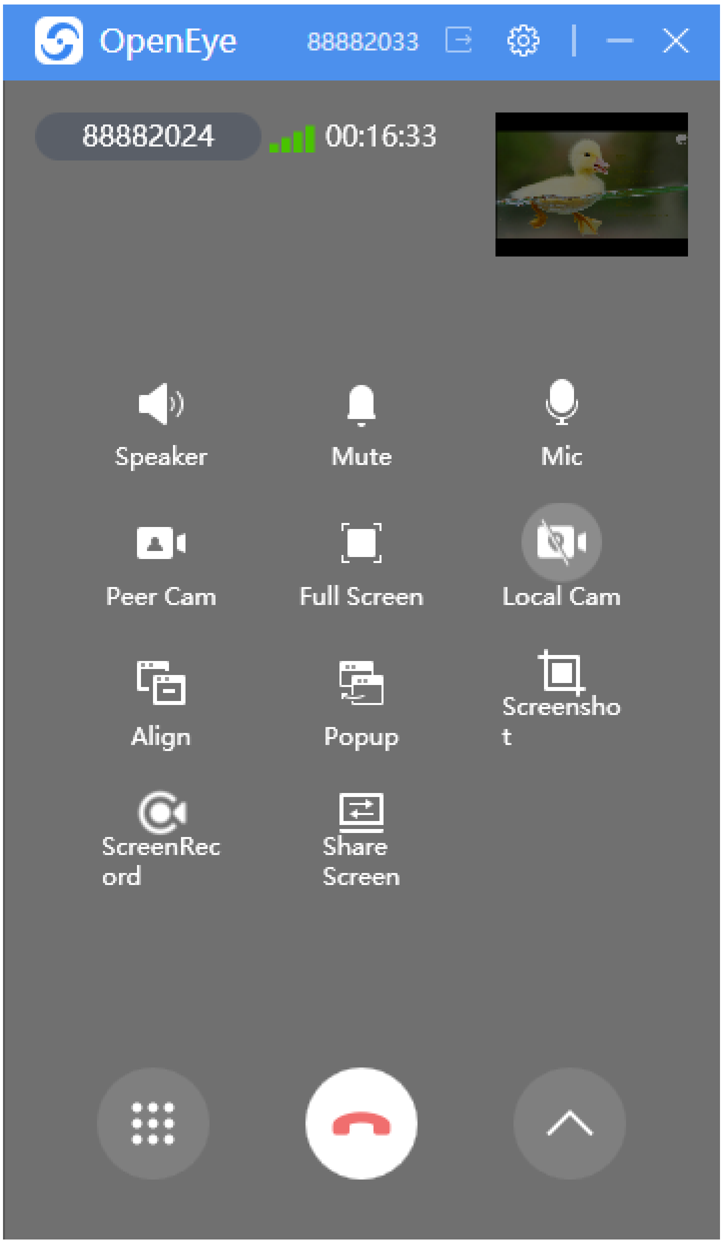
Figure 3-121 Align window



Step 3 In **Align** mode, click 

to switch to the **PiP** mode.

Figure 3-122 Pip window



----End

3.12.7.2.8 Window Size Switching

The video call window can be switched between the large and small windows to optimize the video display.

Procedure

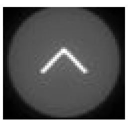
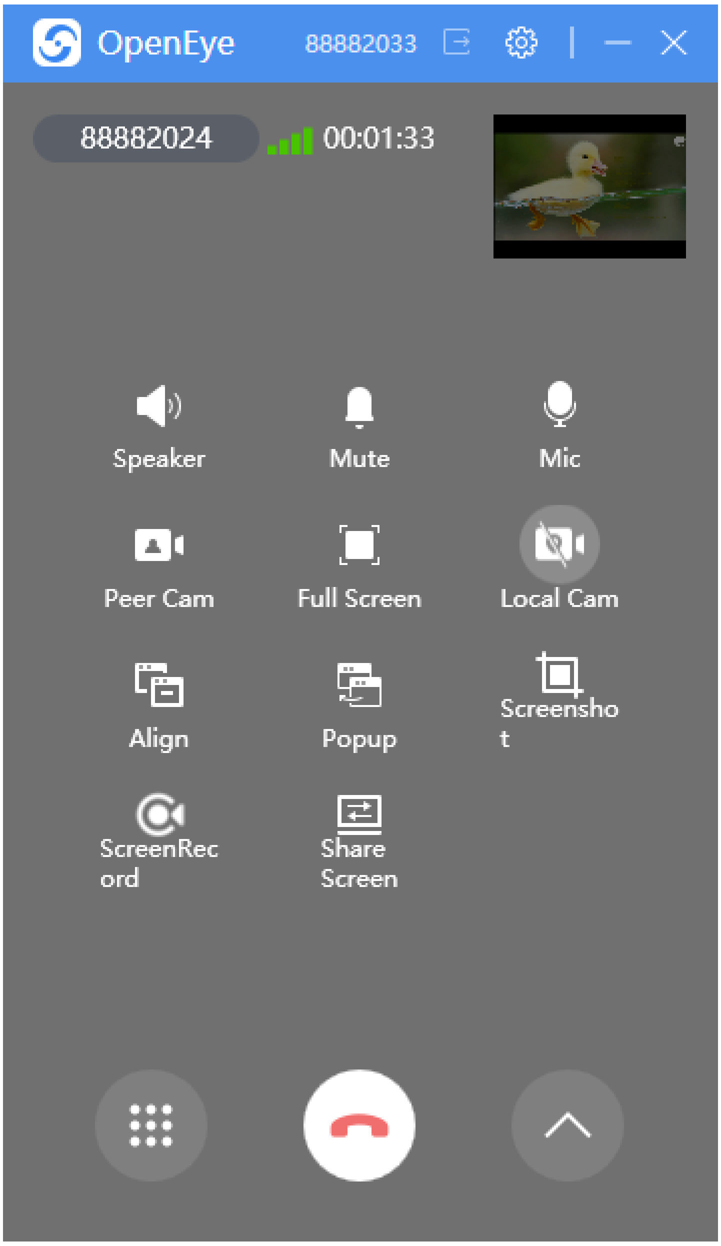
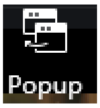
Step 1 During a video call, click  to access the function area and switch the video window.

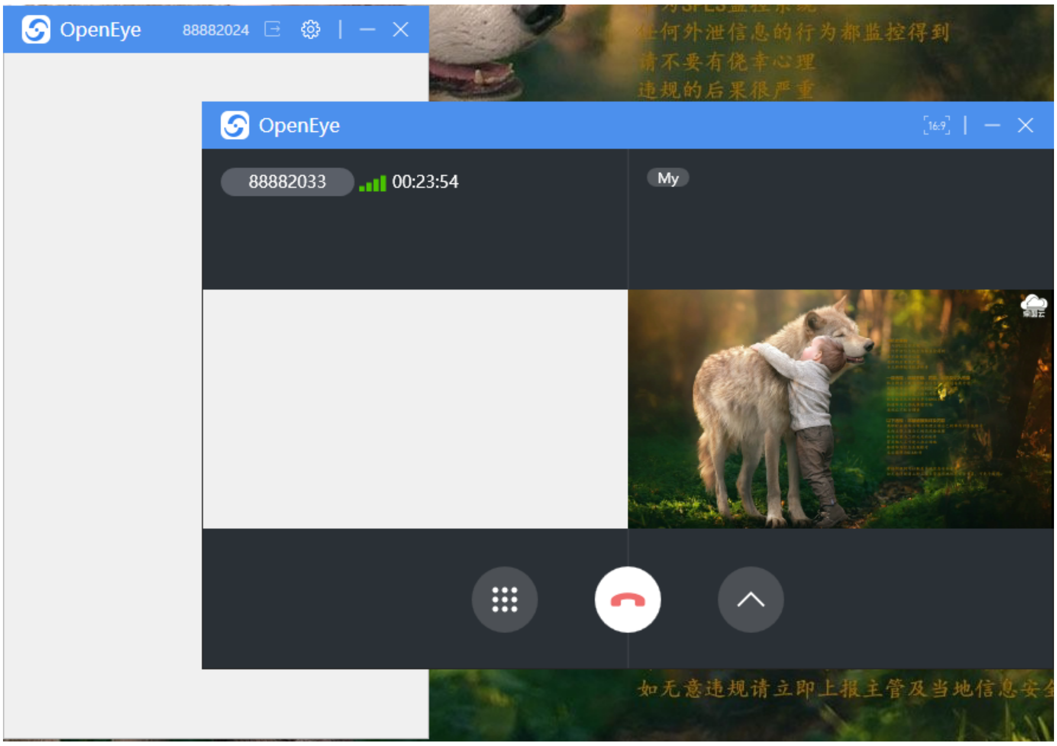
Figure 3-123 Function area



Step 2 Click 

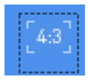
. The video page is displayed in a new window.

Figure 3-124 Opening a new window



📖 **NOTE**

After the window is switched, the video page is displayed on the OpenEye main page, and the function area is moved to the new window.

Step 3 The video display supports the **16:9** and **4:3** ratios. You can click 

to change the mode.

Figure 3-125 16:9 mode

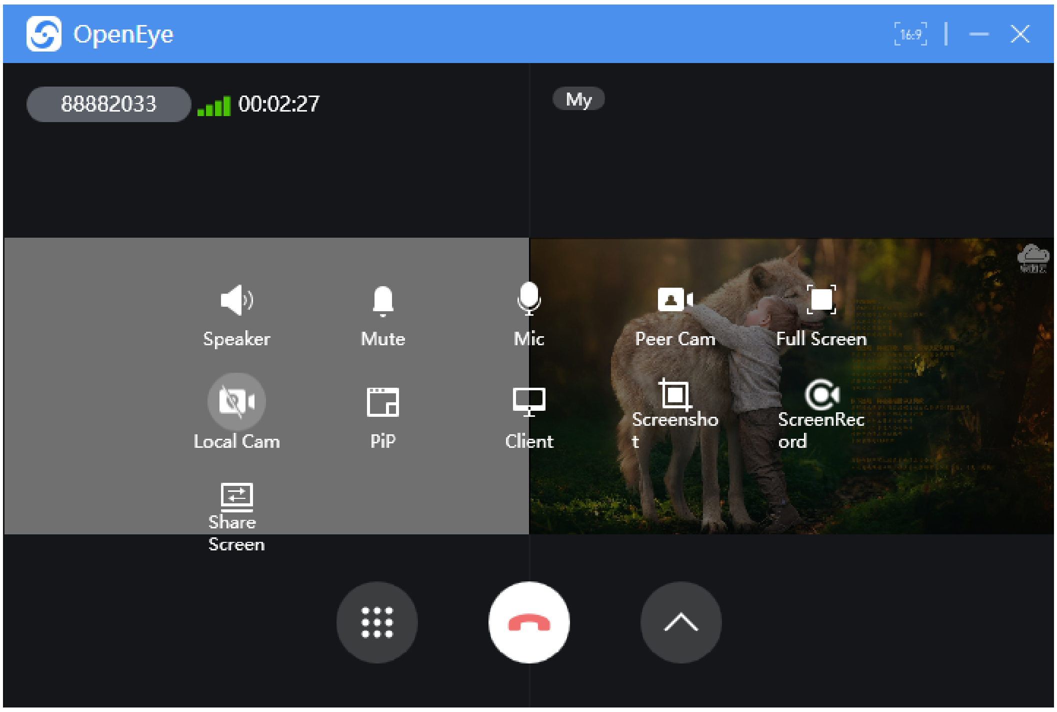
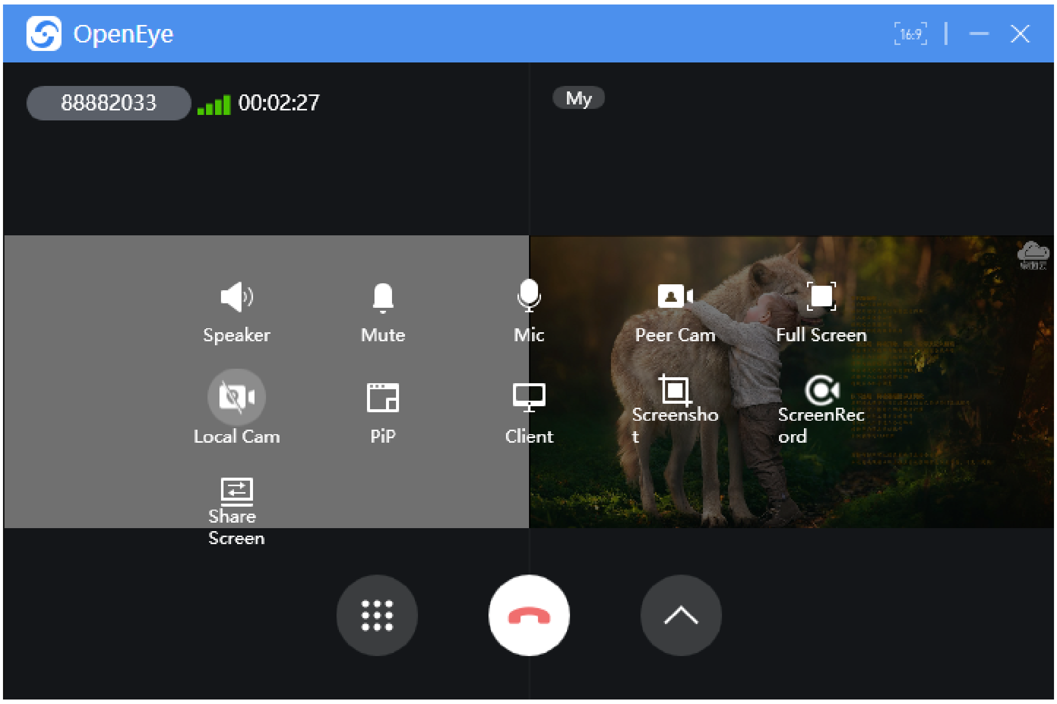
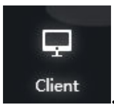


Figure 3-126 4:3 mode



Step 4 Access the function area and click 

. The initial video page is displayed.

----End

NOTE

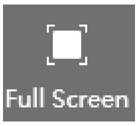
Click the close button in the upper right corner to end the full-screen display and the current video call. The workspace on the home page is displayed. Exercise caution when performing this operation.

3.12.7.2.9 Full Screen

A video call can be displayed in full screen mode, and the OpenEye menu bar is retained. The GUI can be displayed as required.

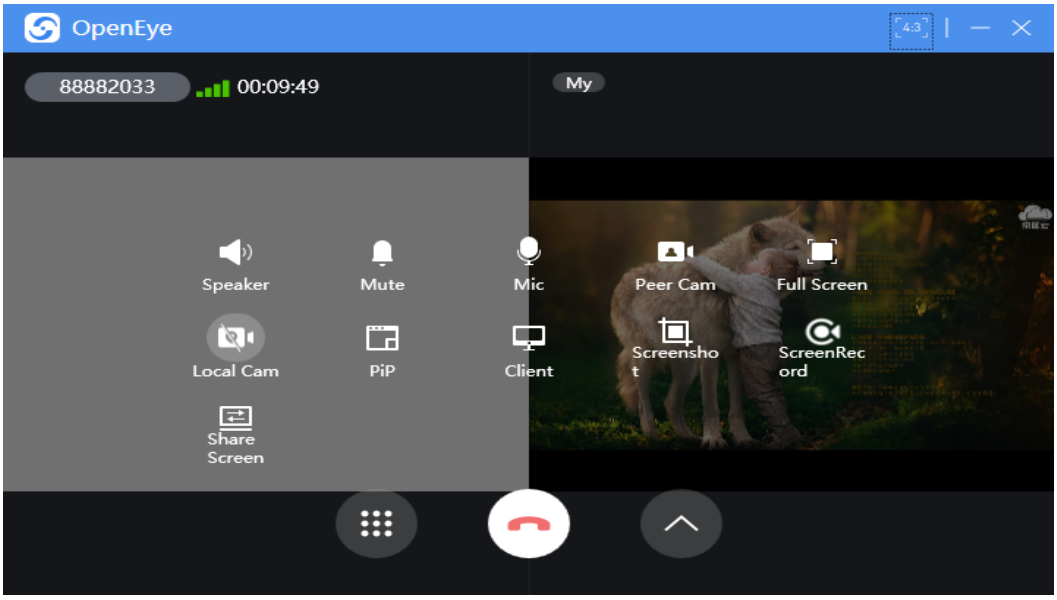
Procedure

Step 1 During a video call, click  to access the function area and choose the full screen function.

Step 2 Click 

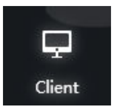
to display the page in full screen mode.

Figure 3-127 Full Screen



Step 3 In full screen mode, you can exit from this mode in either of the following methods.

- Return to the OpenEye home page.

  In the function area, click 

to access the home page of the OpenEye and continue the video call.

- Switch to a new window.

In the function area, click 

. A new window is displayed for the video. For details about the new window, see **3.12.7.2.8 Window Size Switching**.

- End the call.

----End

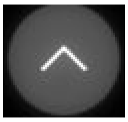
NOTE

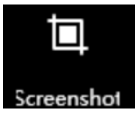
Click the close button in the upper right corner to end the full-screen display and the current video call. The workspace on the home page is displayed. Exercise caution when performing this operation.

3.12.7.2.10 Screenshot

During a video call, a screenshot can be captured by clicking a button or pressing shortcut keys. After the operation, the screenshot is automatically saved to the specified path.

Procedure

Step 1 During a video call, click  to access the function area and choose the screenshot function.

Step 2 Click 

to capture a screenshot for the current window.

Figure 3-128 Screenshot

Step 3 (Optional) You can also press the shortcut keys to capture a screenshot.

----End

NOTE

For details about how to set the path for storing screenshots, see **Screenshot Saving Path**.

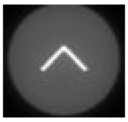
For details about how to set the screenshot format, see **Screenshot Saving Format**.

For details about how to set shortcut keys for screenshots, see **Screenshot Shortcut Key**.

3.12.7.2.11 Screen Recording

A video call supports the synchronous screen recording function. During screen recording, only the peer video window is displayed.

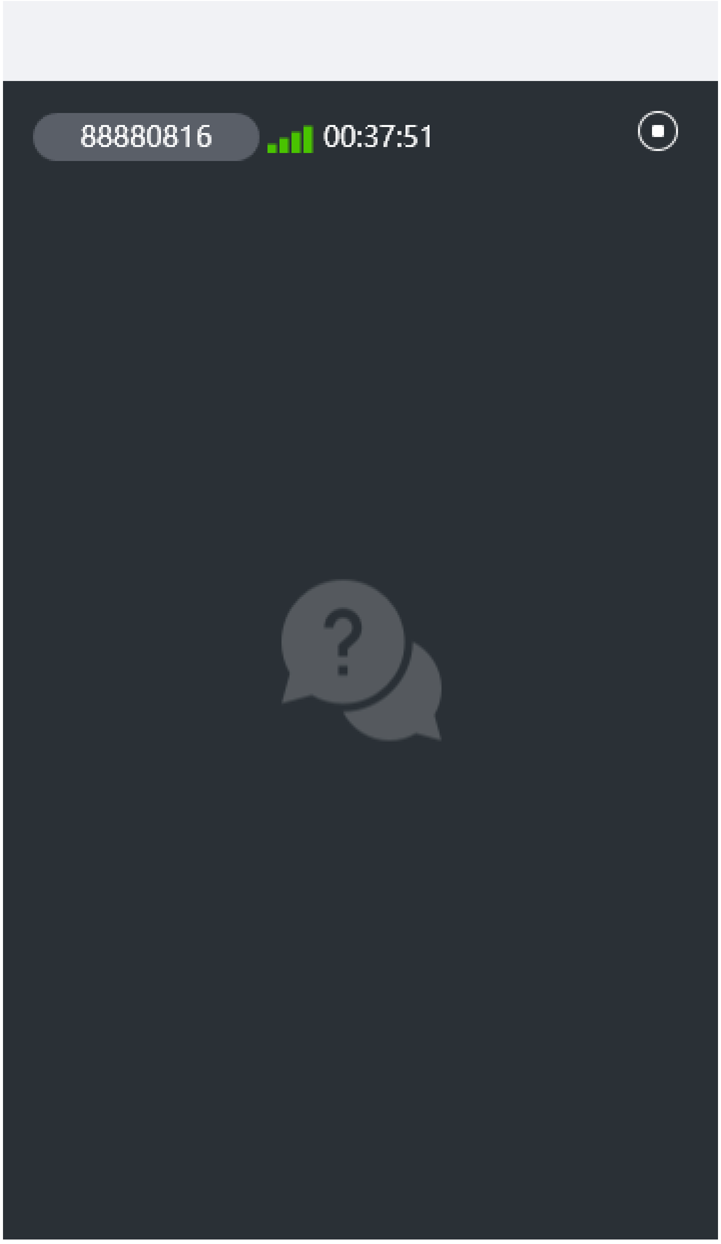
Procedure

Step 1 During a video call, click  to access the function area and choose the screen recording function.

Step 2 Click 

to start the screen recording in the current video window.

Figure 3-129 Screen recording



Step 3 Click  to stop screen recording.

----End

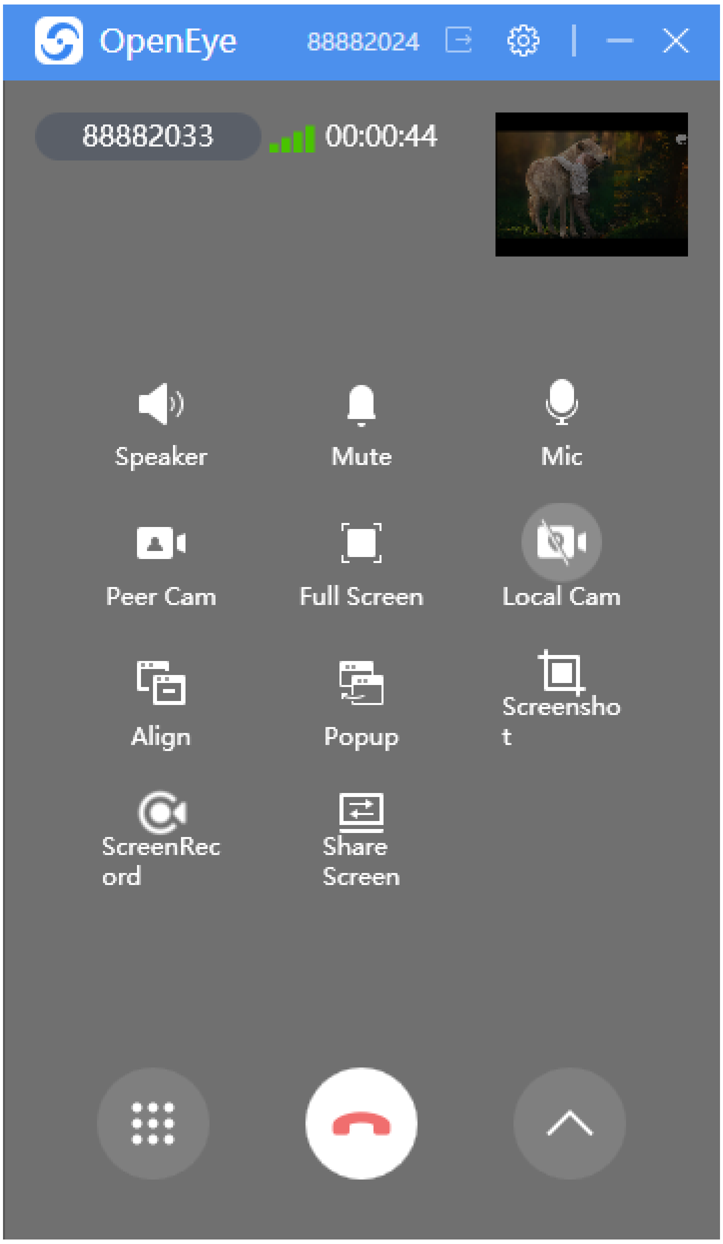
3.12.7.2.12 Screen Sharing

Screen sharing scope includes desktop, specified area, and specified application. The sharing scope can be customized as required.

Procedure

Step 1 During a video call, click  to access the function area and choose the screen sharing function.

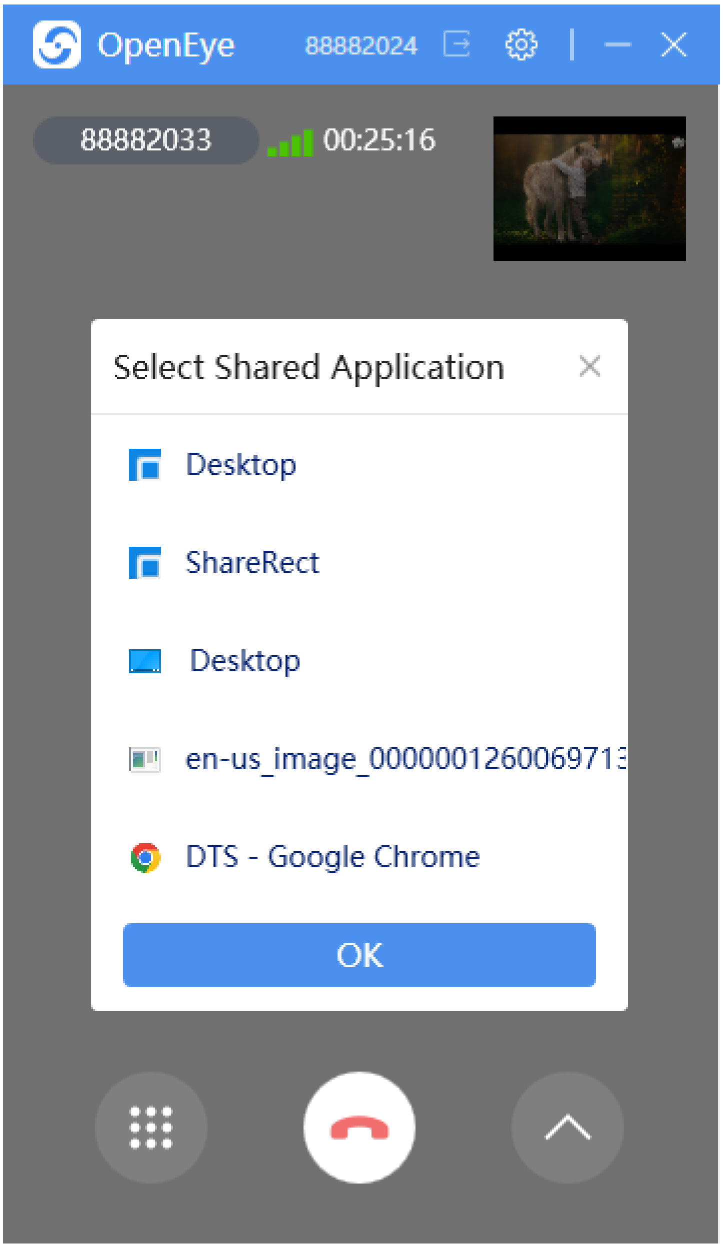
Figure 3-130 Screen sharing



Step 2 Click 

and select an application to be shared.

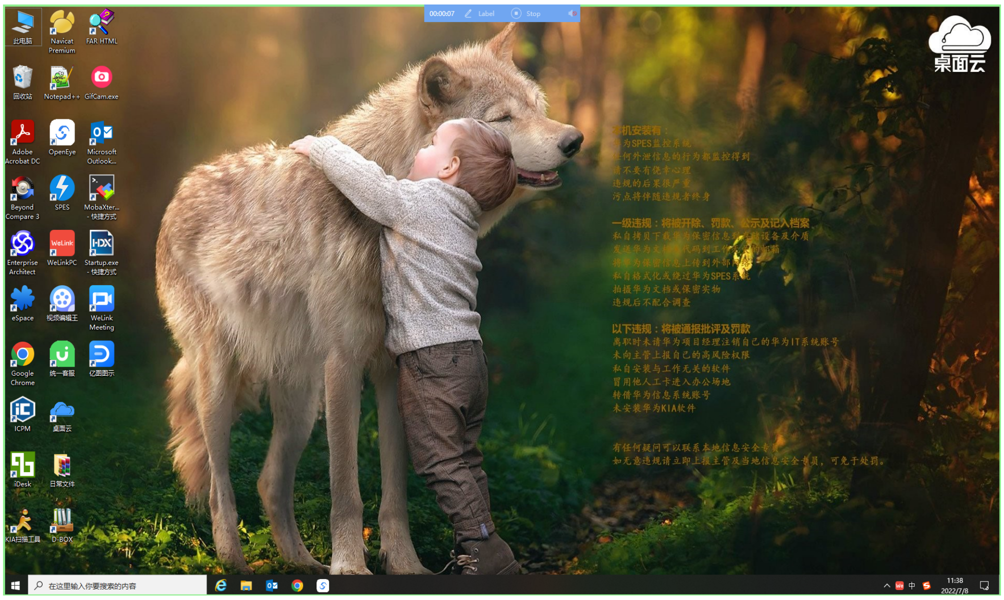
Figure 3-131 Selecting an application to be shared



Step 3 Share the screen.

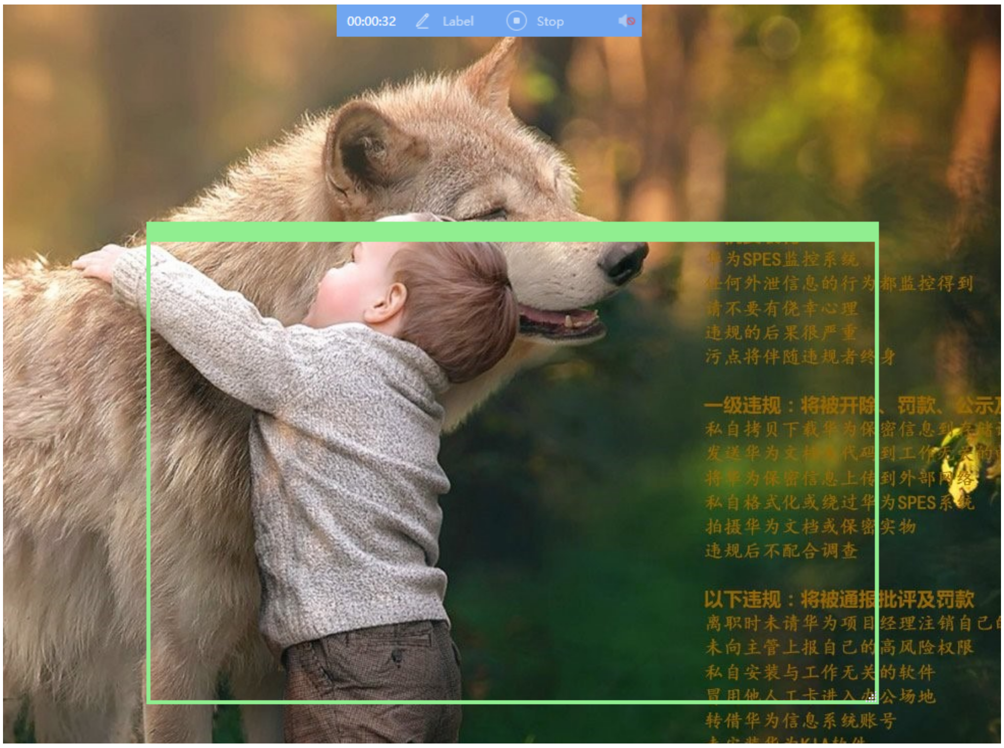
- **Desktop**: The sharing scope is the entire local desktop.

Figure 3-132 Sharing the desktop



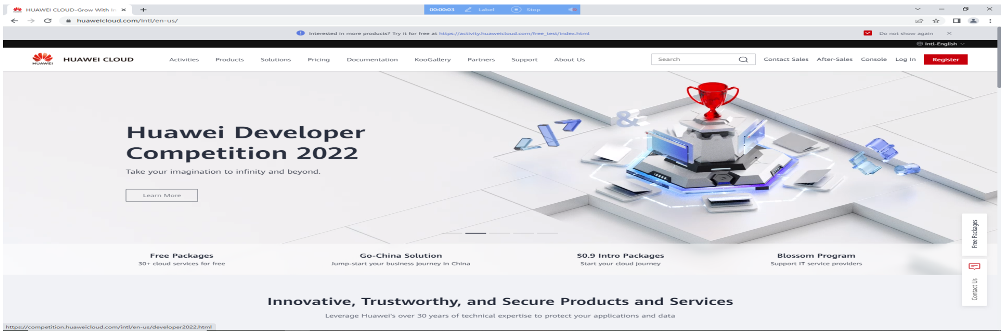
- **ShareRect**: The sharing scope is the content covered by the green box. You can drag the box to change the sharing scope as required.

Figure 3-133 Sharing a specified area



- Specified application: The sharing scope is the content in the selected application window.

Figure 3-134 Sharing a specified application



NOTE

An application that has been opened in the taskbar can be shared.

The Chinese version does not support sharing of specified areas.

Step 4 View the sharing duration, perform the labeling, stop sharing, and enable the sound on the sharing menu bar that is displayed in the middle of the top of the computer screen.

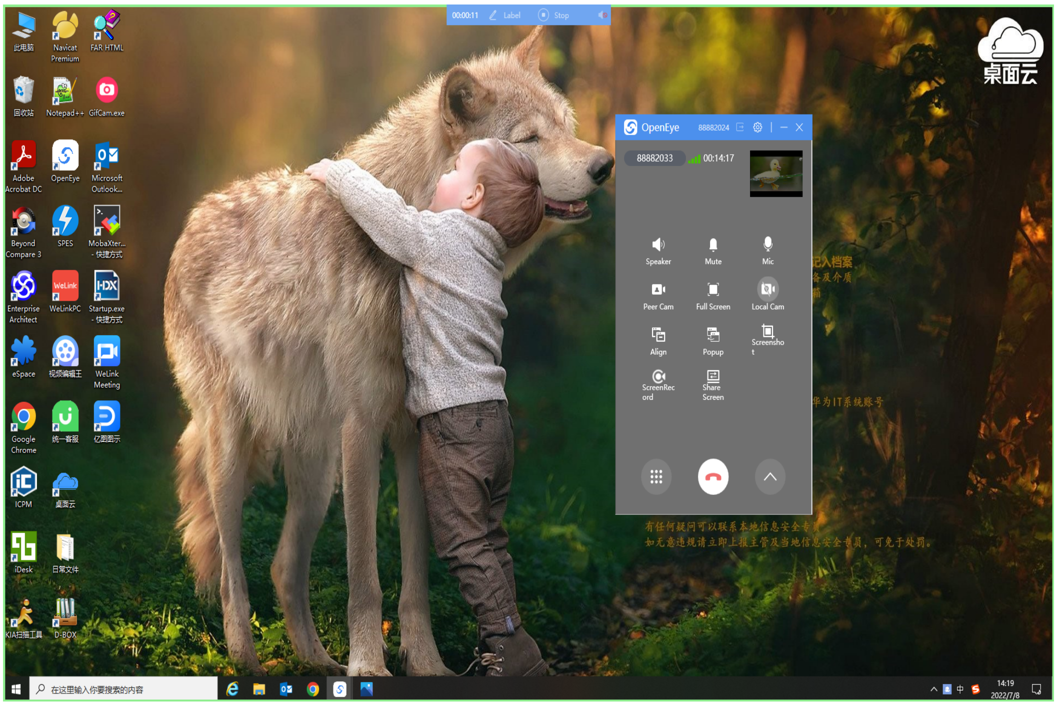
Step 5 Click  to stop the sharing.

Figure 3-135 Menu bar

----End

Follow-up Operations

During screen sharing, the peer client can switch to the full screen mode, and minimize and maximize the screen.



NOTE

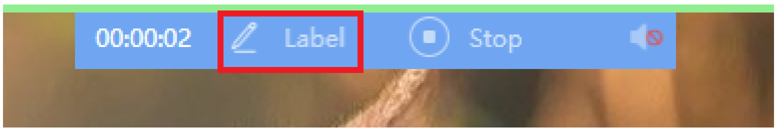
During screen sharing, the peer end can only end the call to stop screen sharing.

3.12.7.2.13 Label Sharing

During screen sharing, you can customize labels as required.

Procedure

Step 1 Enable the sharing function during a video call by referring to **3.12.7.2.12 Screen Sharing**.



Step 2 On the sharing menu bar of a shared area, click 

.

Figure 3-136 Sharing labels on the desktop

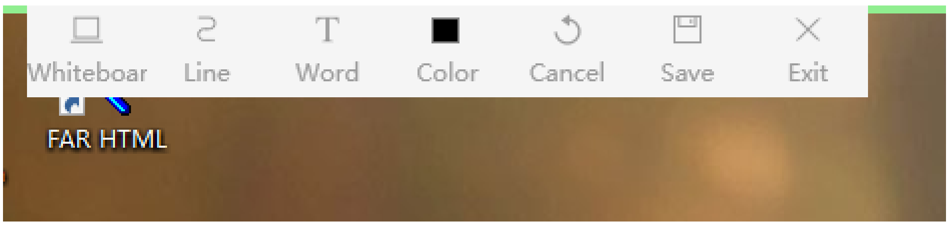


Figure 3-137 Sharing labels in a specified application

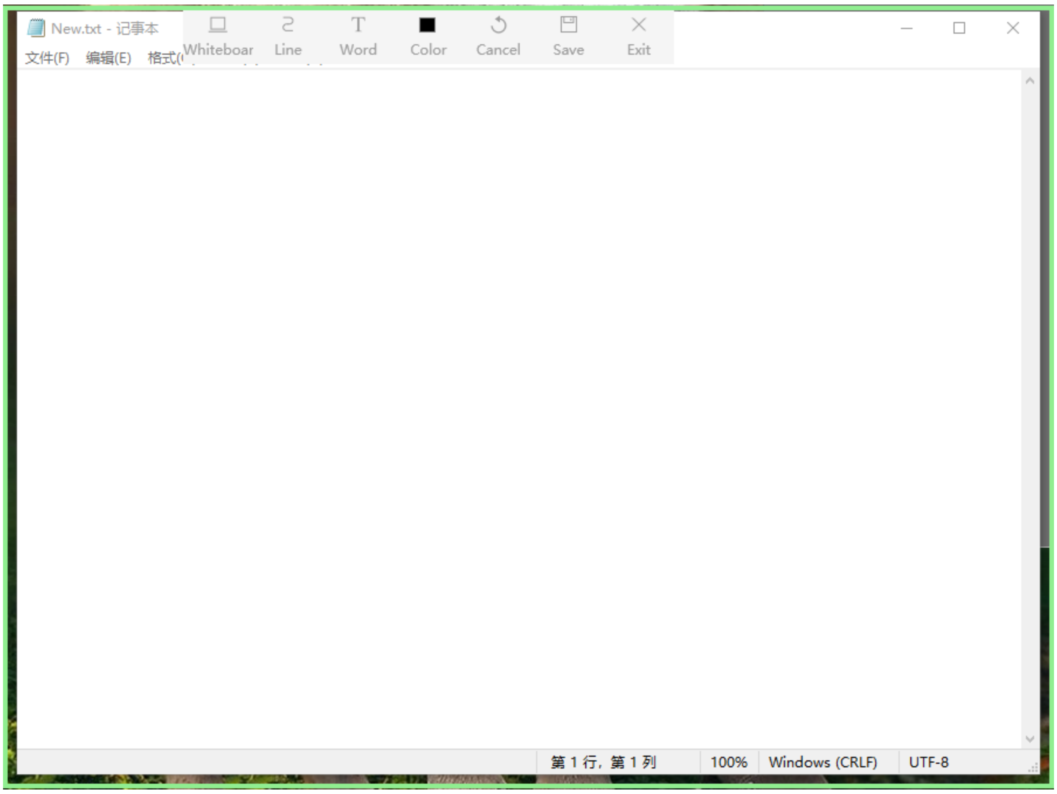
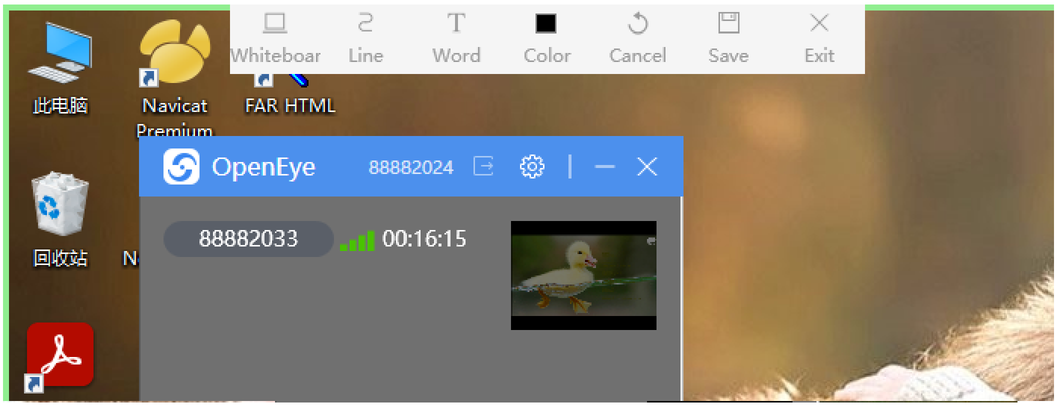


Figure 3 Sharing labels in a specified area



Step 3 Verify that label sharing supports the following functions:

- **Whiteboard**: Switch the background between the **Whiteboard** and **Desktop** during labeling. After the background is switched, the previous labels are cleared.
- **Line**: Select a line tool, such as a brush, straight line, arrow, dotted line, circle, or rectangle, for labeling.
- **Word**: Insert text and adjust the size of the inserted text.
- **Color**: Select the color of lines and texts.
- **Cancel**: Cancel the last step.

- **Save**: Save the current label screenshot. The save path is the same as that of the video image screenshot. You can choose **Settings** > **General** > **Screenshot Saving Path** to set the save path.
- **Exit**: Manually exit the labeling page.

----End

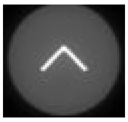
3.12.7.2.14 Replacing the Background

A video call supports background replacement. For privacy purposes, the video background image can be replaced as required.

NOTE

The client of the Chinese version does not support the background replacement function.

Procedure

Step 1 After a video call starts, click  to access the function area and choose the background replacement function.

Step 2 Click 

. The background image is replaced with the selected image during a video call.

Step 3 Click 

to return to the actual video background.

----End

NOTICE

For details about how to replace the background image, see **Modify background**. If the background replacement image is not set, the background replacement function does not take effect.

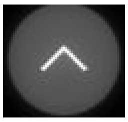
3.12.7.2.15 Beautification

A video call supports facial beautification for the local video. The beautification settings include skin whitening and smooth. The beautification degree can be adjusted as required.

NOTE

The client of the Chinese version does not support the beautification function.

Procedure

Step 1 After the video call starts, click  to access the function area and choose the beautification function.

Step 2 Click  to enable the beautification function.

Step 3 Click  to disable the beautification function.

----End

3.12.7.2.16 Initiating an Anonymous Call

You can initiate an anonymous voice call by referring to **3.12.7.1.6 Initiating an Anonymous Call**.

3.12.7.3 Call Records

Call records store detailed call information of a user. A user can also perform related operations in call records, for example, initiating calls.

3.12.7.3.1 Viewing Call Records

Context

Call records are classified into the following types:

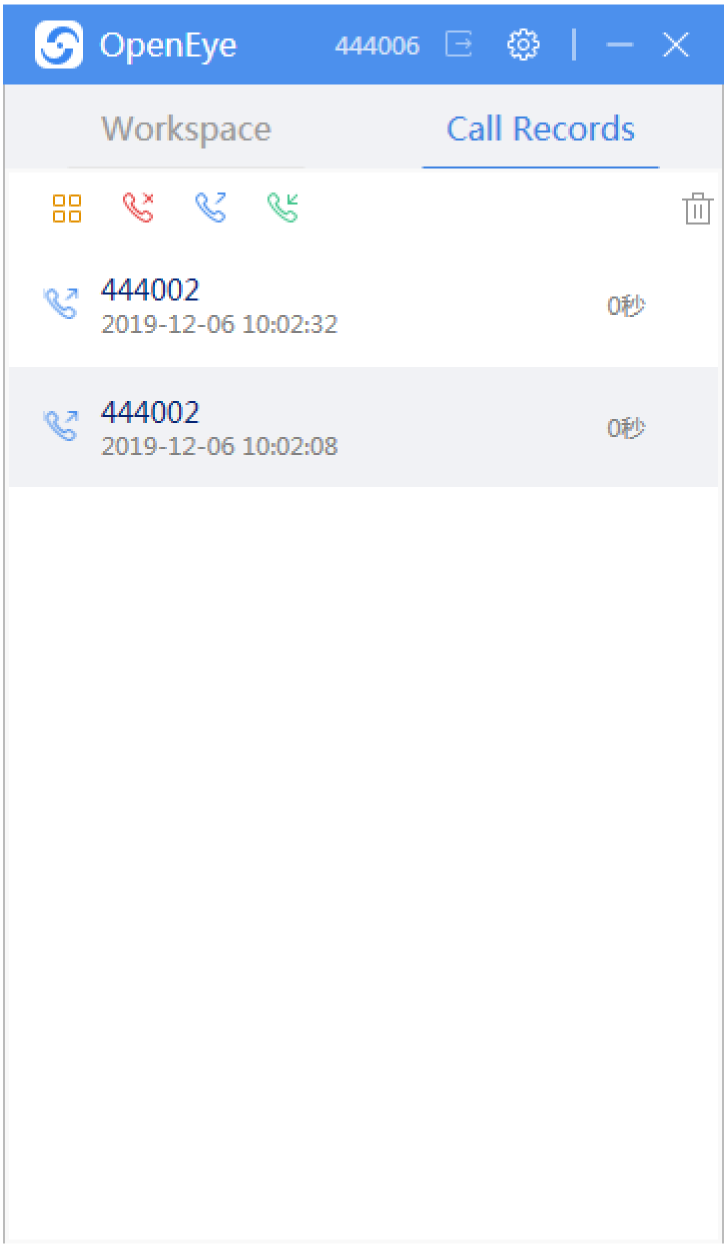
- Missed calls: calls that are not answered, marked with .
- Answered calls: calls that have been answered, marked with .
- Dialed calls: calls that have been dialed, marked with .

Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Click the **Call Records** tab to view the call details.

Figure 3-138 Call Records page



Step 3 View the call details.

-  : View all calls.
-  : View missed calls.
-  : View outbound calls.
-  : View inbound calls.
-  : View the call quality analysis.

Step 4 Click . The call quality analysis page is displayed, showing the quality of each call.

Figure 3-139 Call Quality Analysis

----End

NOTE

A maximum of 200 call records can be stored on the local PC. If the number of call records exceeds 200, the earliest call records are automatically deleted.

A maximum of 50 latest calls can be displayed in the Windows version, and a maximum of 20 latest calls can be displayed in the Chinese version.

3.12.7.3.2 Deleting or Clearing Call Records

You can clear call records in one-click mode, or delete a call record as required.

Procedure

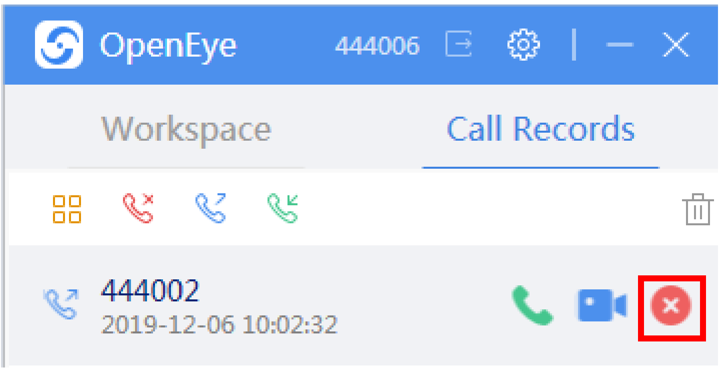
Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Choose **Call Records** to view the call details.

Step 3 Click to delete all call records.

Step 4 Select a call record you want to delete and click on the right to delete it. You can delete unnecessary call records one by one.

Figure 3-140 Deleting a call record



----End

3.12.7.3.3 Initiating a Call

Voice calls and video calls can be initiated from call records.

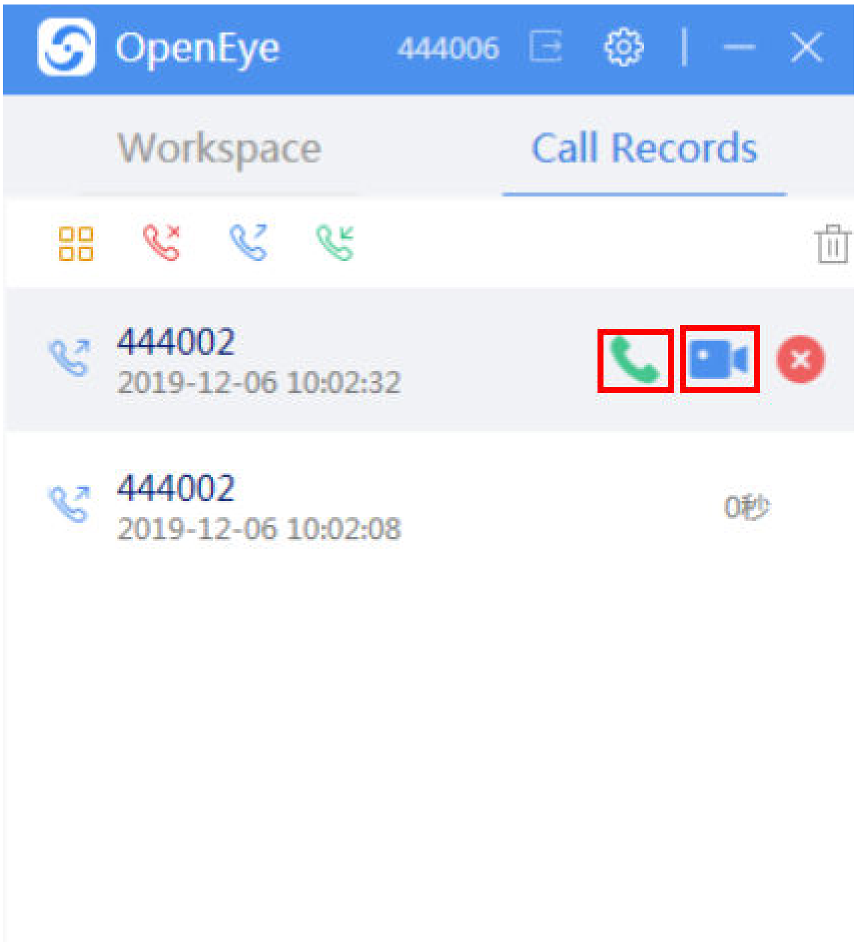
Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Click the **Call Records** tab to view the call details.

Step 3 Select a call record and click to initiate a voice call. Click to initiate a video call.

Figure 3-141 Initiating a call



----End

3.12.8 Description of Personal Data

During business operation or fault locating, the OpenEye Desktop platform obtains or uses users' personal data listed in the following table. You are obligated to formulate necessary user privacy policies and take sufficient measures based on the laws of concerned countries to ensure that users' personal data is fully protected.

Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
Operation logs; Remember Password	Soft client account and password	Operation logs: User operations on the OpenEye Desktop are recorded in logs. Operation logs contain accounts and passwords. **Remember Password**: A password is encrypted and saved after users select **Remem**	Accounts and passwords in operation logs are anonymized and can be backtracked. The **Remember Password** and **Auto Login** functions are used to facilitate the next login. Passwords are encrypted and saved locally.	When a user selects **Remember Password**, the password is encrypted and saved locally. When a user does not select **Remember Password**, the encrypted password is deleted.	Accounts and passwords in operation logs are anonymized. When a user does not select **Remember Password**, the encrypted password is deleted.	Accounts and passwords in operation logs are anonymized. Operation logs can be directly copied from the installation path. Encrypted passwords cannot be exported.	Accounts and passwords in operation logs are anonymized. Operation logs can be directly copied from the installation path. Encrypted passwords cannot be exported.

Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
		ber Password and **Auto Login** check boxes.					
Call records	Call duration, calling number, called number, and call type	Call records of users are collected and stored in the database.	Call records are used for user service appraisal or audit. Call records are encrypted and saved in the database provided by the software.	The latest 200 call records are recorded. The OpenEye Desktop provides the **Clear** button to clear call records.	The OpenEye Desktop provides the **Clear** button to clear call records.	Call records cannot be exported.	Call records cannot be exported.

Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
Machine code generation	MAC address and CPU information of a machine where the OpenEye Desktop is installed	Information is collected from the machine where the OpenEye Desktop is installed by invoking functions.	Information such as the MAC address and CPU of a machine where the OpenEye Desktop is installed is used to generate the machine code. The information is not stored.	The MAC address and CPU information of a machine is not stored.	N/A	N/A	N/A

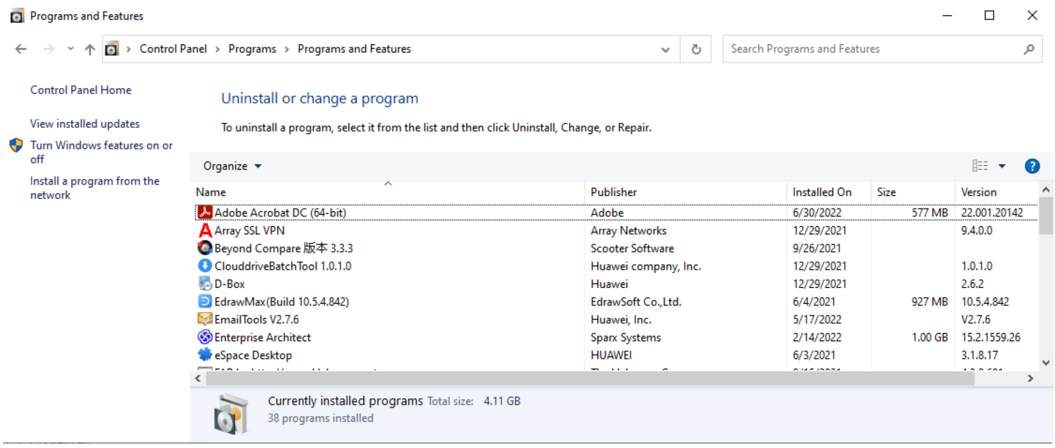
Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
Video call screenshot and screen recording	Images in a video call	A user uses the screen capture or screen recording function during a video call.	A function entry is provided to meet user requirements, which generates images or video files from video calls, and saves the images or video files to a specified directory.	Files are saved to a specified directory and managed by users.	Data can be deleted by the user.	N/A	Generated images or video files can be directly copied.

3.12.9 Uninstallation Description

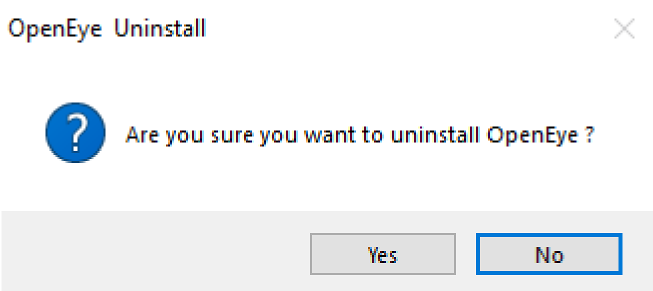
The OpenEye can be uninstalled manually.

Procedure

Step 1 Choose **Start** > **Control Panel** > **Programs and Features**. The **Uninstall or change a program** window is displayed.

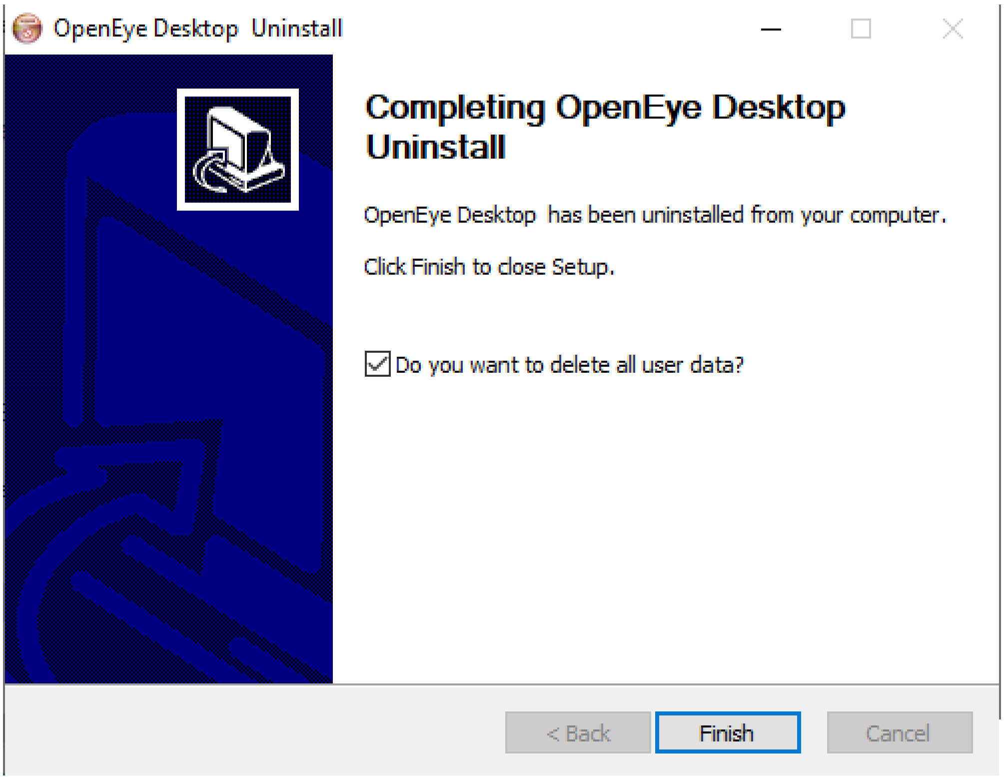


Step 2 Click the OpenEye and right-click **Change/Uninstall Program**. A confirmation dialog box is displayed.



Step 3 Click **Yes** to uninstall the OpenEye. The background automatically performs the uninstallation.

Step 4 When the uninstallation is complete, select **Do you want to delete all user data?** and click **Finish**.



----End

3.13 Implementing Intelligent Case Filling

When a user communicates with an agent through voice or multimedia, the agent may need to create a case. In this case, the agent can click the one-click case creation button.

Procedure

Step 1 Choose **Audio and Video Workbench** to open the audio and video workbench, and click **Sign In** on the navigation bar.

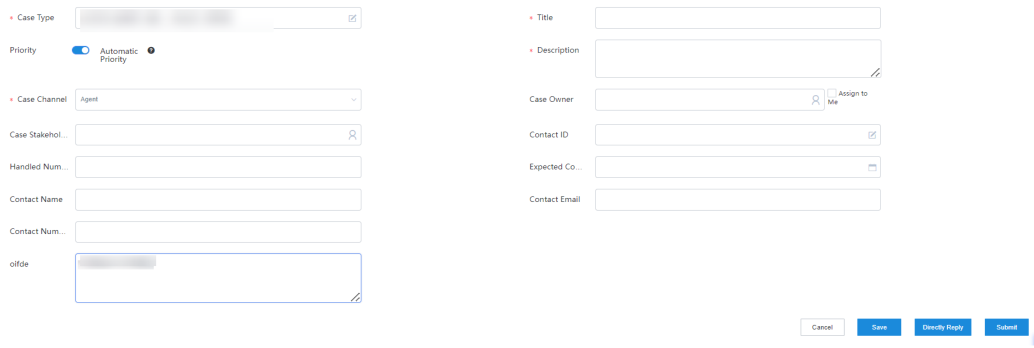
Step 2 Click in the upper part of the page to call another agent.

Step 3 Click above the session to create a case after the call ends. In the **Select a case type** dialog box that is displayed, select a case type based on business requirements.

Step 4 After a case type is selected, the **Create Case** page is displayed, and the case type is automatically filled in.

Step 5 The address information during the call is automatically filled in **oifde**. The **oifde** field is customized.

Figure 3-142 Intelligent case filling



----End

4 Inspector Guide

To guide and evaluate the service of agents, an enterprise can assign inspectors to monitor the conversation between agents and customers in real time.

The inspection mode varies depending on the inspection content. An inspector can select an inspection mode to perform inspections.

After an agent completes a call, an inspector can check the call content, inspect the agent, and process violations.

The AICC automatically queries agents' service content based on the rules set by inspectors, reducing inspector operations.

Quality checkers can monitor VDNs, IVRs, skill queues, and agents, and inspect agents.

4.1 Processing Manual Post-Event Inspections

After an agent completes a call, an inspector can check the call content, inspect the agent, and process violations.

4.1.1 Executing Inspection Tasks

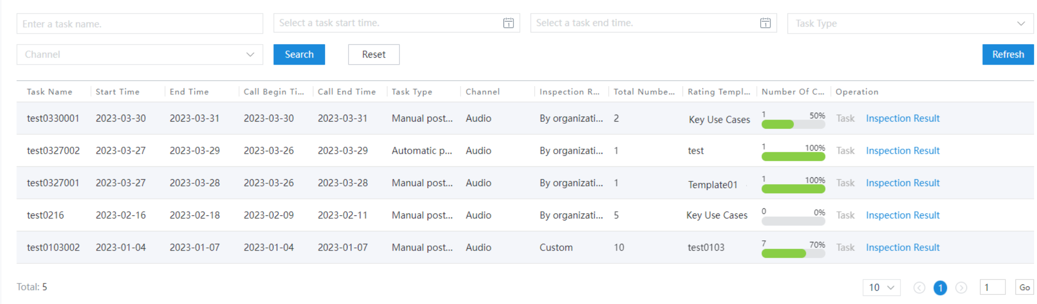
An inspector can access an inspection task and inspect the calls of agents.

Step 1 Use an allocated business account to sign in to the CEC.

Step 2 Choose **Inspection** > **Task Query**.

Step 3 By default, the inspection task list displays the tasks that an inspector is involved in.

Figure 4-1 Task Query



Step 4 Click **Task** next to a desired inspection task. The list of pending records for an inspector is displayed.

Step 5 If the list of pending records is empty, click **Obtain To-Be-Inspected Record** to obtain the pending records.

NOTE

Before obtaining inspection records, ensure that the inspected agent has made calls during the inspection period.

If the task type is automatic post-event inspection, contact records are automatically extracted from the system.

When the task type is manual post-event inspection, you need to manually select contact records.

Figure 4-2 To-Be-Inspected Record Query

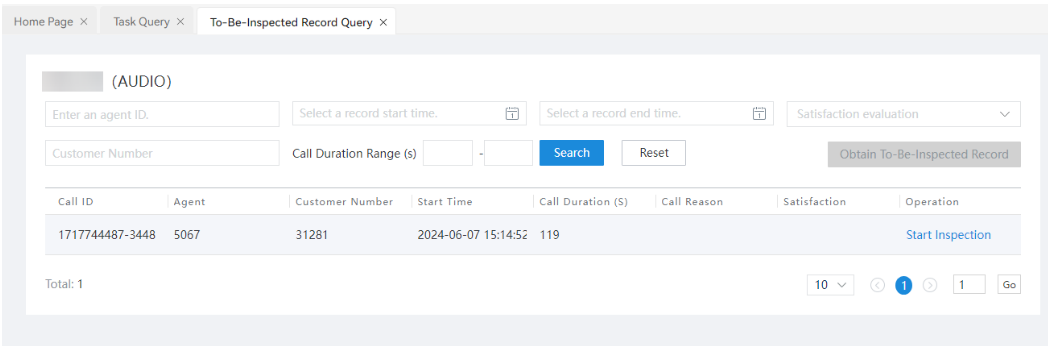
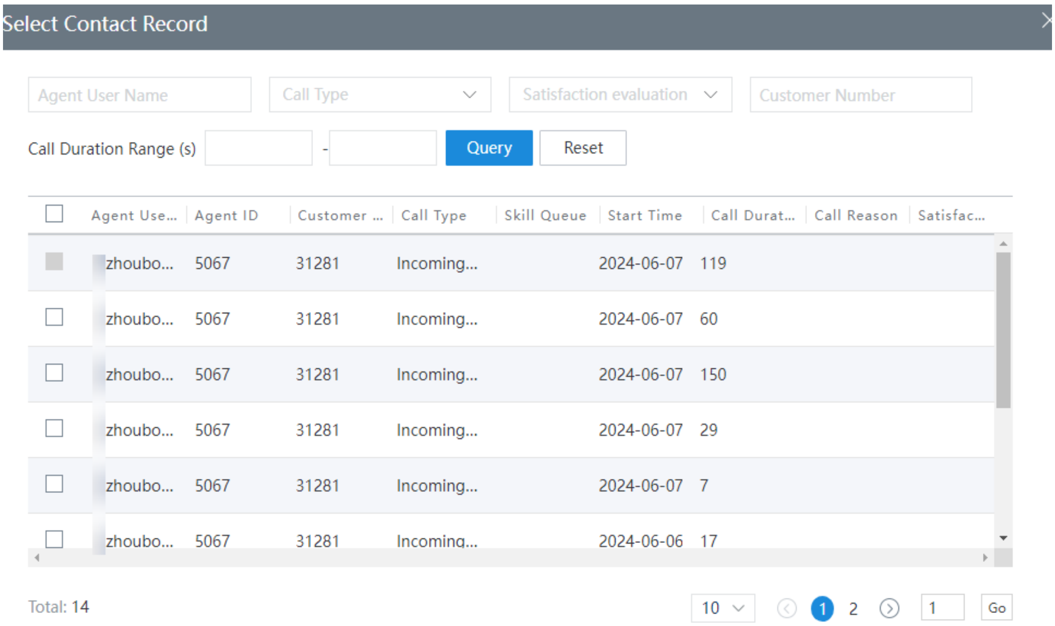
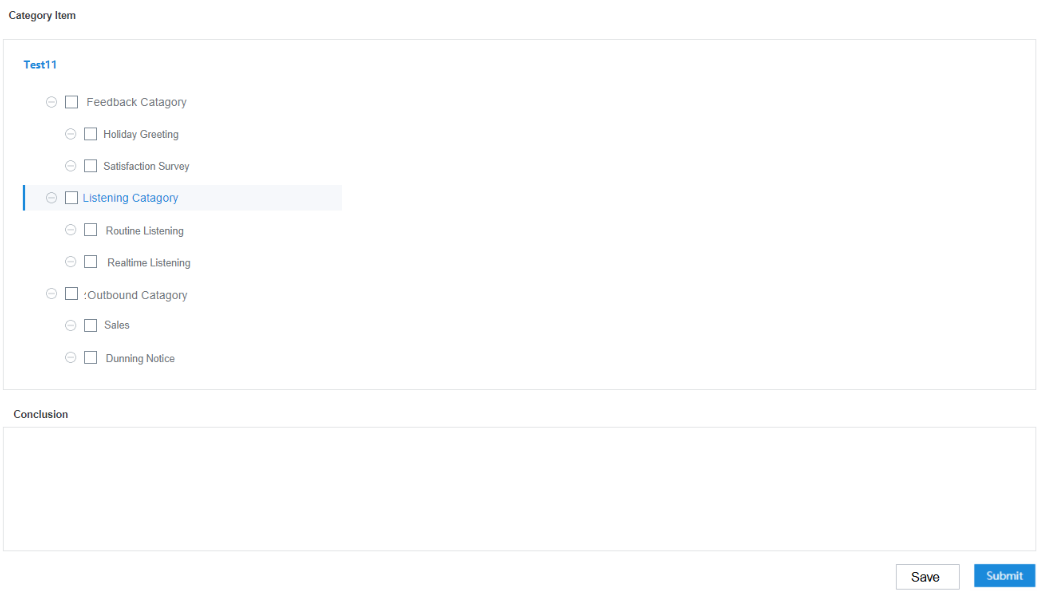


Figure 4-3 Select Contact Record



Step 6 Select an inspection record and click **Start Inspection** to access the manual inspection stage. The **Session Content** and **Contact Information** tab pages are displayed on the left, and the rating template of the inspection task is displayed on the right. The inspector can perform an inspection based on the rating items and click **Submit** to complete the inspection. The inspector can then view the inspection result. For details, see **4.1.2 Viewing Inspection Results**.

Figure 4-4 Manual inspection page



----End

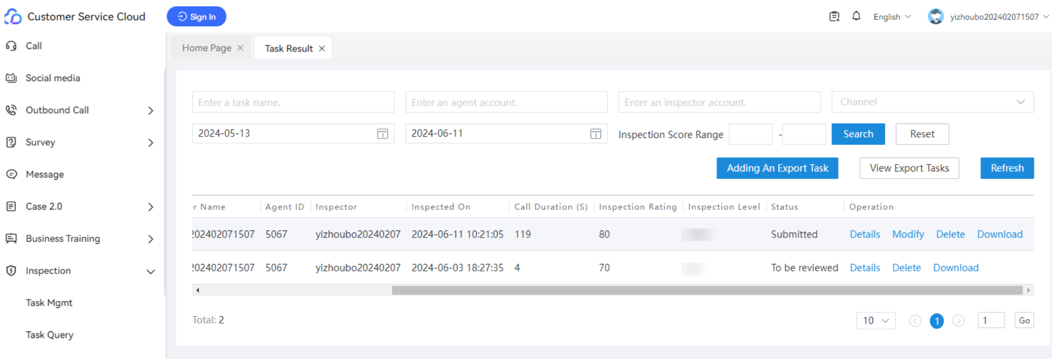
4.1.2 Viewing Inspection Results

An inspector can view inspection results.

Step 1 Choose **Inspection** > **Task Result**.

Step 2 Set search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

Figure 4-5 Task Result



Step 3 Click **Adding An Export Task** to export the inspection result.

Step 4 Click **Details**. On the **Manual Inspection** page, view the score details and summary for the current inspection record.

----End

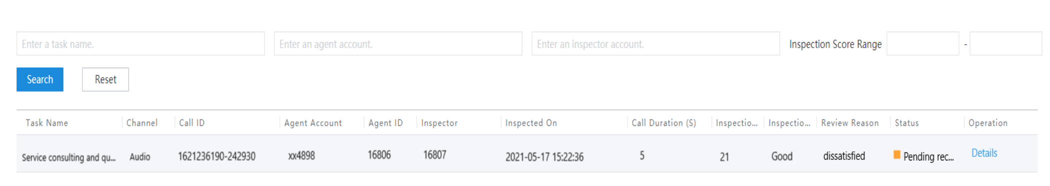
4.1.3 Handling Review Applications

If an agent disagrees with an inspection result, the agent can apply for a review. An inspector with the permission can handle the review application.

Step 1 Choose **Quality Inspection** > **Reconsideration Management**.

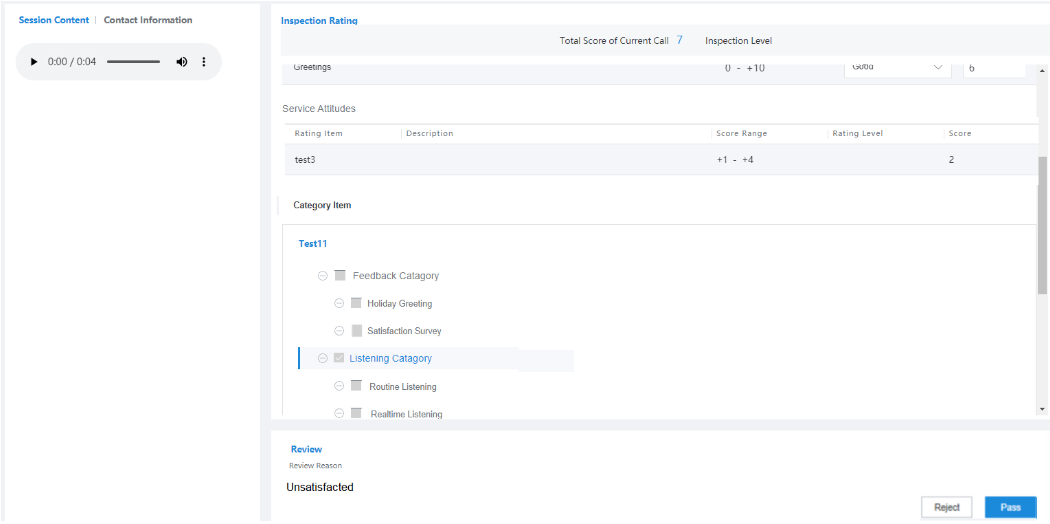
Step 2 Set the search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

Figure 4-6 Reconsideration Management page



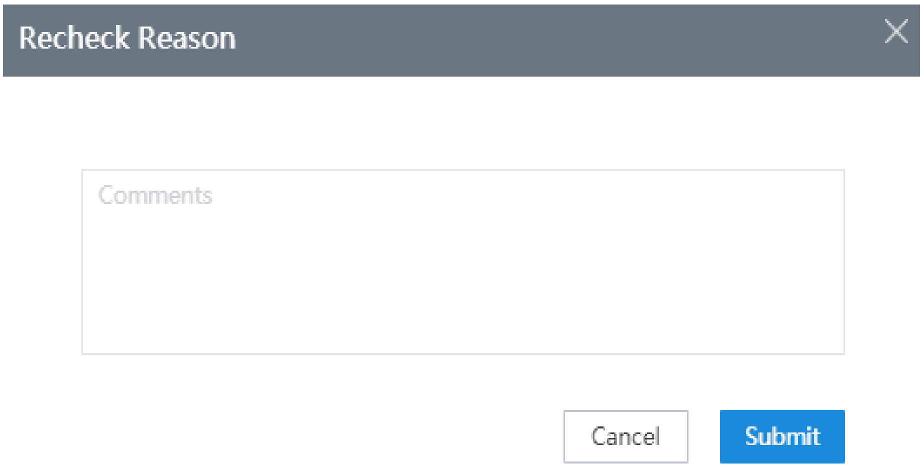
Step 3 Click **Details** in the **Operation** column to view the inspection details. If an inspection record is in **Approved** or **Failed** state, you can only view the result. If it is in **Pending** state, you can click **Details** to handle the review application.

Figure 4-7 Handling a review application



Step 4 Click **Reject**. In the dialog box that is displayed, enter the comments. The manual inspection result remains unchanged. If you modify the score or summary of an inspection item, click **Submit**, and then enter the comments, the manual inspection result of the record is updated.

Figure 4-8 Entering review comments



----End

4.2 AI Inspection

The AICC automatically queries agents' service content based on the rules set by inspectors, reducing inspector operations.

4.2.1 Viewing To-Do Inspection Tasks

An inspector can quickly view and handle to-do inspection tasks, improving inspection efficiency.

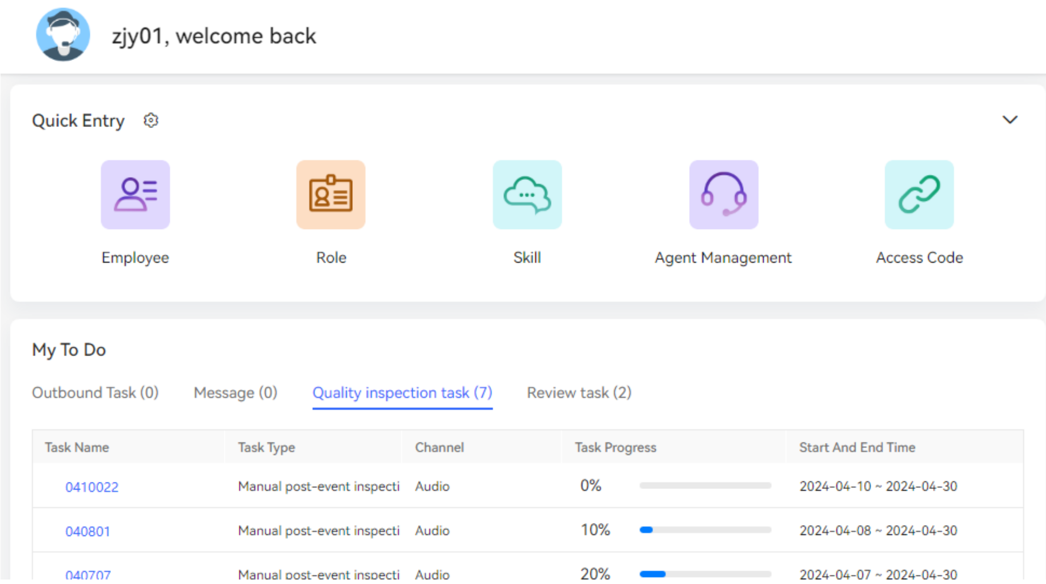
Prerequisites

The inspected agent has contact records.

Procedure

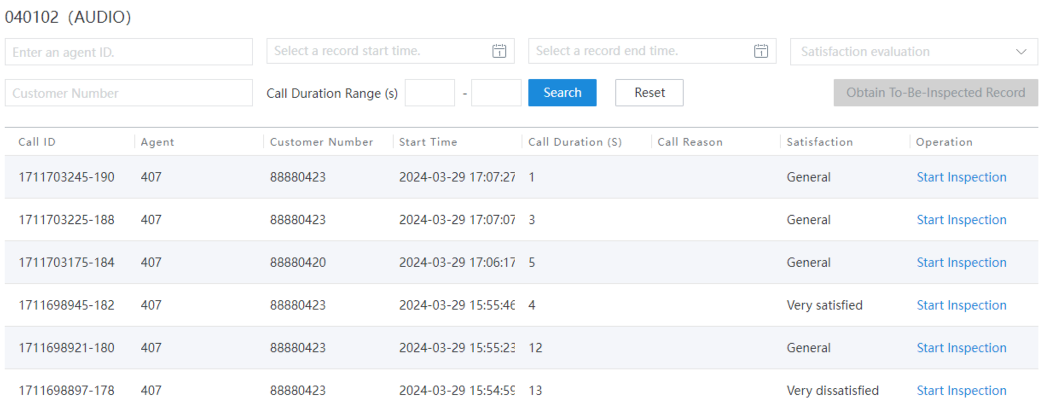
Step 1 Sign in to the CEC as a tenant administrator and view to-do inspection tasks in the **My To Do** area on the home page.

Figure 4-9 Home page



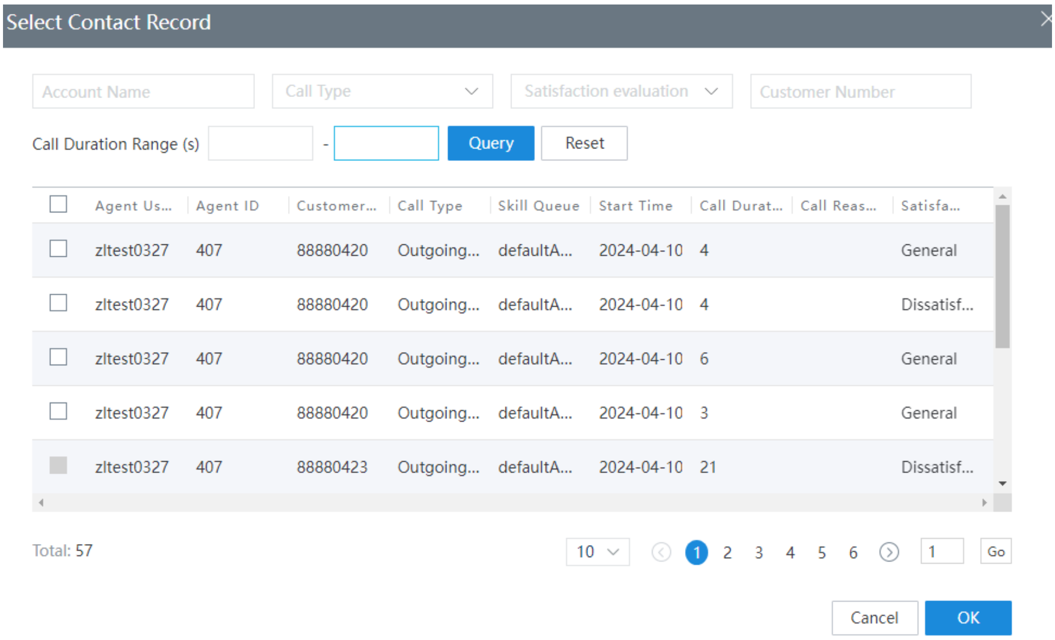
Step 2 Click the name of an inspection task. The **To-Be-Inspected Record Query** page is displayed.

Figure 4-10 To-Be-Inspected Record Query



Step 3 Click **Obtain To-Be-Inspected Record** and select contact records.

Figure 4-11 Select Contact Record



Step 4 Click **OK** to obtain to-be-inspected records.

Step 5 Click **Start Inspection** to inspect a record.

----End

4.2.2 Executing Manual Sample Inspection Tasks

After an inspection supervisor creates a manual sample inspection task and assigns it to an inspector, the inspector can view it in **My Inspection Task** and review the AI inspection result.

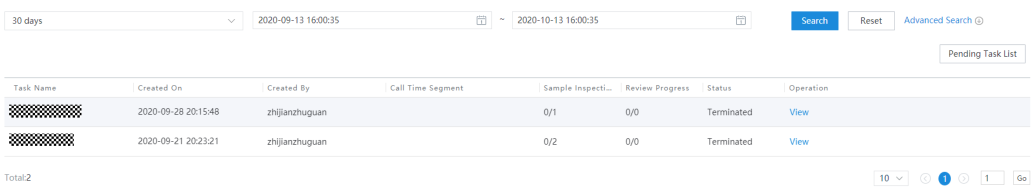
Procedure

Step 1 Use the allocated business account to sign in to the CEC.

Step 2 Choose **Quality Inspection** > **My Inspection Task**.

Step 3 View the inspection task list. By default, the list displays the tasks that an inspector is involved in.

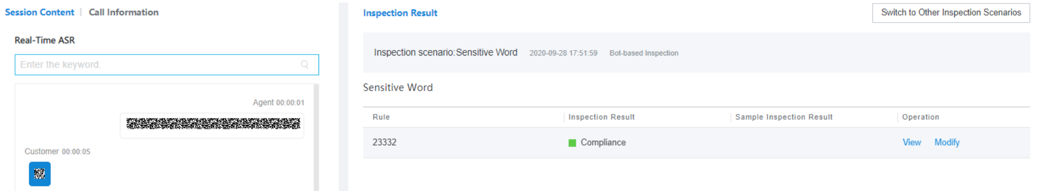
Figure 4-12 Inspection task list



Step 4 Click **View** corresponding to an inspection task. The **Basic Task Details** list is displayed.

Step 5 In the **Basic Task Details** list, click **View** corresponding to a record. The **Call Inspection Details** page is displayed.

Figure 4-13 Call Inspection Details page



Step 6 On the **Call Inspection Details** page, click **View** to view the rule, or click **Modify** to modify the inspection result.

Figure 4-14 Silence Rule Details page

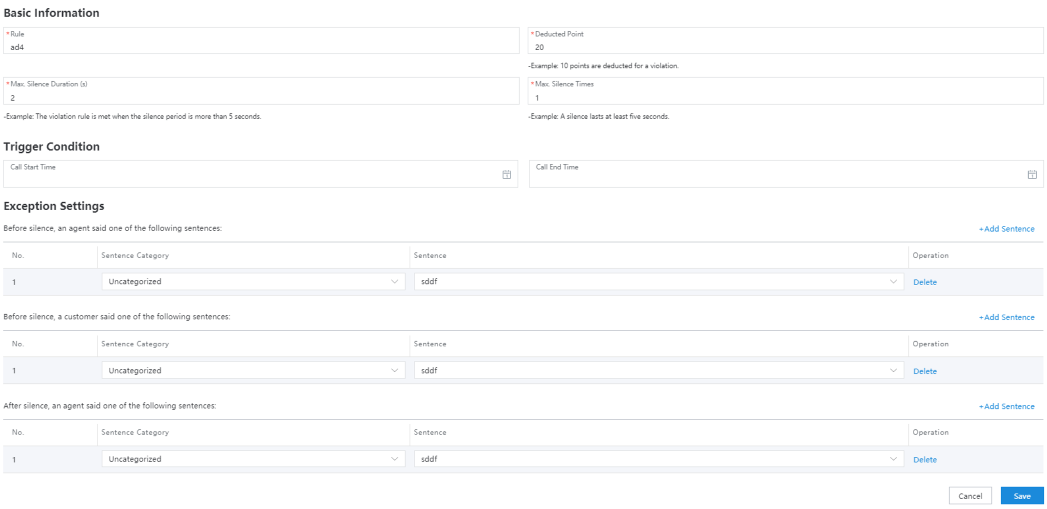
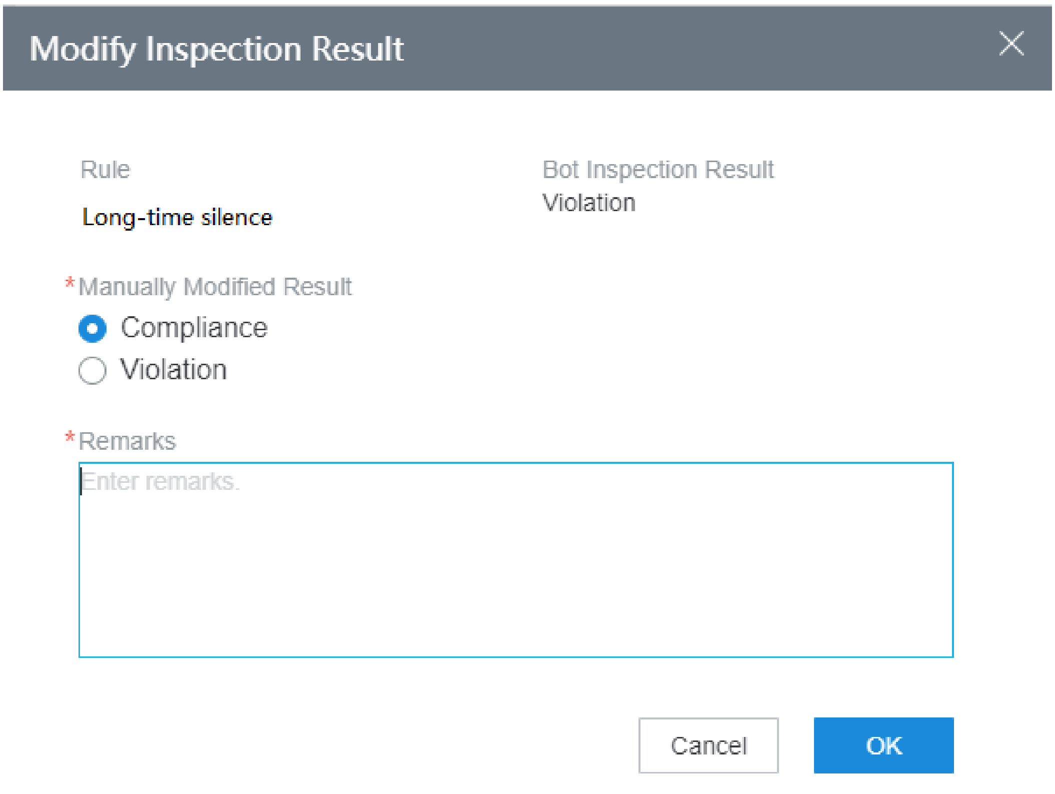


Figure 4-15 Modify Inspection Result page



Step 7 On the **Call Inspection Details** page, click **Complete Sample Inspection** and **Complete Re-Inspection** to complete the sample inspection.

----End

4.3 Performing Agent Monitoring and Inspections

Quality checkers can monitor VDNs, IVRs, skill queues, and agents, and inspect agents.

4.3.1 Monitoring Configuration

A system administrator can configure inspection relationships, full screen monitoring, and report subscription tasks.

4.3.1.1 Configuring Monitoring and Inspection Relationships

When inspectors need to perform agent monitoring and recording inspection, a tenant administrator can configure the monitoring and inspection relationships between inspectors and agents.

Prerequisites

Inspectors and agents have been configured for the tenant.

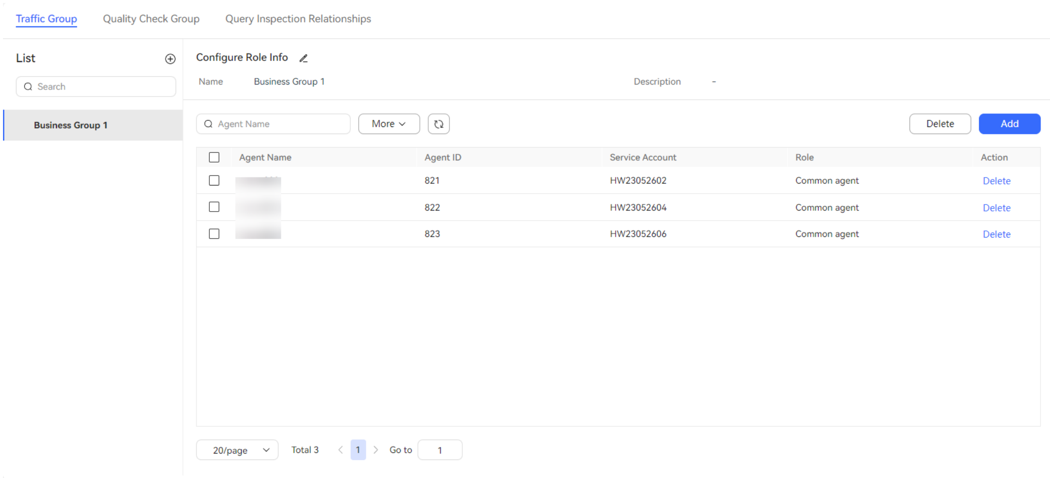
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Monitor Relationship**.

Step 2 Configure an agent group.

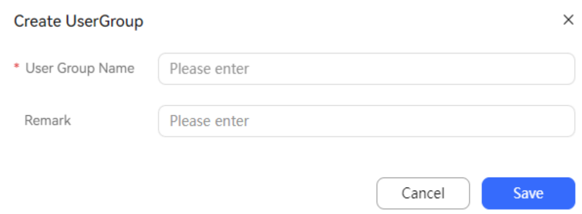
1. Click the **Traffic Group** tab.

Figure 4-16 Traffic Group



2. Click  to create an agent group.

Figure 4-17 Creating an agent group

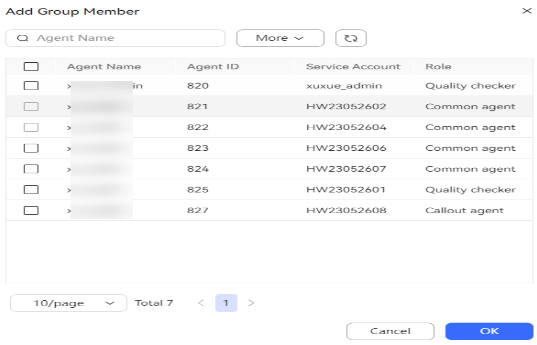


– **User Group Name**: The value cannot contain special characters and must be unique.

Click **Save**.

3. Select the new agent group, click **Add** in the **Configure Role Info** area on the right, and add agents to the agent group.

Figure 4-18 Adding agents to an agent group



Agents of all roles can be selected.

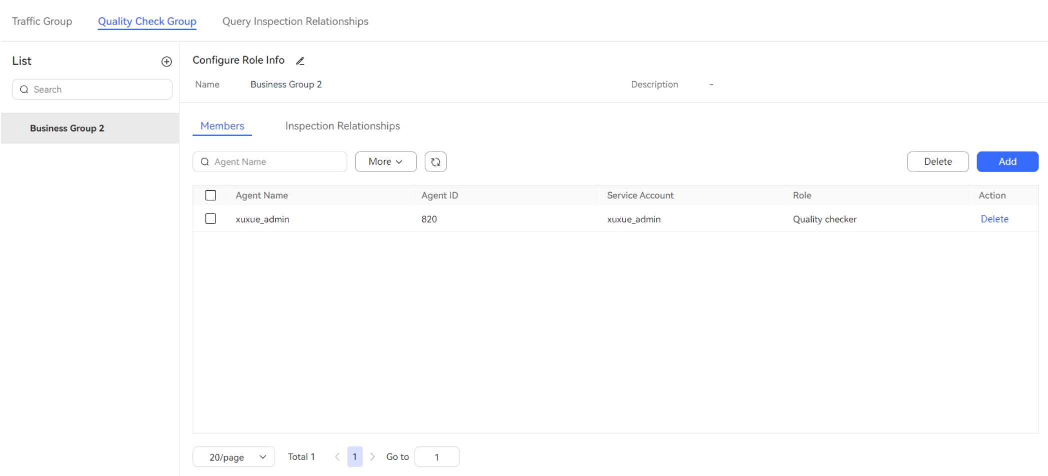
Click **OK**.

4. (Optional) You can perform the following operations on an agent group and its members.
   - Hover the pointer over the agent group and click to delete the agent group and its members.
   - Click to edit basic information about the agent group.
   - Search for configured agents in the agent group based on the agent ID, name, and business account.
   - Click **Delete** corresponding to a configured agent to delete the agent from the agent group.
   - Select multiple configured agents and click **Delete** to delete the agents in batches.

Step 3 Configure an inspector group.

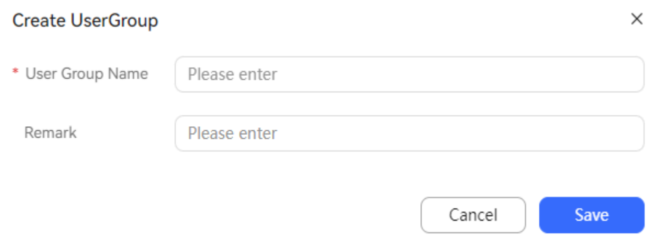
1. Click the **Quality Inspection Group** tab.

Figure 4-19 Quality Inspection Group



2. Click to create an inspector group.

Figure 4-20 Creating an inspector group

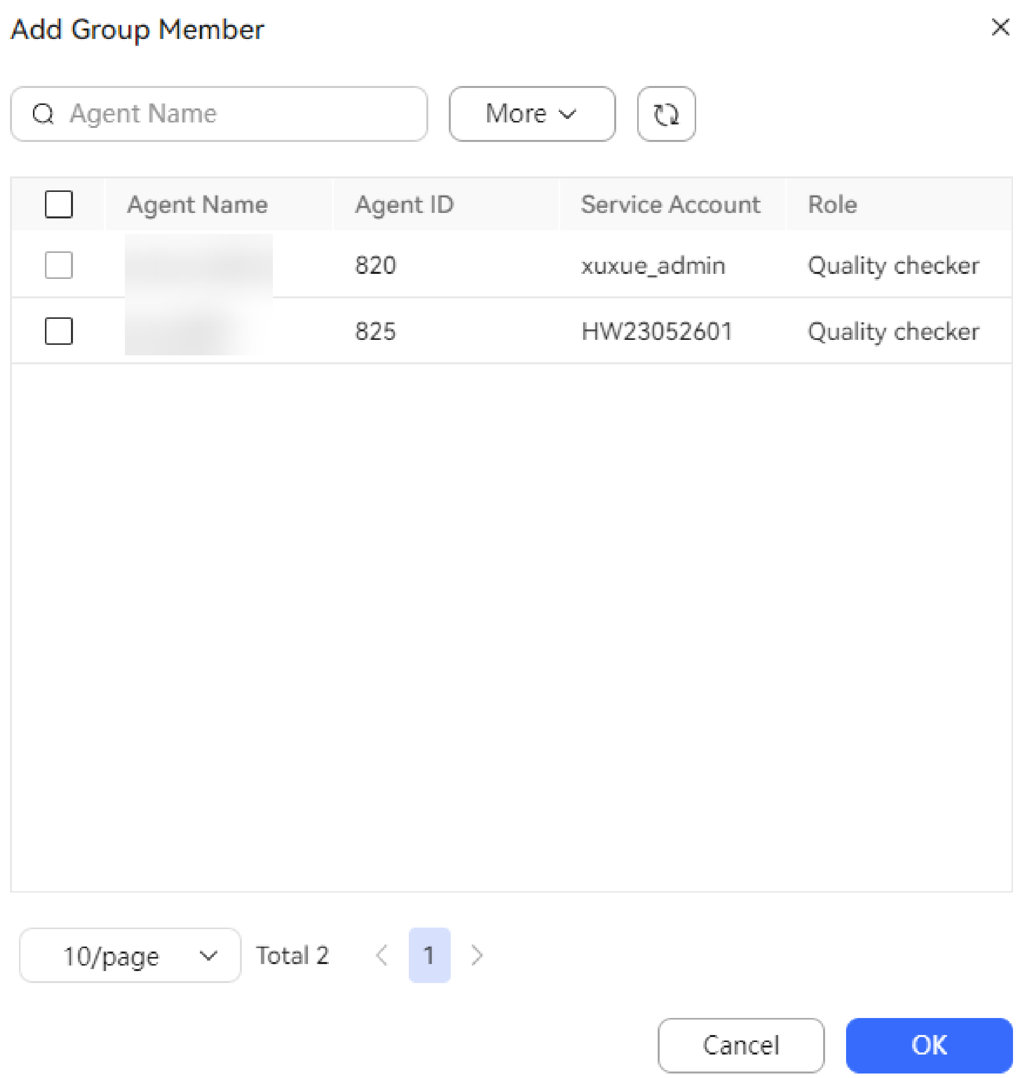


– **User Group Name**: The value cannot contain special characters and must be unique.

Click **Save**.

3. Select the new inspector group, click **Add** in the **Configure Role Info** area, and add agents to the inspector group.

Figure 4-21 Adding agents to an inspector group

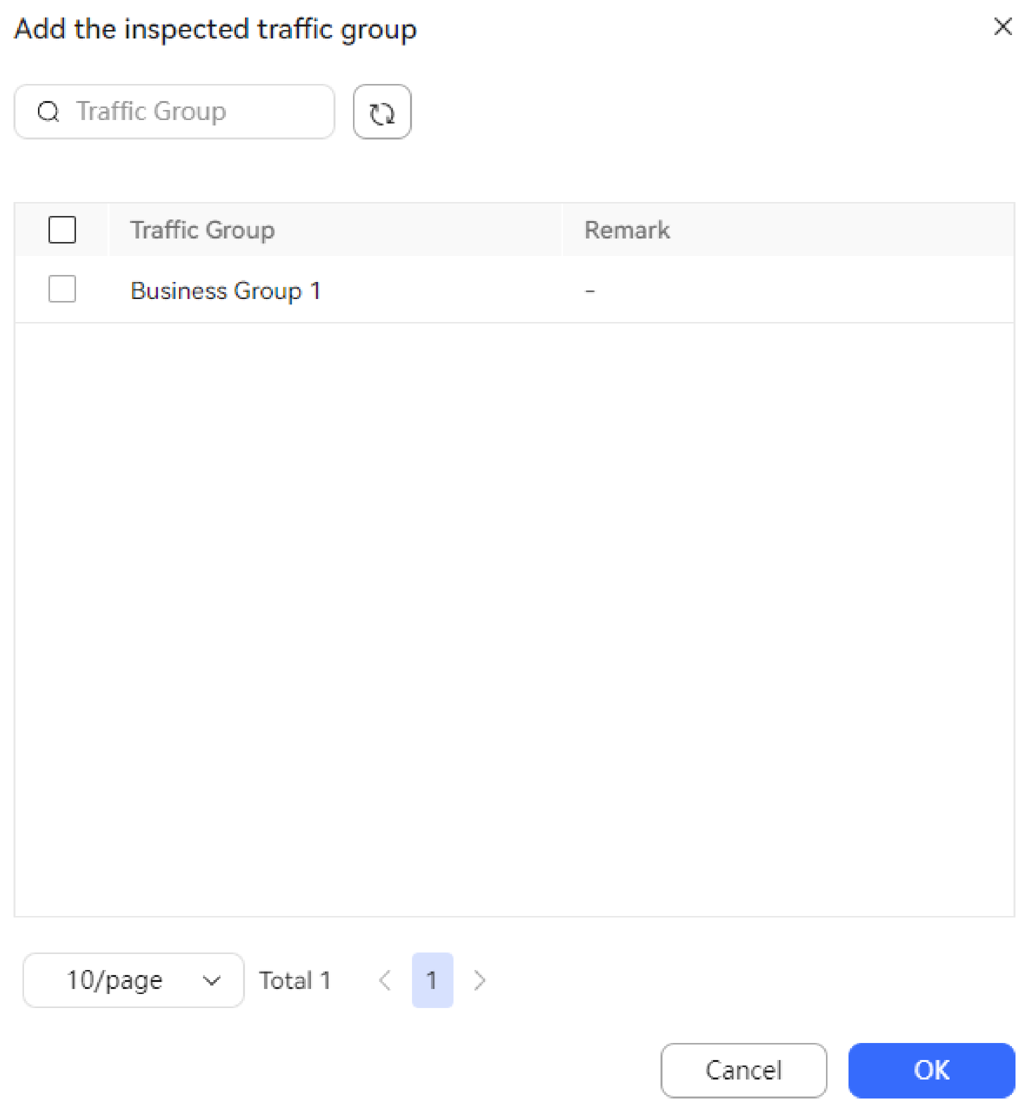


Only agents of the **Quality checker** role can be selected.

Click **OK**.

4. Click the **Inspection Relationships** tab, click **Add**, and configure monitoring and inspection relationships.

Figure 4-22 Adding agent groups to be inspected



Click **OK**.

5. (Optional) You can perform the following operations on an inspector group, its members, and inspection relationships.
   - Hover the pointer over the inspector group and click to delete the inspector group, its members, and inspection relationships configured for the group.
   - Click to edit basic information about the inspector group.
   - Search for configured agents in the inspector group based on the agent ID, name, and business account.

– Click **Delete** corresponding to a configured agent to delete the agent from the inspector group.
– Select multiple configured agents and click **Delete** to delete the agents in batches.
– Search for configured inspection relationships by agent group name.
– Click **Delete** corresponding to a configured inspection relationship to delete it.
– Select multiple configured inspection relationships and click **Delete** to delete the inspection relationships in batches.

Step 4 Search for inspection relationships.

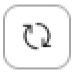
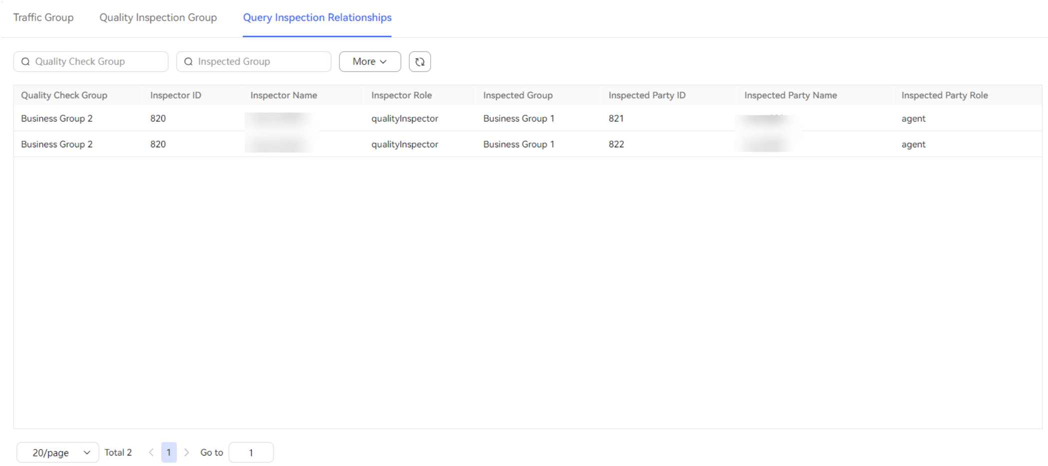
1. Click the **Query Inspection Relationships** tab.
2. Enter an inspector group or inspected group and click  to search for configured inspection relationships.

Figure 4-23 Query Inspection Relationships



3. Click **More** and set more search criteria, including **Inspector Name**, **Inspector ID**, **Inspected Party Name**, and **Inspected Party ID**, to search for inspection relationships.

----End

4.3.1.2 Configuring Fullscreen Monitoring

A tenant administrator performs this operation when a fullscreen is required to view real-time monitoring data, today's indicator statistics, historical indicator monitoring data, and the trend chart of the number of calls, call rate, duration, and number of agents under the tenant space, or display the monitoring data.

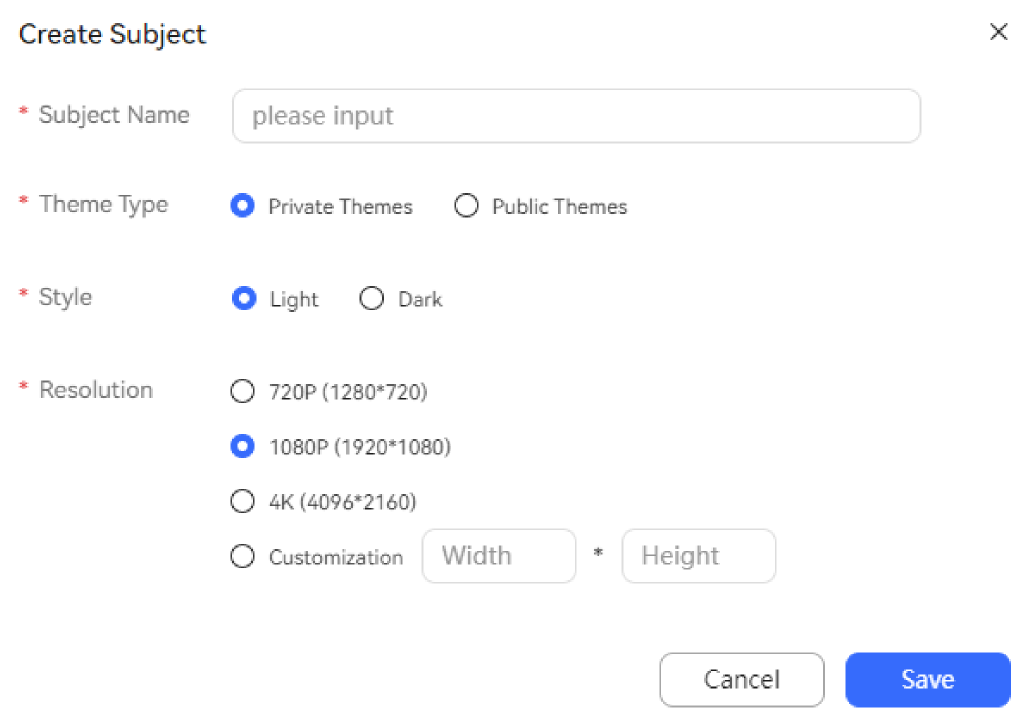
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Fullscreen Monitor**.

Figure 4-24 Fullscreen Monitor

Step 2 Click ⊕ to add a theme.

Figure 4-25 Create Subject



- **Subject Name**: Enter a name that contains a maximum of 32 characters. The name must be unique and cannot contain special characters.
- **Theme Type**: Select **Public Themes** or **Private Themes**.

  Employees who have the following permissions share screen data of public themes:

  – Menu permissions **Call Center Monitor**, **Monitor Configuration**, and **Full Screen Monitoring Configuration**

– Operation permissions **Large-screen monitoring management**, **Viewing Public Large-Screen Monitoring**, and **Edit Public Large-Screen Monitoring**

- **Style**: Select **Light** or **Dark**.
- **Resolution**: Select **720P (1280*720)**, **1080P (1920*1080)**, **4K (4096*2160)**, or **Customization** (the resolution ranges from 720P to 8K).

Step 3 Click **Save**.

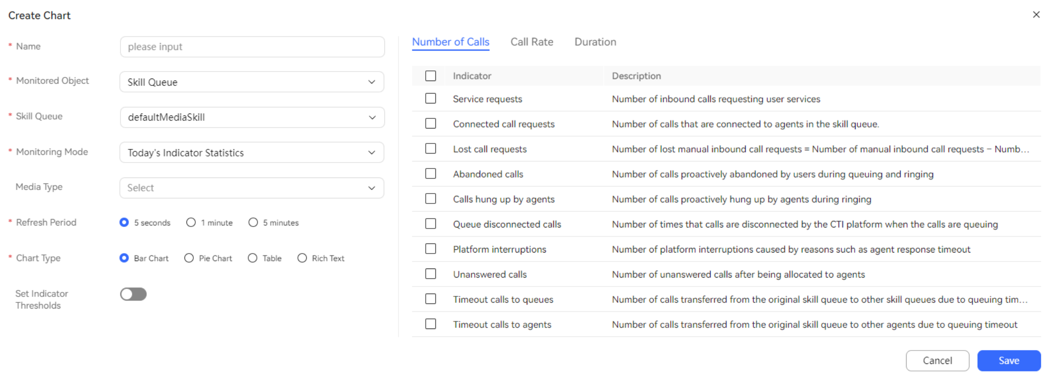
Step 4 (Optional) You can perform the following operations on the new theme:

- Click ↑ or ↓ to change the sequence of the theme in the list.
- Click to display the theme in fullscreen mode.
- Click to modify the theme information.
- Click to delete the theme.

Step 5 Select the new theme and create a chart.

1. On the chart information pane on the right, click to create a chart.
2. Configure chart information.

Figure 4-26 Create Chart



– **Name**: Enter a customized name that contains a maximum of 32 characters. The name must be unique and cannot contain special characters.

– **Monitored Object**: Select an object to be monitored on a fullscreen. The options are **Skill Queue**, **VDN**, **IVR**, **Access Code**, and **Agent**. When **Monitored Object** is set to **Access Code**, only the indicator **Number of outgoing calls** can be monitored.

– **Skill Queue/Access Code/Organization Unit/Select Agent**: Set this parameter based on the monitored object.

– **Monitoring Mode**: Select a fullscreen monitoring mode. The options are **Today's Indicator Statistics**, **Today's Trend**, **Real-time Monitoring During Running**, and **Real-time Monitoring During Running**.

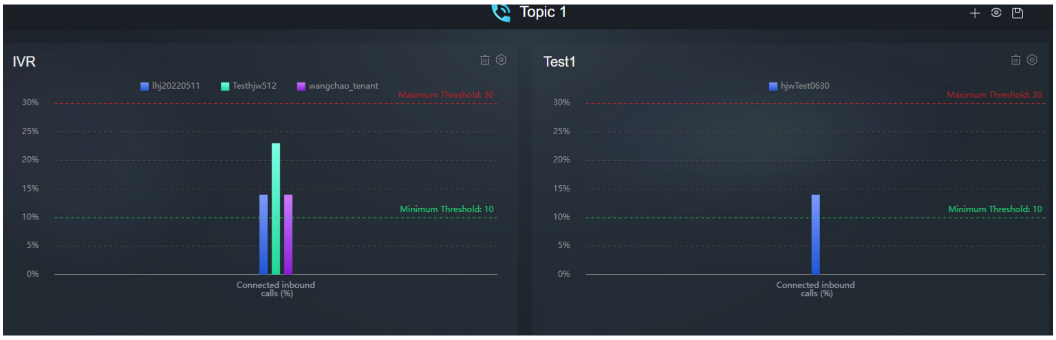
  ▪ When **Monitored Object** is set to **Skill Queue**, **VDN** or **IVR**, you can select any of all the monitoring modes.

    - When **Monitored Object** is set to **Access Code**, you can only select **Today's Trend**.
    - When **Monitored Object** is set to **Agent**, you can select **Today's Indicator Statistics**, **Real-time Monitoring During Running**, or **Today's Trend**.
  - **Media Type**/**Multimedia Type**: Select a call media type.
  - **Statistical Period**: Select a period for collecting statistics on report indicators.
    - When **Monitoring Mode** is set to **Today's Trend**, this parameter is mandatory.
    - When **Monitored Object** is set to **Access Code**, you can only select **1 hour**.
  - **Refresh Period**: Select an interval for automatically refreshing report data. This parameter is mandatory when **Monitoring Mode** is set to **Today's Indicator Statistics**, **Real-time Monitoring During Running**, or **Today's Trend**.
  - **Report Type**/**Collection Period**: Select a report type or the time when historical indicator report statistics are collected. This parameter is mandatory when **Monitoring Mode** is set to **Historical Indicator Statistics**
    - When **Report Type** is set to **Daily Report (Relative Time)**, you can select a day earlier than the current time. The value ranges from 1 to 31 days earlier than the current time.
    - When **Report Type** is set to **Daily Report (Fixed Time)**, you can select a fixed date.
  - **Chart Type**: Select a display type. The options are **Bar Chart**, **Pie Chart**, **Line Chart**, **Table**, and **Rich Text**.
    - When **Monitoring Mode** is set to **Today's Indicator Statistics** or **Real-time Monitoring During Running**, you can select **Bar Chart**, **Pie Chart**, **Table**, or **Rich Text**.
    - When **Monitoring Mode** is set to **Today's Trend**, you can select only **Line Chart**.
    - When **Monitoring Mode** is set to **Historical Indicator Statistics**, you can select **Bar Chart** or **Table**.
  - Indicator type: Select a report indicator type. The options are **Number of Calls**, **Call Rate**, **Duration**, and **Number of Agents**.
    - When **Monitoring Mode** is set to **Today's Indicator Statistics** or **Today's Trend**, you can select **Number of Calls**, **Call Rate**, or **Duration**.
    - When **Monitoring Mode** is set to **Real-time Monitoring During Running**:
      - If **Monitored Object** is set to **Skill Queue** or **VDN**, you can select **Number of Calls** or **Number of Agents**.

- If **Monitored Object** is set to **IVR**, you can only select **Number of Calls**.
- If **Monitored Object** is set to **Agent**, you can select **Number of Calls** or **Duration**.

- When **Monitored Object** is set to **Access Code**, you can only select **Number of Calls**.

– **Set Indicator Thresholds**: Determine whether to enable the function of configuring indicator thresholds. This parameter is not displayed when **Chart Type** is set to **Pie Chart**.



– **Min Threshold**/**Max Threshold**: Enter a customized value. The threshold can be empty. The minimum threshold must be less than the maximum threshold.

- For indicators of the **Number of Calls** and **Number of Agents** types, the value is an integer ranging from 0 to 99999999.
- For indicators of the **Call Rate** type, the value is an integer ranging from 0 to 100, in percentage.
- For indicators of the **Duration** type, the value is an integer ranging from 0 to 86,400, in seconds.

3. Click **Save**.
4. (Optional) Repeat the preceding steps to create multiple charts for the theme.

Step 6 (Optional) You can perform the following operations on the new chart:

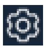
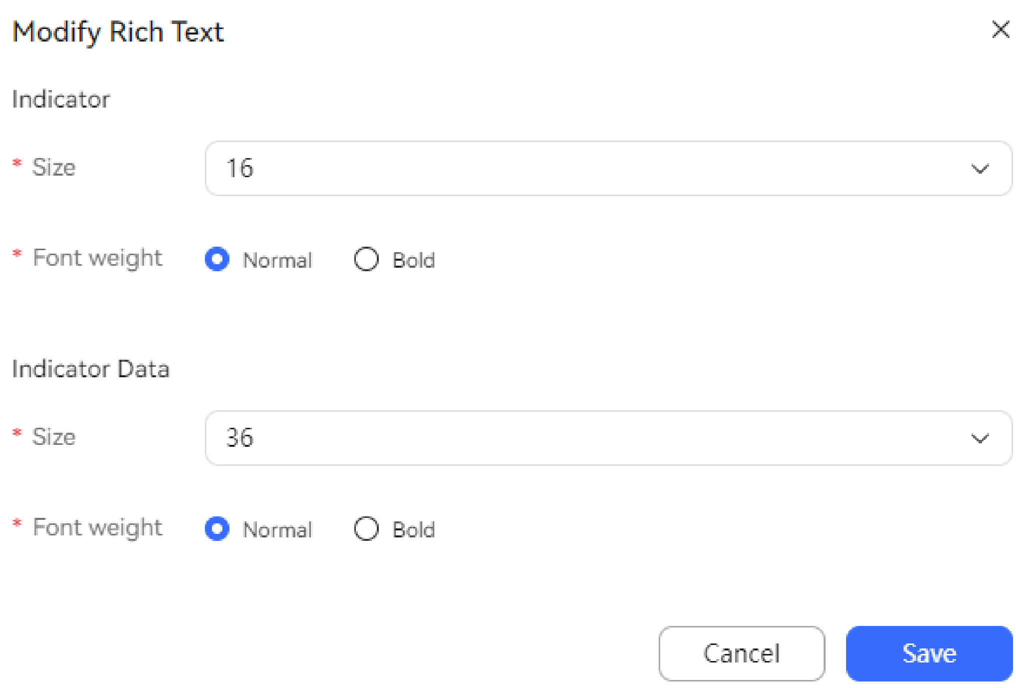
- Click  to modify the chart information.
- Click  to delete the chart.
- Click  to modify the chart of the rich text type.

Figure 4-27 Modify Rich Text



- Drag the chart to change its display position.

Step 7 Click to save the layout.

Step 8 (Optional) Click on the chart information page to preview the theme layout.

Step 9 (Optional) Click on the theme information page to play the theme layout.

----End

4.3.1.3 Configuring Report Subscription

A tenant administrator can configure report subscription to periodically send report data via email. This function can be used only in the integration environment.

NOTE

The report data to be sent contains personal data. Exercise caution when processing the received report data to prevent personal data leakage and abuse.

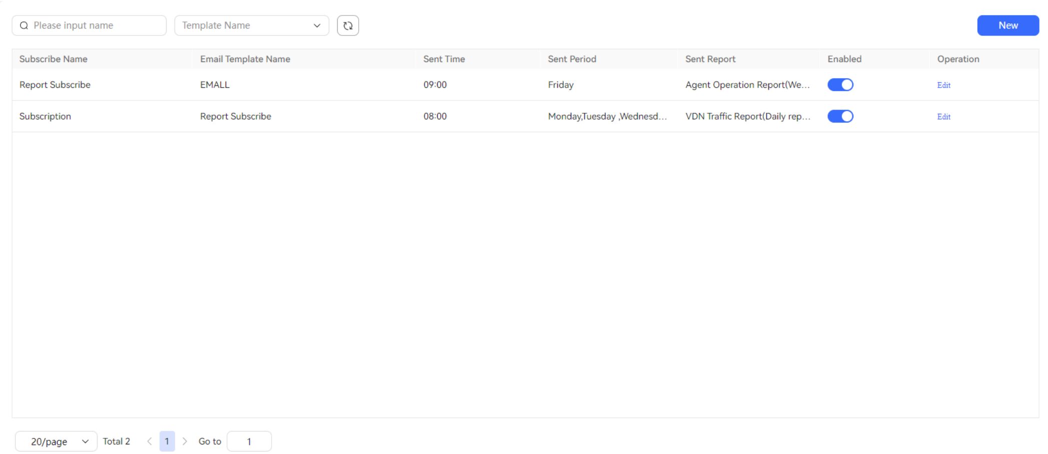
Prerequisites

- You have configured an email gateway. For details, see **2.11.3.2 Configuring Email Gateways**.
- You have configured an email notification template. For details, see **2.11.5 Configuring Notification Templates as an Administrator**.

Procedure

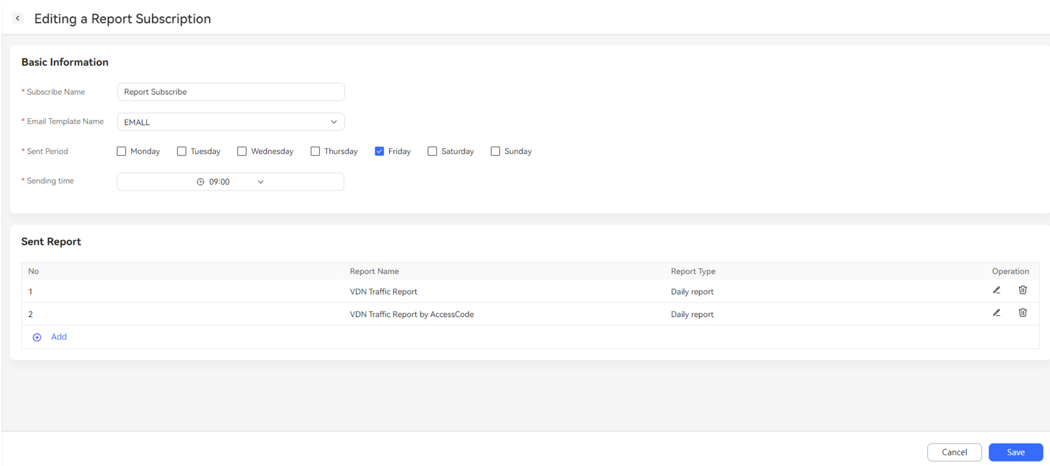
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Report Subscription**.

Figure 4-28 Report Subscription



Step 2 Click **New**.

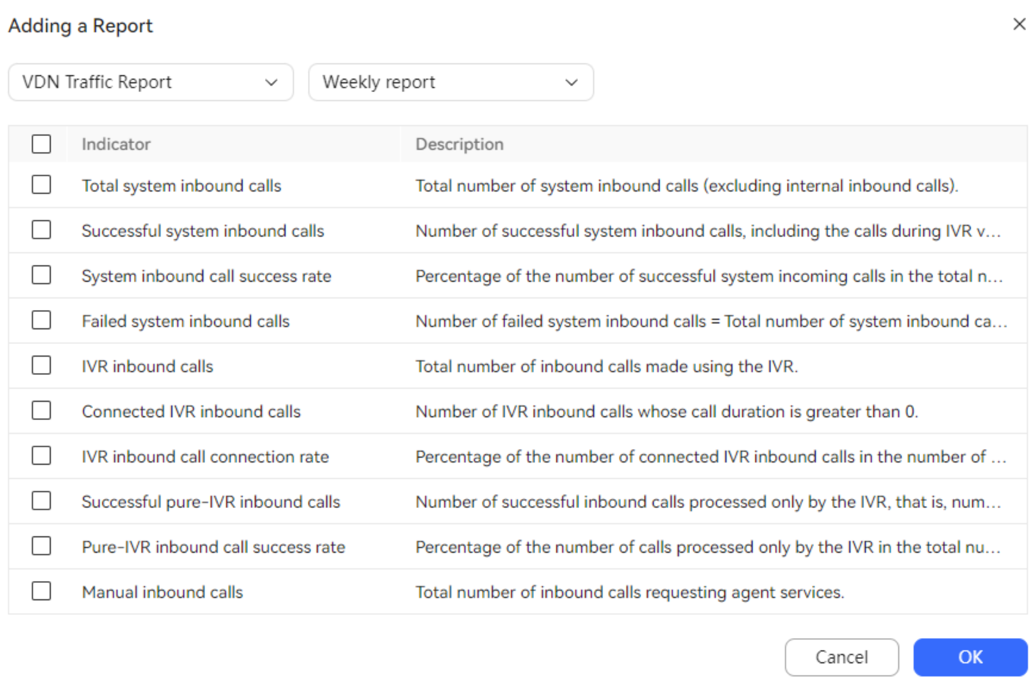
Figure 4-29 New Report Subscription



- **Subscribe Name**: Enter a customized subscription name, which can contain a maximum of 50 characters and must be unique.
- **Email Template Name**: Select the notification template configured in **2.11.5 Configuring Notification Templates as an Administrator**. One email template corresponds to only one subscription data record.
- **Sent Period**: Set the period for subscribing to reports. The options are Monday to Sunday.
- **Sending time**: Select the time for sending subscribed reports. The value ranges from 00:00 to 23:45 with a step of 15 minutes.

Step 3 Click ⊕ Add and select reports to be subscribed to.

Figure 4-30 Adding a Report



- Report name: Select the report to be subscribed to. For details about the report data, see **4.3.3 Report Query**.
- Report type: Select the type of the report to be subscribed to. The options are **Daily report**, **Weekly report**, and **Monthly report**.

Select indicators of the report to be subscribed to as required and click **OK**.

Step 4 Click **Save**.

Step 5 The new report subscription information is enabled by default. You can click  to disable the report subscription.

Step 6 (Optional) You can perform the following operations on the configured report subscription information:

- Click **Edit** to update the basic information about the report and sending scope.
- Click **Delete** to delete disabled report subscription information.

Step 7 (Optional) Create a perspective view based on the downloaded Excel report data.

1. Select the data area to be used for creation.
2. Click **Insert**, and then click **PivotChart**.
3. Access the PivotChart, and click **Field List** and **Field Button**.
4. Drag the filter criteria (agent ID, agent name, and date) to the axis (type) area and drag various indicators to the value area.
5. Filter data by date and agent ID.

6. By default, the chart is a bar chart. To generate a line chart, right-click the chart area, choose **Change Chart Type** from the shortcut menu, and then select the line chart.

----End

4.3.2 Monitoring Management

A tenant administrator can manage the monitoring content after the monitoring content configuration.

4.3.2.1 Monitoring Offline Messages

The customer service representative can view the number of offline customers and offline messages in each channel to understand the business handling pressure, adjust agents, and improve service quality.

Prerequisites

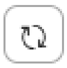
The current tenant has available WhatsApp, 5G RCS, web, email, SMS, Instagram, and Telegram channels.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Monitoring** > **Offline Message**.

Step 2 View the number and trend of offline customers and offline messages in channels.

By default, a tenant administrator has the permission on the **Offline Message Monitoring** menu. If the agent has no such permission, contact the tenant administrator to add the permission.

- Click  to refresh the data in the list.
- Select a channel from the **Access channel** drop-down list to view the data of offline customers and offline messages in the channel.

----End

4.3.2.2 Monitoring Agents

An inspector can monitor agents and dynamically adjust agent resources based on business requirements. A tenant administrator can monitor agent status but cannot perform inspection operations, such as skill queue adjustment, on agents.

Prerequisites

Prerequisites for an inspector:

- Monitoring and inspection relationships have been configured for the inspector.
- The **Agent Monitor** menu permission has been assigned to the inspector.
- To allow the inspector to monitor multimedia sessions, the inspector has been bound to a multimedia agent and has the following operation permissions:

Multimedia Session Monitoring, **Multimedia Session Insertion**, and **Multimedia Session Interception**.

By default, a tenant administrator has the preceding operation permissions and other roles do not have them. You need to contact a tenant administrator to assign the operation permissions to the inspector.

- To allow the inspector to monitor screens, the **Screen Monitoring** role permission has been assigned to the inspector, the **Screen recording and screen inspection** feature has been enabled during tenant provisioning, the VRC has been started locally, and the inspector and agent have signed in.

  To install the VRC locally, perform the following steps:

  a. Sign in to the AICC using an agent business account.

  b. Click the business account in the upper right corner of the page and choose **Personal Center**.

  c. On the **Agent Info** tab page, click **Download VRC** to obtain the VRC installation package.

  d. Decompress the VRC installation package **VRC.zip** on the local PC.

     It is recommended that the **Client_update_pack** directory be a level-2 directory. The path cannot be too long and cannot contain Chinese characters.

  e. Right-click **VRCService\Client_update_pack\client_update_script.bat** and choose **Run as administrator**.

  f. Create a shortcut for the VRC application.

     i. Go to the **VRCService** folder, for example, **D:\VRCService**.

     ii. Right-click the **vrc_service_tray.exe** file and choose **Create shortcut**. The **vrc_service_tray.exe - Shortcut** file is generated.

  g. Configure the VRC to automatically start upon system startup.

     i. Open the system startup directory. The following uses Windows as an example:

        1) Press **Win+R** to open the **Run** window.

        2) Enter **shell:startup** and click **OK**. The system startup directory is displayed.

     ii. Copy the **vrc_service_tray.exe -Shortcut** file generated in **f.ii** to the startup directory.

  h. Change the local port number of the VRC.

     i. Edit the **D:\VRCService\Client_update_pack\package\vrc.ini** file.

     ii. Add **ListenPort=8024** under **[common]**.

        The port number must be available. Run the **netstat -ano | findstr :8024** command in the CLI on Windows to check whether the port number is occupied.

        The port number must be the same as the value of the tenant parameter **VRC WebSocket Port**.

  i. Right-click on the taskbar of the desktop and choose **Task Manager** to open the task manager and click the **Startup** menu. If **vrc_service_tray** is displayed, the VRC is successfully configured to automatically start upon system startup.

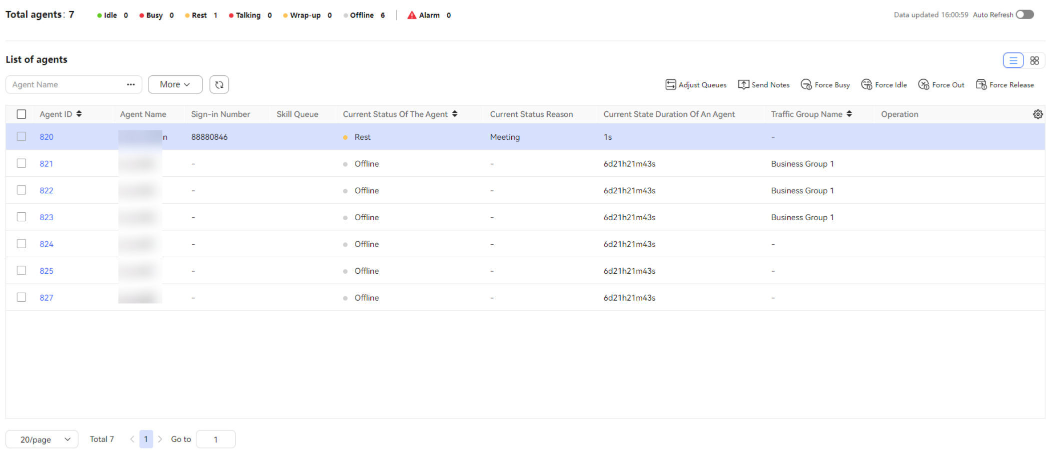
j. During the first startup, run **vrc_service_tray** as an administrator and view the **vrc.log** file. The information shown in **Figure 4-31** is displayed.

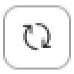
Figure 4-31 Successful startup

Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Agent Monitor**.

Figure 4-32 Agent Monitor (in list mode)

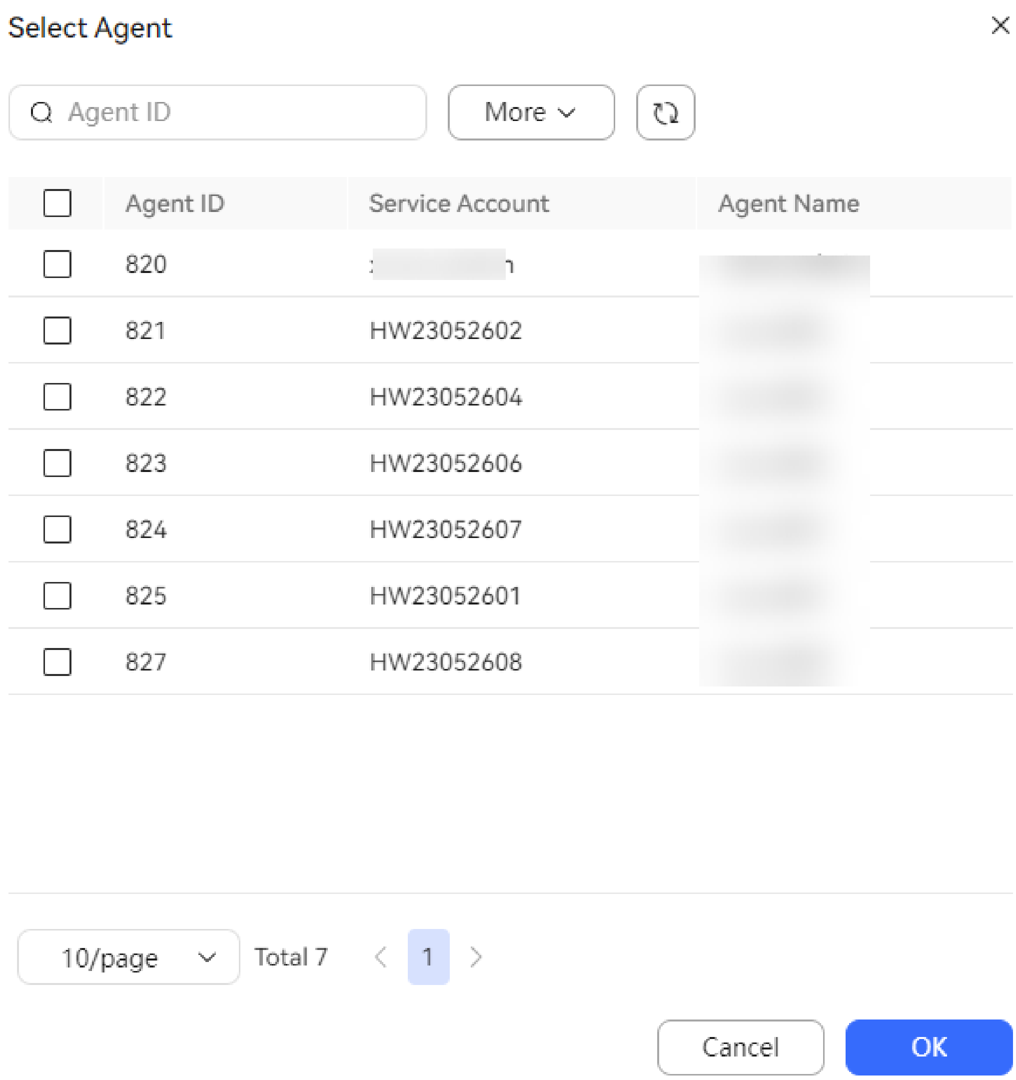


- Agent statistics: Statistics on the total number of agents for whom monitoring and inspection relationships with the current inspector have been configured, including the agent status and alarm information, are displayed.
- **Data updated**: The time when agent monitoring information is last updated is displayed. Automatic refresh can be enabled.
- **Current Status Of The Agent**: The current agent status can be **Offline**, **Idle**, **preoccupied**, **Occupied**, **Answering**, **Talking**, **Wrap-up**, **Busy**, **Rest**, **Learning**, or **Adjusting**.
- **Current Status Reason**: When the value of **Current Status Of The Agent** is **Rest** for an agent, the value is the rest reason selected by the agent. For details about how to configure rest reasons, see **2.3.2.2 Configuring Rest Reasons**.
- **Alarm**: This function is available only in the integration environment. If an agent says sensitive words when answering a call, an alarm is generated. The alarm validity period is 12 hours. After the validity period ends, the alarm is no longer displayed on the page.
- **Current State Duration Of An Agent**: Click  to manually refresh data. Alternatively, enable **Auto Refresh** to automatically refresh data every 10 seconds.
- **Agent Group**: Agent group to which an agent belongs. If an agent does not belong to any agent group, a hyphen (-) is displayed.

Step 2 Set data filter criteria.

- Click **Agent Name**. In the **Select Agent** dialog box, select agents and click to search for information about the agents.

  Figure 4-33 Select Agent

- Click **More**, set **Agent Status**, **>= Status Duration (Minute)**, **Inspection Status**, **Alarm Status**, **Sign-in Queue**, and **Agent Group**, and click **Search** to filter detailed data.

  The options of **Agent Group** are as follows:

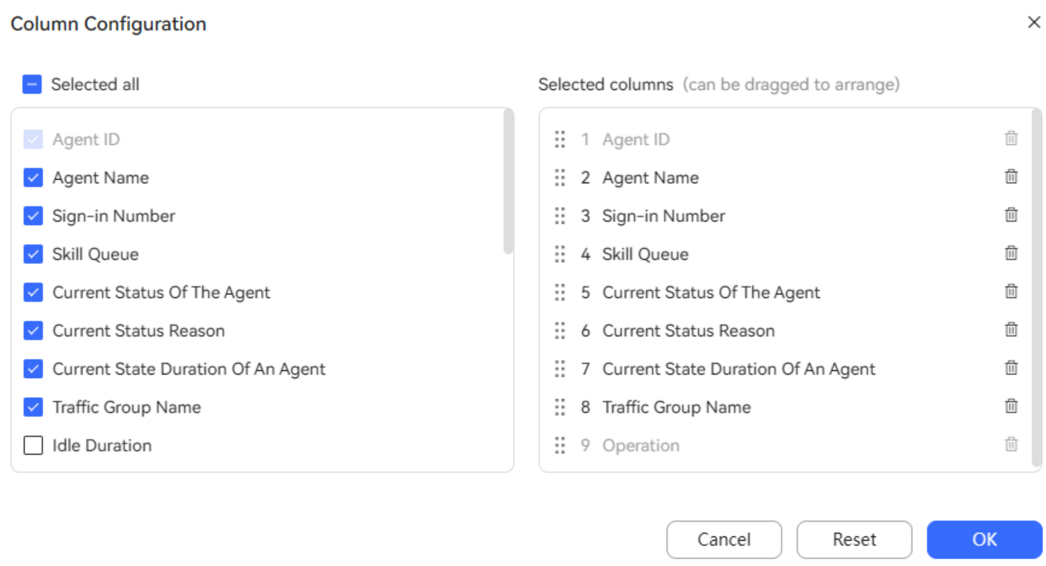
  – For a tenant administrator, the options are all agent groups.

  – For an inspector, the options are agent groups for which inspection relationships have been configured.

- Click to refresh real-time data.

Step 3 Click to set the table header.

Figure 4-34 Column Configuration

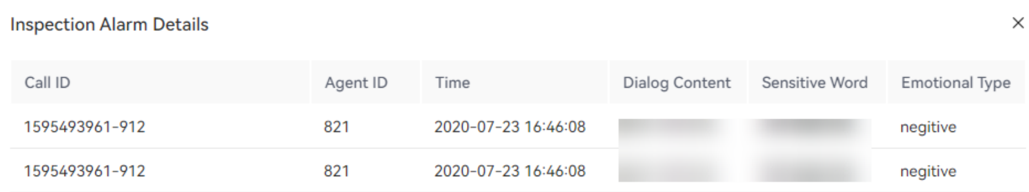


- Click  or  to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 Click **Detail** corresponding to an agent for whom an alarm is generated. The alarm details dialog box is displayed, showing the following information: **Call ID**, **Agent ID**, **Time**, **Dialog Content**, **Sensitive Word**, and **Emotional Type**.

Figure 4-35 Inspection Alarm Details



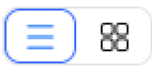
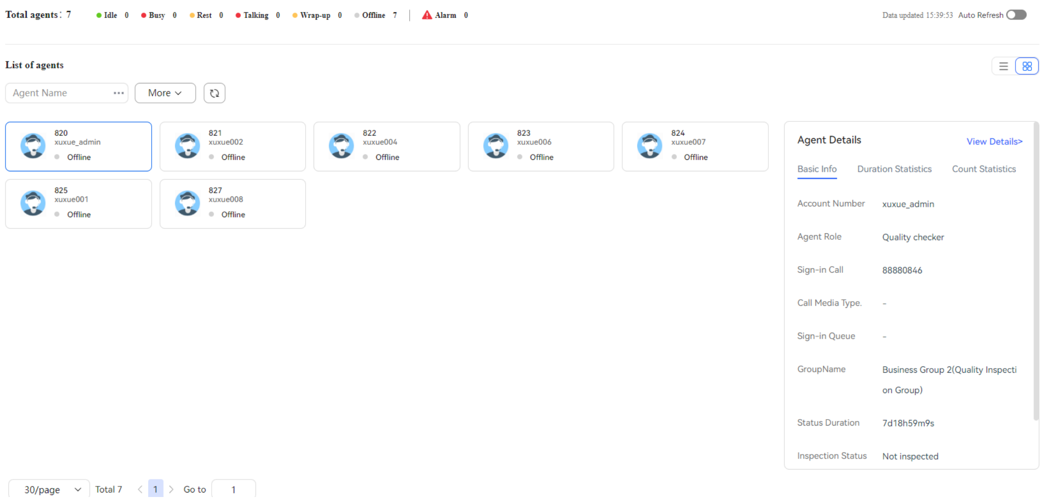
Step 5 Click  to switch the **Agent Monitor** page between the list mode and card mode.

Figure 4-36 Agent Monitor (in card mode)



NOTE

- In card mode, hover the pointer over in the upper right corner of the card of an agent to be inspected to view inspection operations that can be performed.
- In list mode, view common inspection operations that can be performed in the **Operation** column of the list and view other inspection operations that can be performed on the button bar in the upper right corner of the list.

Step 6 Perform inspection operations.

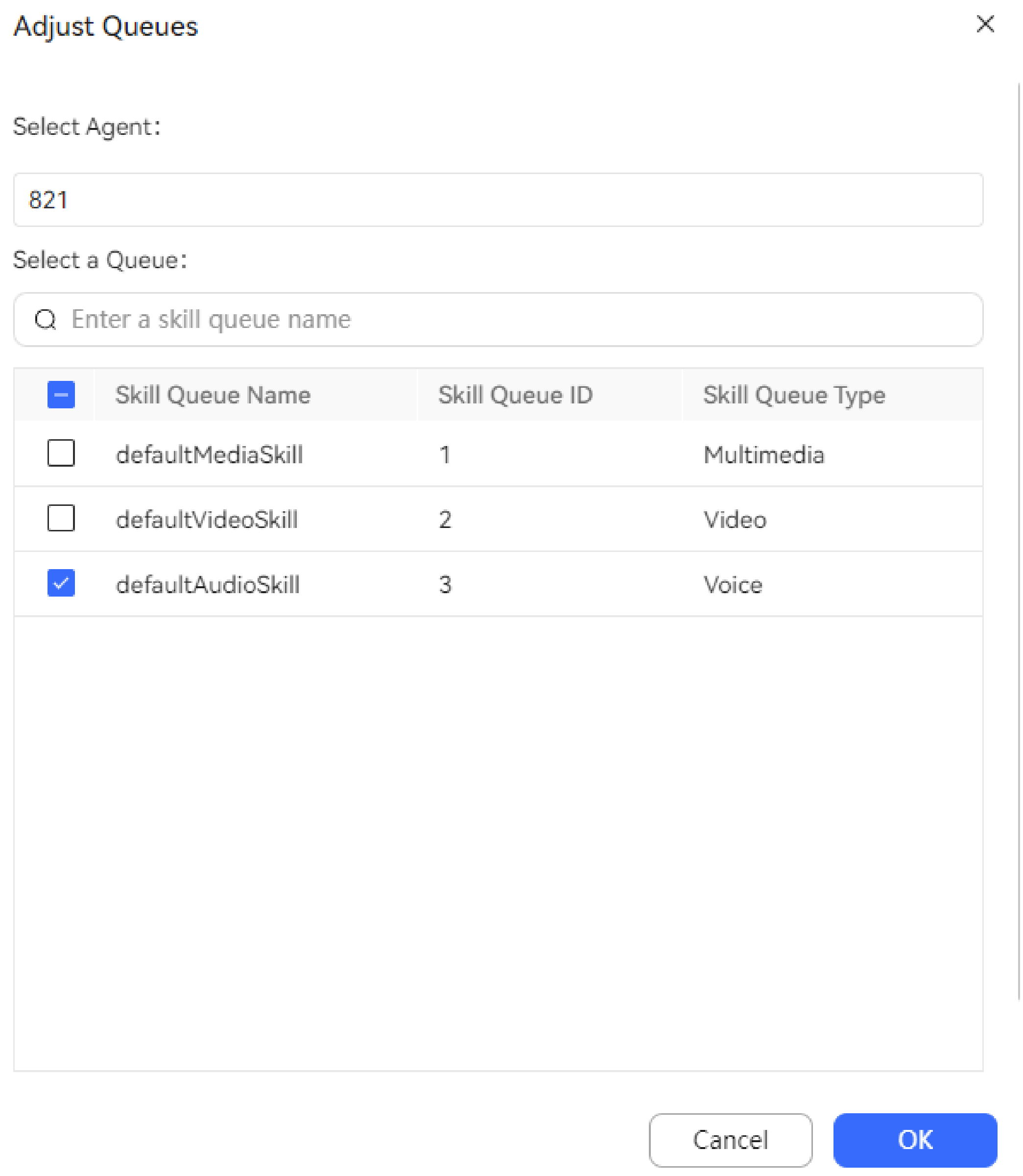
NOTE

In the independent deployment environment, when an inspector clicks any inspection operation for the first time, a dialog box is displayed, asking the inspector to change the password. Set the password to the one used by the inspector to log in to the web configuration console.

When an inspector has not logged in to the OpenEye or an inspected agent is not in talking state, you are advised to avoid frequently switching the inspection type. Otherwise, an operation exception message will be displayed by the platform.

- **Adjust Queues**: Select one or more signed-in agents and click **Adjust Queues** to adjust their skill queues.

Figure 4-37 Adjust Queues

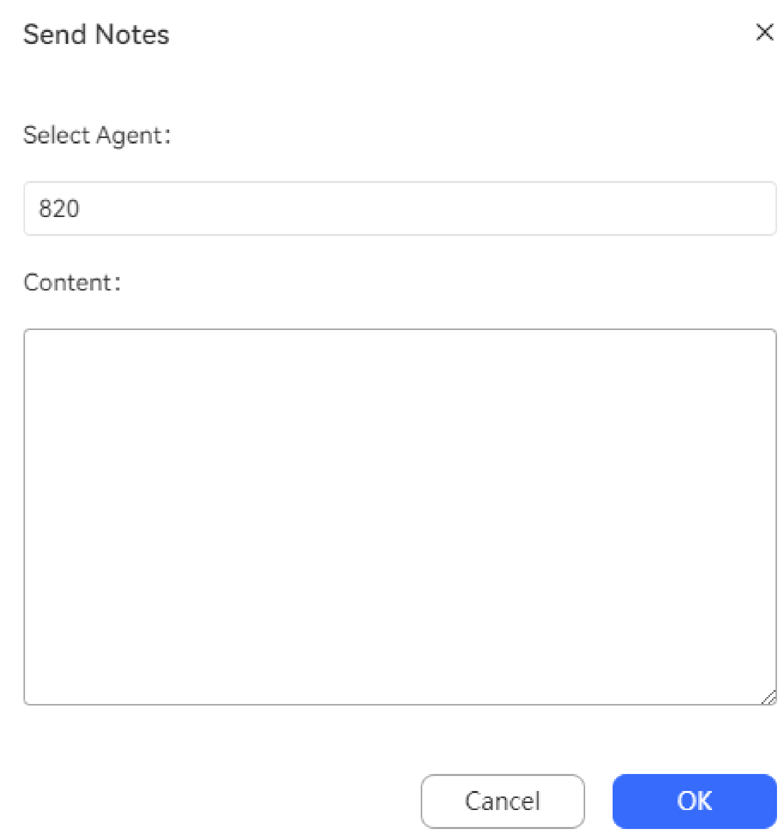


NOTE

- After an agent whose skill queue is adjusted signs out and then signs in again, the skill queue configuration of the agent is restored to that before the skill queue adjustment.
- If a tenant requires cross-channel agent support, the multi-channel support feature needs to be enabled when the tenant is created. In addition, the **Agent multi-channel support** operation permission needs to be assigned to the inspector and the agent whose skill queue needs to be adjusted.

- **Send Notes**: Select one or more signed-in agents and click **Send Notes** to send notes to the agents.

Figure 4-38 Send Notes

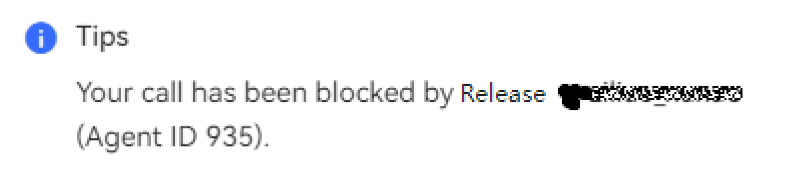


NOTE

In the integration environment, after an inspector sends a note to an agent, the agent can choose > **Inbox** > **Internal Message** to view the received note whose subject is inspection note.

- **Force Busy**: Select an agent in **Idle** state and click **Force Busy** to change the status to **Busy**.
- **Force Idle**: Select an agent in **Busy** state and click **Force Idle** to change the status to **Idle**.
- **Force Release**: Select an agent in **Talking** state and click **Force Release** to forcibly release the ongoing call. The agent receives a notification indicating the inspector's operation.

Figure 4-39 Notification



- **Force Out**: Select a signed-in agent and click **Force Out** to forcibly sign out the agent.

- **Listen**: Click **Listen** in the **Operation** column corresponding to an agent to listen to the agent.
- **Insert**: Click **Insert** in the **Operation** column corresponding to an agent to insert into the call of the agent.
- **switch**: Click **switch** in the **Operation** column corresponding to an agent who is being inspected (listening or insertion) by the inspector to switch the inspection mode (from **Listen** to **Insert** or from **Insert** to **Listen**).
- **intercept**: Click **intercept** in the **Operation** column corresponding to an agent who is being inspected (listening, insertion, or whispering) by the inspector to kick out the agent and talk with the customer. The agent receives a notification indicating the inspector's operation.

- **Whisper**: Click **Whisper** in the **Operation** column corresponding to an agent to whisper to the agent. (The customer is unaware of the talk between the inspector and the agent.)
- **Send Message**: Send text messages to an agent. You can send messages to a signed-in agent in real time, or send messages to an offline agent who can view the messages after sign-in.

  Select an agent and click **Send Message**.

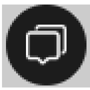
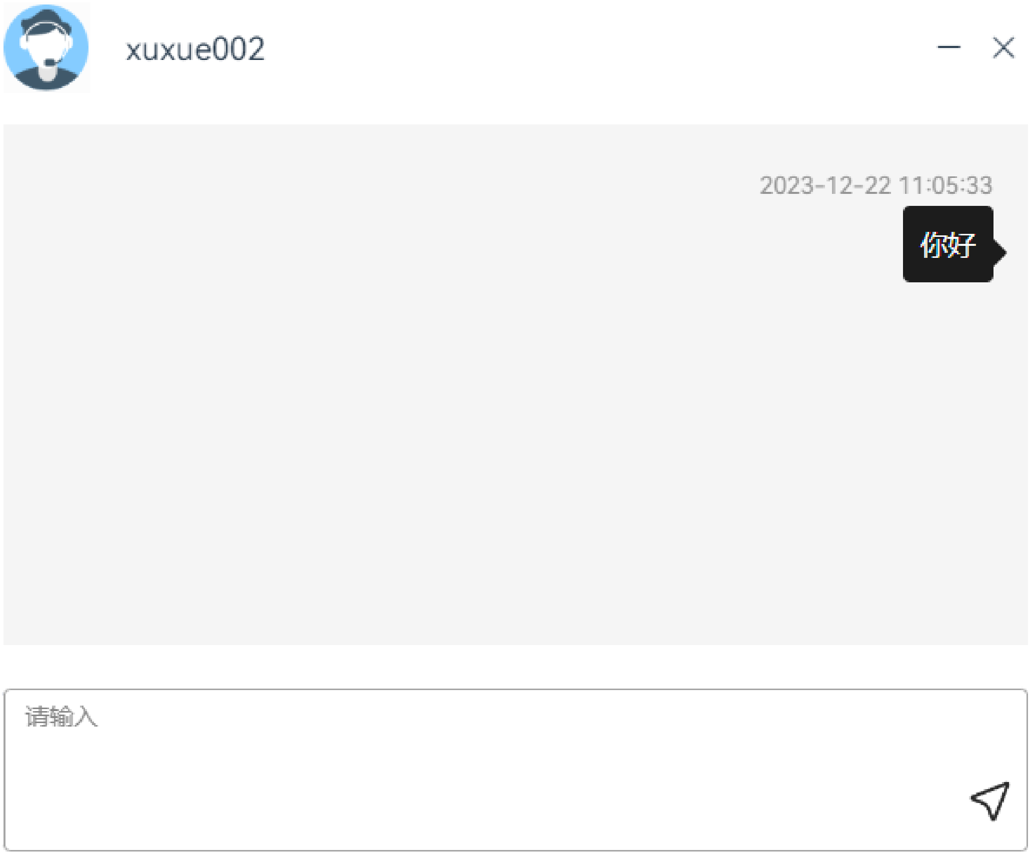
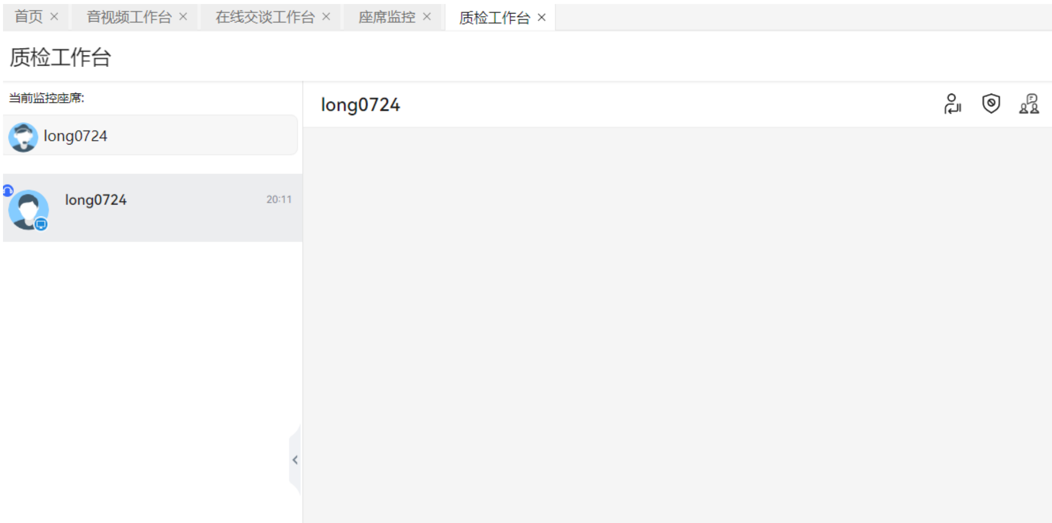
  After a session is created, click  in the lower right corner of the browser to expand or collapse the session list.

Figure 4-40 Sending messages



- **Multimedia Session Monitoring**: Click **Multimedia Session Monitoring** in the **Operation** column corresponding to a multimedia agent in **Idle** state to monitor the agent in real time. The inspector can view the customer access channel, chat records of the inspected agent and customer, and contact history. The customer is unaware of the operations.

Figure 4-41 Multimedia session monitoring



Click to directly participate in the conversation between the agent and customer.

Click to directly chat with the customer.

NOTE

This function is not supported for the full containerized installation scenario.

Click to have a point-to-point chat with the agent.

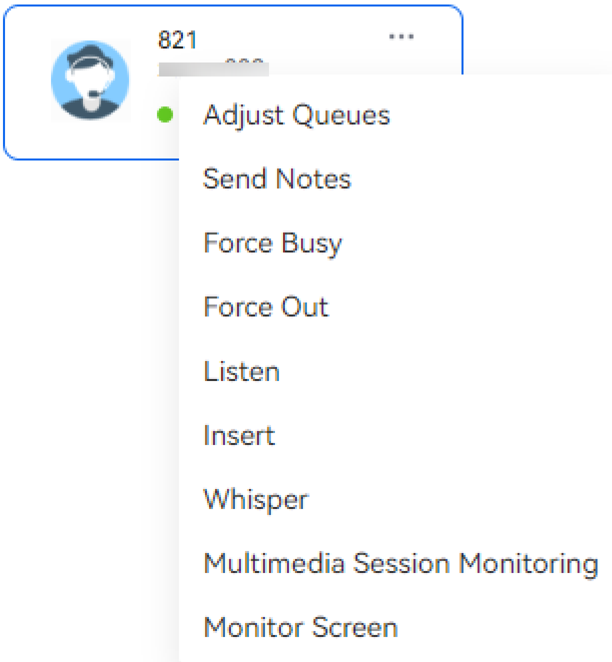
- **Monitor Screen**: Click **Monitor Screen** in the **Operation** column corresponding to an agent to view the agent's screen.

NOTE

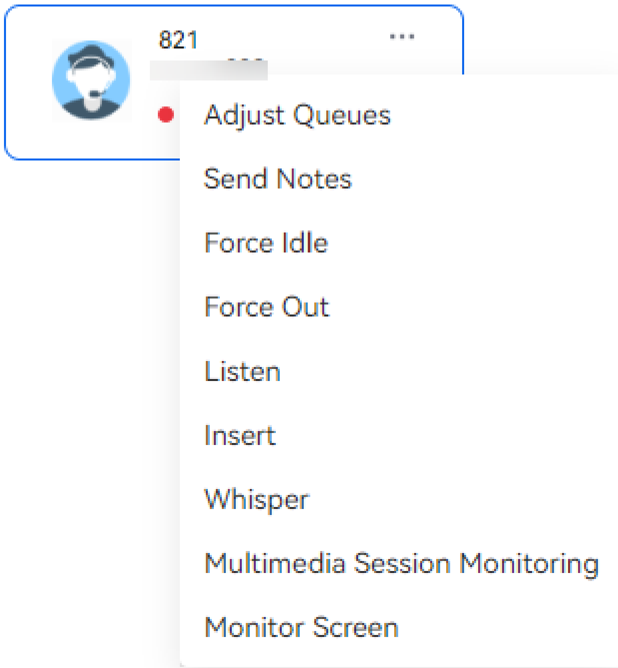
In list mode, a maximum of three buttons are displayed in the **Operation** column corresponding to an agent. If there are more than three buttons, two buttons and are displayed. Click to view other buttons.

Step 7 In card mode, perform different inspection operations based on agent states.

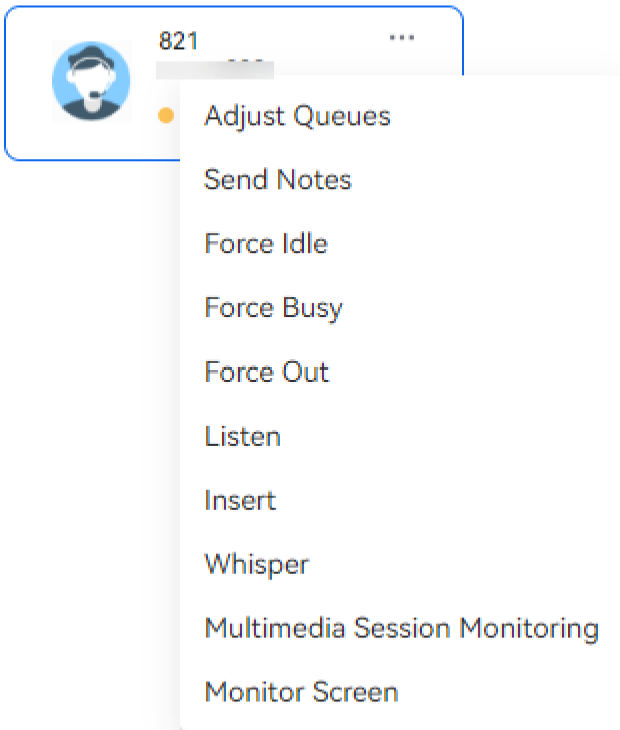
- Agent in Idle state



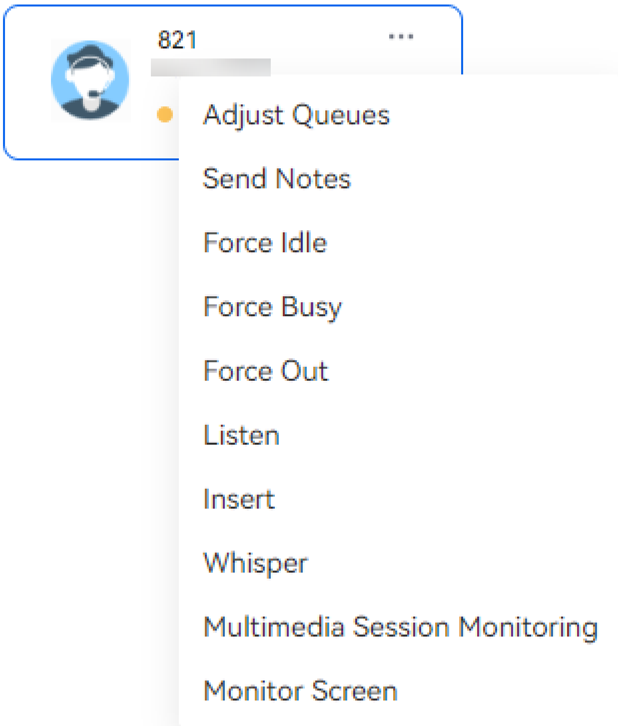
- Agent in Busy state



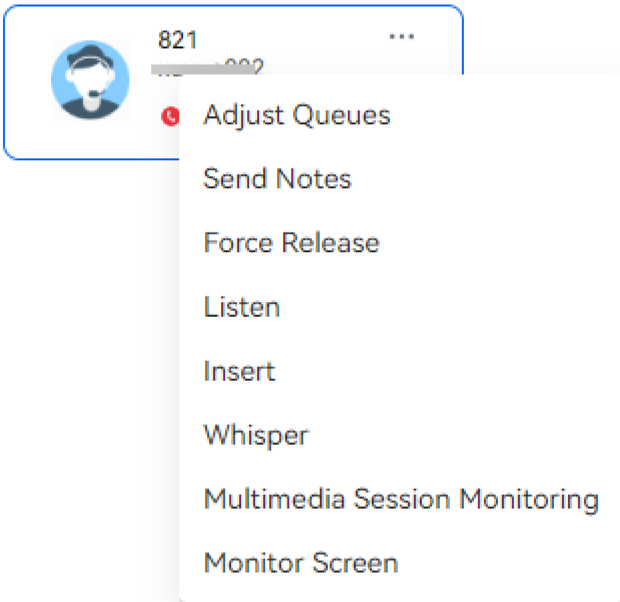
- Agent in Rest state



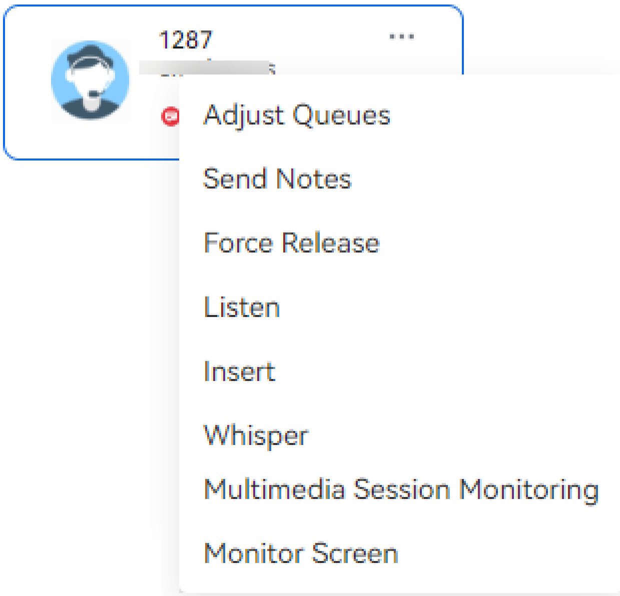
- Agent in Wrap-up state



- Agent in Talking state



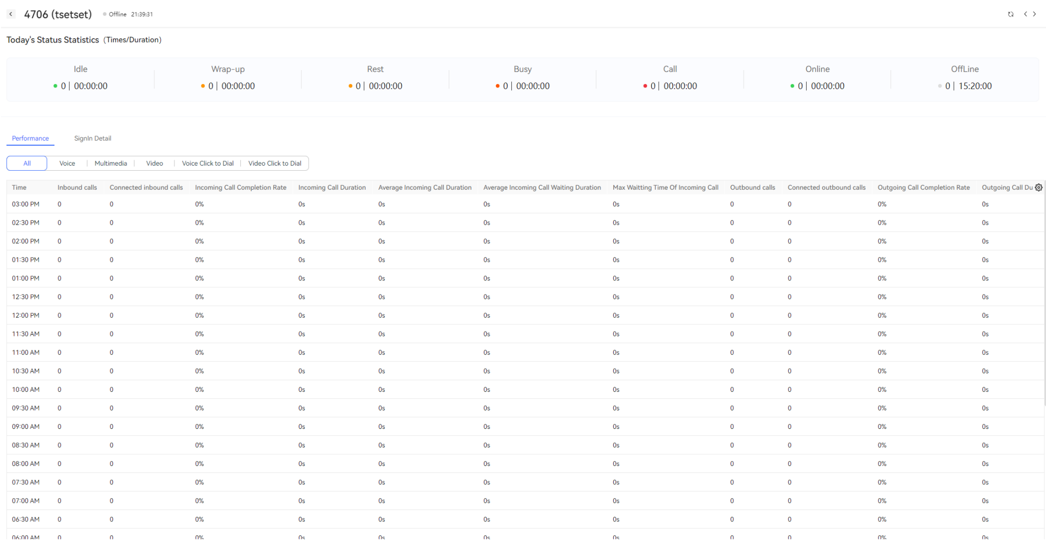
- Agent in a multimedia chat



Step 8 View details about an agent.

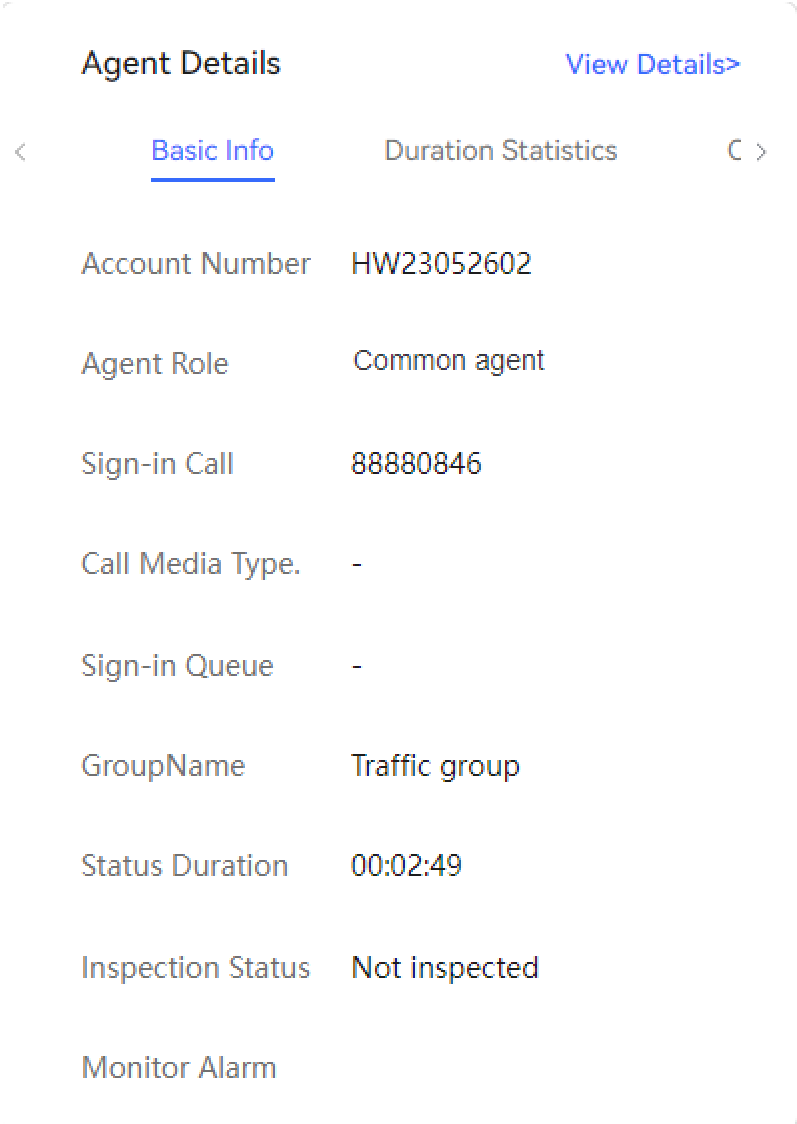
- In list mode, click an agent and view the agent details on the page that is displayed.

Figure 4-42 Agent details (in list mode)



- In card mode, click an agent and view the agent sign-in details on the right of the page. Click **View Details** to view the agent details on the page shown in **Figure 4-42**.

Figure 4-43 Agent details (in card mode)



----End

4.3.2.3 Playing Recordings

Inspectors can play and download call recording and video files.

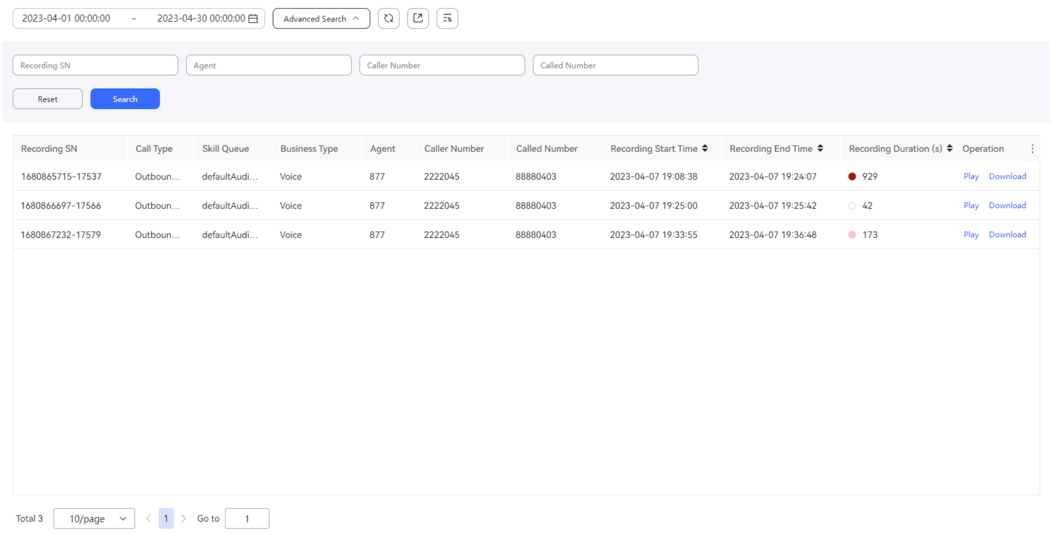
Prerequisites

- Monitoring and inspection relationships have been configured for the inspector.
- The permission on the **Recording** menu has been assigned to the inspector.

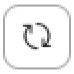
Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Recording**.

Figure 4-44 Recording



Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.
- Click **Advanced Search**, set **Caller Number**, **Called Number**, **Recording SN**, and **Agent**, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

The indicator color in the **Recording Duration (s)** column is red and cannot be configured. The color becomes darker for each additional minute, with the darkest shade representing 10 minutes or more.

The following fields are displayed in the list:

- **Recording SN**
- **Call Type**
- **Skill Queue**
- **Business Type**
- **Agent**
- **Caller Number**
- **Called Number**
- **Recording Start Time**
- **Recording End Time**
- **Recording Duration (s)**

Step 3 Click **Play** in the **Operation** column to play a recording or video online. You can set the playback rate of the recording or video.

Step 4 Click **Download** in the **Operation** column to download a recording or video file to the local PC.

NOTE

The downloaded data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

Step 5 (Optional) Export recording playback data (excluding recording or video files) to the local PC.

1. Click and enter a compression password to create an export task.

   NOTE

   - For details about the requirements of the compression password, see the prompt on the page. The compression password is used to open the downloaded package.

     The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
   - In the independent deployment environment, click to export recording playback data without entering a compression password.
2. Click to view the export tasks in the last seven days.
3. Click **download** in the **Operation** column corresponding to the created export task to download the exported data to the local PC. When opening the file, you need to enter the compression password set when you create the export task.

----End

4.3.2.4 Monitoring Indicators

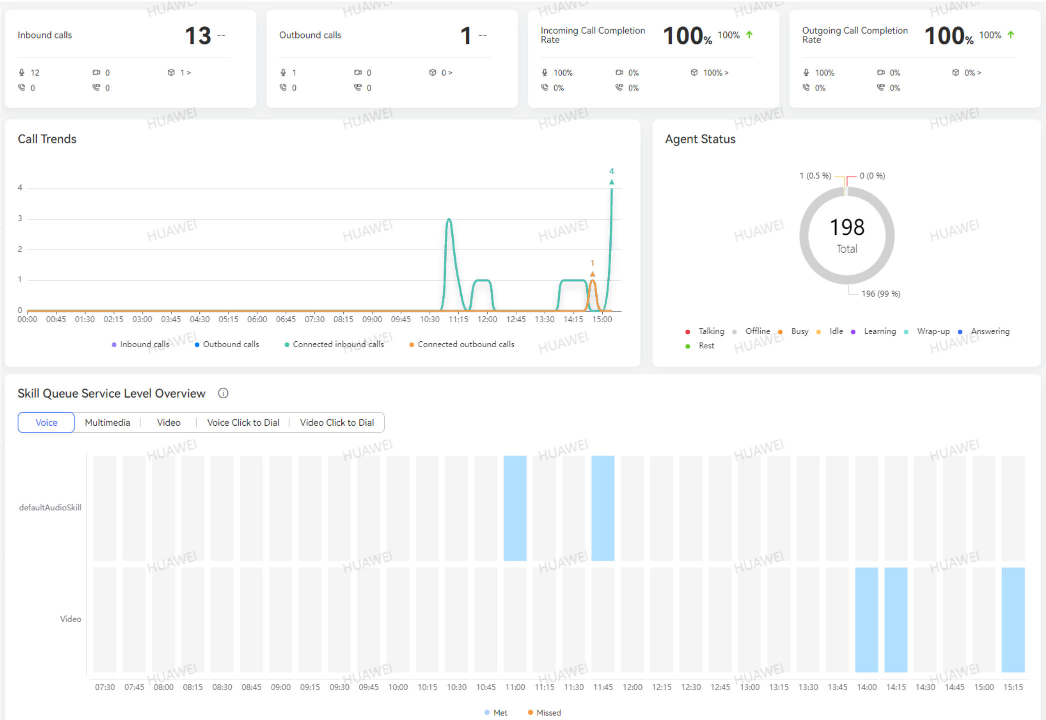
A tenant administrator can view data about the real-time overview, VDNs, voice and video IVR, skill queues, agents, multimedia IVR, and cases in the tenant space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Index Monitor**.

Step 2 View the real-time overview.

Figure 4-45 RealTime Overview

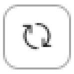


- Indicator statistics: The indicators include the number of inbound calls, number of outbound calls, inbound call connection rate, and outbound call connection rate. The statistics are displayed in the following dimensions: data summary, day-over-day (DoD) rate (compared with the indicator value collected from the same time segment on the previous day), and data statistics by channel (covering only the channels preconfigured in the baseline version).
  - DoD rate: The comparison result between the indicator value until the current time on the current day and the indicator value of the same time segment on the previous day is displayed.
    - –: No data is displayed because the value on the previous day is 0.
    - ↑: The value increases compared with the previous day.
    - ↓: The value decreases compared with the previous day.
  - Click 0 > to view submedia call statistics.
- **Call Trends**: The number of inbound calls, number of outbound calls, number of connected inbound calls, and number of connected outbound calls of the tenant space on the current day are displayed in a line chart.
- **Agent Status**: The real-time agent status distribution of the tenant space on the current day is displayed in a pie chart.
- **Skill Queue Service Level Overview**: Statistics on skill queue service level fulfillment are collected in real time by channel type.
  - By default, the skill queue service level data of the voice channel is displayed. Click a channel type tab to view the corresponding service level data.

- By default, five channel types are displayed. For the **Multimedia** type, statistics can be queried by submedia type.
- By default, data of a maximum of 10 skill queues can be displayed. Scroll the content vertically to view the extra data.
- The expected skill queue service level is that the number of calls connected within 20 seconds reaches 80%, which can be configured using a parameter.

  The integrated deployment environment supports the configuration and modification of tenant parameters. You can configure the tenant parameter **Expected service level of the skill queue** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Call center monitoring** > **Index Monitor**. The default value is **0.8**, indicating 80%. The value ranges from 0 to 1.

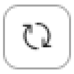
  The independent deployment environment supports only the configuration of system parameters. You can configure the system parameter **Expected service level of the skill queue** under **Configuration Center** > **System Management** > **Parameter Settings** > **Call Center Monitoring** > **Index Monitor**. The default value is **0.8**, indicating 80%. The value ranges from 0 to 1.

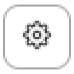
- Click  to refresh real-time data. The indicator statistics as well as the **Call Trends**, **Agent Status**, and **Skill Queue Service Level Overview** areas are refreshed.

Step 3 View VDN monitoring information.

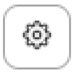
Figure 4-46 VDN Monitor

1. Click the **VDN Monitor** tab and select a media type to query today's VDN monitoring information.
   - When **Media Type** is set to **Multimedia**, select a submedia type to query today's VDN monitoring information.

– Click  to refresh real-time data.

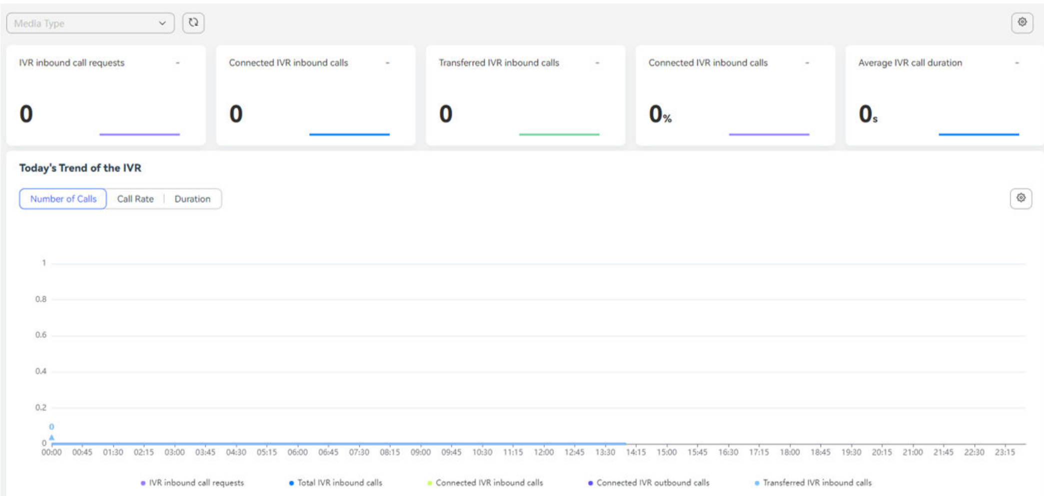
– Click  to set indicators related to the real-time number of calls, today's number of calls, call rate, and duration.

  The real-time number of calls and today's number of calls are both displayed in the statistics under **Number of Calls**.

2. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator information in a trend chart.
3. Click  to set the indicators for querying today's trend statistics and refresh the statistics.
4. Drag the trend chart to view the information of a desired time segment.

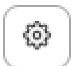
Step 4 View voice and video IVR monitoring information.

Figure 4-47 Audio&Video IVR Monitor



1. Click the **Audio&Video IVR Monitor** tab and select a media type to query today's voice and video IVR monitoring information.

   – Click  to refresh real-time data.

   – Click  to set indicators. You can select three to five indicators.

2. View the DoD rate of each IVR indicator. The comparison result between the indicator value until the current time on the current day and the indicator value of the same time segment on the previous day is displayed.

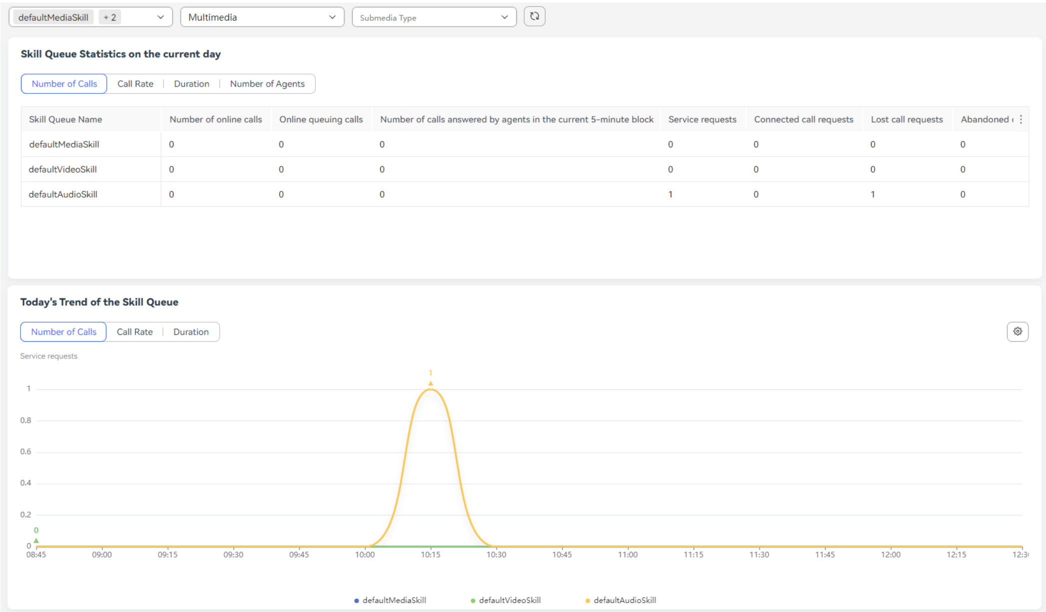
   For each indicator, a small chart of today's trend statistics is displayed.

3. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator information in a trend chart.

4. Click to set the indicators for querying today's trend statistics and refresh the statistics.
5. Drag the trend chart to view the information of a desired time segment.

Step 5 View skill queue monitoring information.

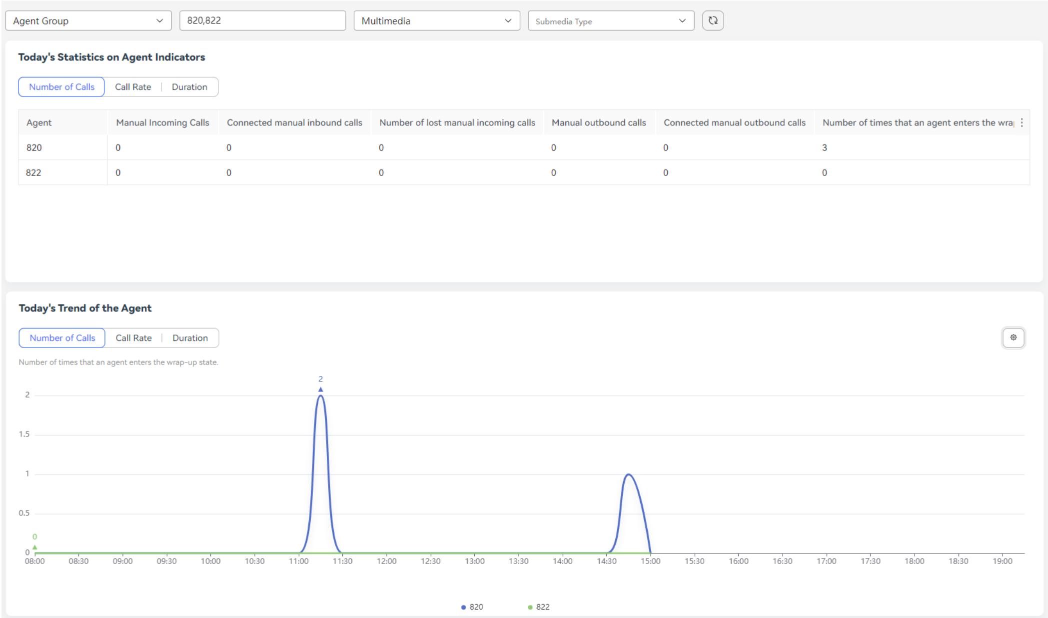
Figure 4-48 Skill Queue Monitor

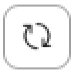
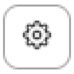


1. Click the **Skill Queue Monitor** tab page and select a skill queue and a media type to query today's skill queue monitoring information.
   - You can select a maximum of 10 skill queues.
   - When **Media Type** is set to **Multimedia**, select a submedia type to query today's skill queue monitoring information.
   - Click to refresh real-time data.
2. Click **Number of Calls**, **Call Rate**, **Duration**, or **Number of Agents** to view the corresponding monitoring indicator data.
3. Click to set the table header.
4. Click to set the indicators for querying today's trend statistics and refresh the statistics.
   - In the case of only one skill queue, you can select 1 to 10 indicators.
   - In the case of multiple skill queues, you can select only one indicator.
5. Drag the trend chart to view the information of a desired time segment.

Step 6 View agent indicator monitoring information.

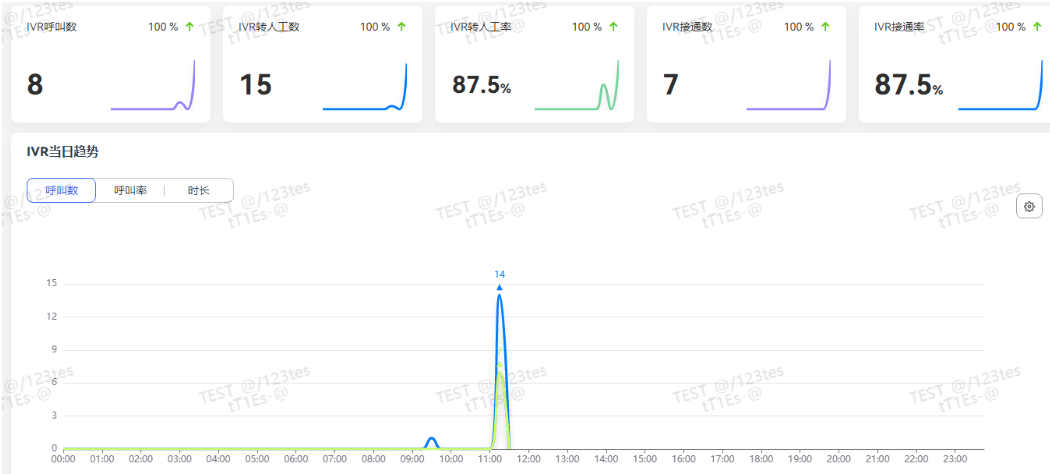
Figure 4-49 Agent Indicator Monitoring

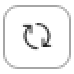
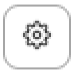


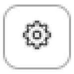
1. Click the **Agent Indicator Monitoring** tab and select an OU, an agent, and a media type to query today's agent indicator monitoring information.
   - You can select a maximum of five agents.
   - When **Media Type** is set to **Multimedia**, select a submedia type to query today's agent indicator monitoring information.
   - Click  to refresh real-time data.
2. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator data.
3. Click to set the table header.
4. Click  to set the indicators for querying today's trend statistics and refresh the statistics.
   - In the case of only one agent, you can select 1 to 10 indicators.
   - In the case of multiple agents, you can select only one indicator.
5. Drag the trend chart to view the information of a desired time segment.

Step 7 View multimedia IVR monitoring information.

Figure 4-50 Multimedia IVR Monitor



1. Click the **Multimedia IVR Monitor** tab and select a multimedia type to query today's multimedia IVR monitoring information.
   - Select a channel from the drop-down list to view the corresponding statistics.
   - Click  to refresh real-time data.
   - Click  to set indicators. You can select three to five indicators.
2. View the DoD rate of each IVR indicator. The comparison result between the indicator value until the current time on the current day and the indicator value of the same time segment on the previous day is displayed.

   For each indicator, a small chart of today's trend statistics is displayed.
3. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator information in a trend chart.
4. Click  to set the indicators for querying today's trend statistics and refresh the statistics.
5. Drag the trend chart to view the information of a desired time segment.

----End

4.3.2.5 Monitoring Inbound Call Records

A tenant administrator can view information about abandoned customer calls, calls requiring callback, and inbound calls.

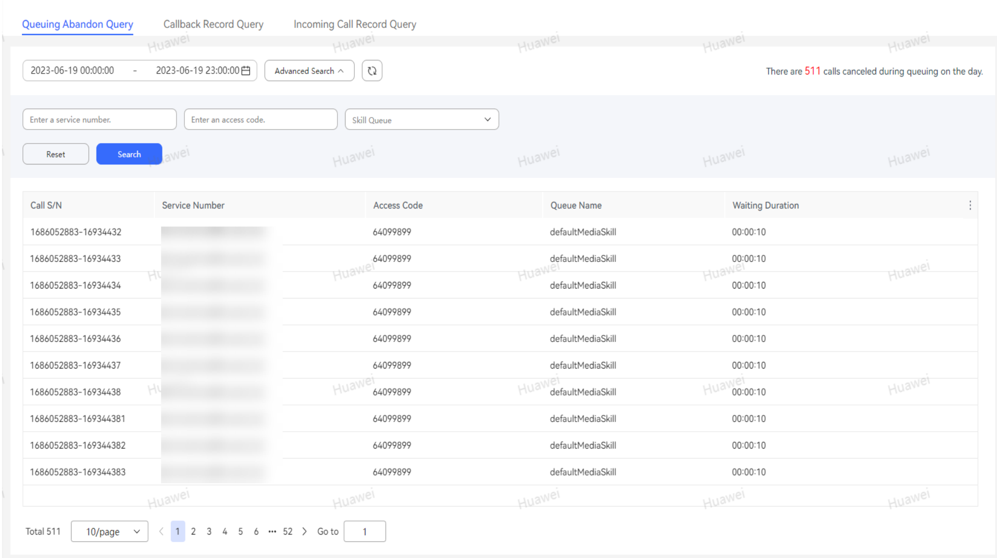
Procedure

Step 1 Sign in to the AICC as a tenant administrator. Choose **Monitoring** > **Incoming Call Record**.

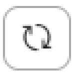
Step 2 Query information about abandoned calls.

1. Click the **Queuing Abandon Query** tab to view information about abandoned customer calls in the tenant space. Only data generated within seven days before the current time can be queried, and the query time range cannot span days.

   Figure 4-51 Queuing Abandon Query

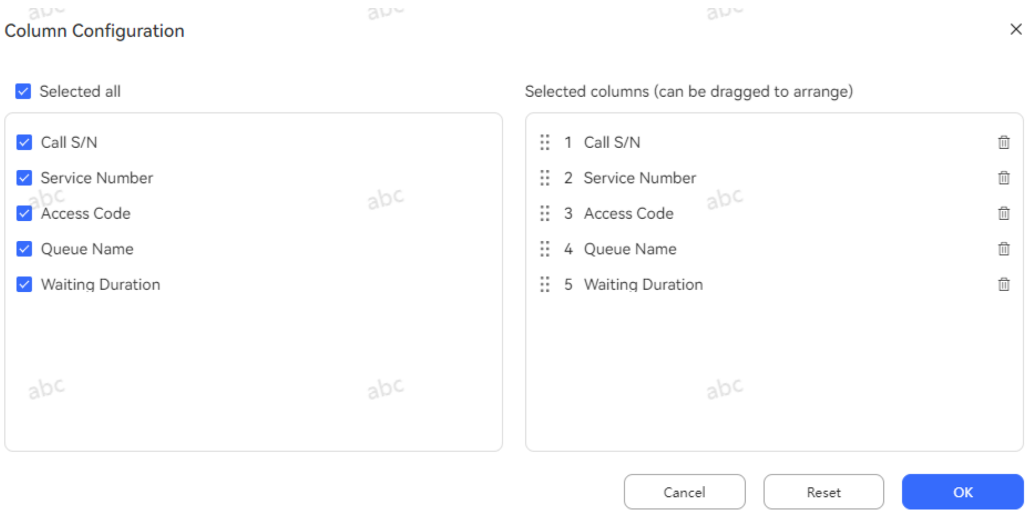
   

   – You can query abandoned calls in the tenant space based on the start time, end time, customer number, access code, and skill queue name.
   – By default, the list displays information about abandoned customer calls in the tenant space on the current day, including the call SN, customer number, access code, skill queue name, and waiting duration.

2. Set data filter criteria.
   – Click **Advanced Search**, enter a customer number and an access code, select a skill queue, and click **Search** to filter detailed data.
   – Click  to refresh real-time data.

3. Click to set the table header.

Figure 4-52 Queuing Abandon Query - Column Configuration



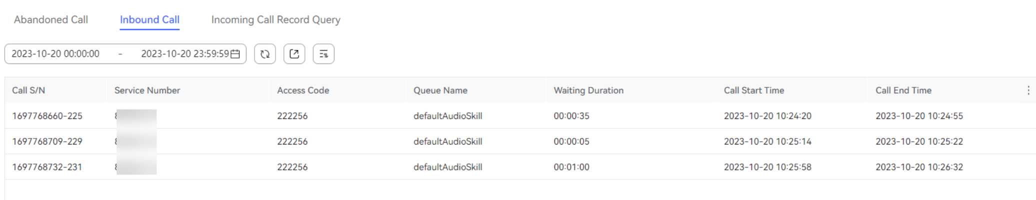
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 3 Query information about calls requiring callback.

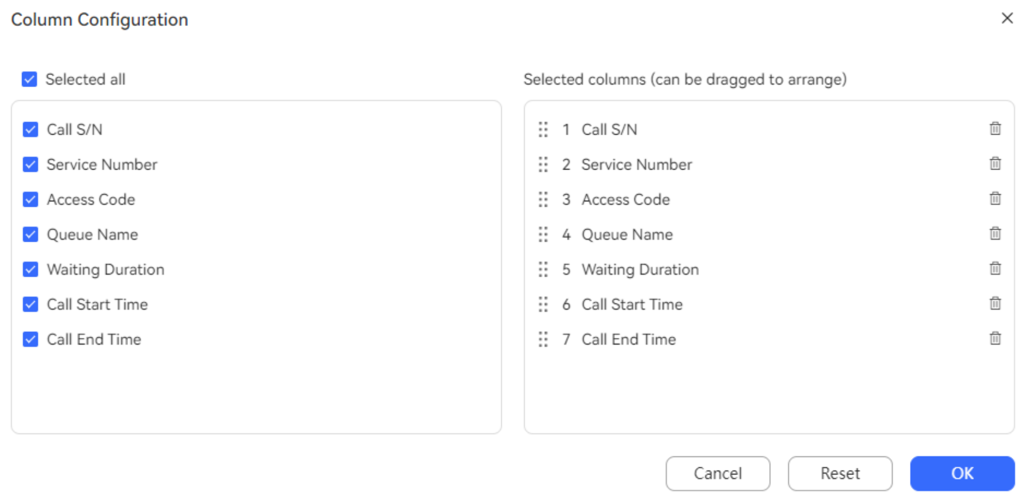
1. Click the **Callback Record Query** tab to view information about calls requiring callback in the tenant space. Only data generated within seven days before the current time can be queried, and the query time range cannot span days.

Figure 4-53 Callback Record Query



- You can query calls requiring callback in the tenant space based on the start time and end time.
- By default, the list displays information about calls requiring callback in the tenant space on the current day, including the call SN, customer number, access code, skill queue name, and waiting duration.

2. Click to refresh real-time data.
3. Click to set the table header.



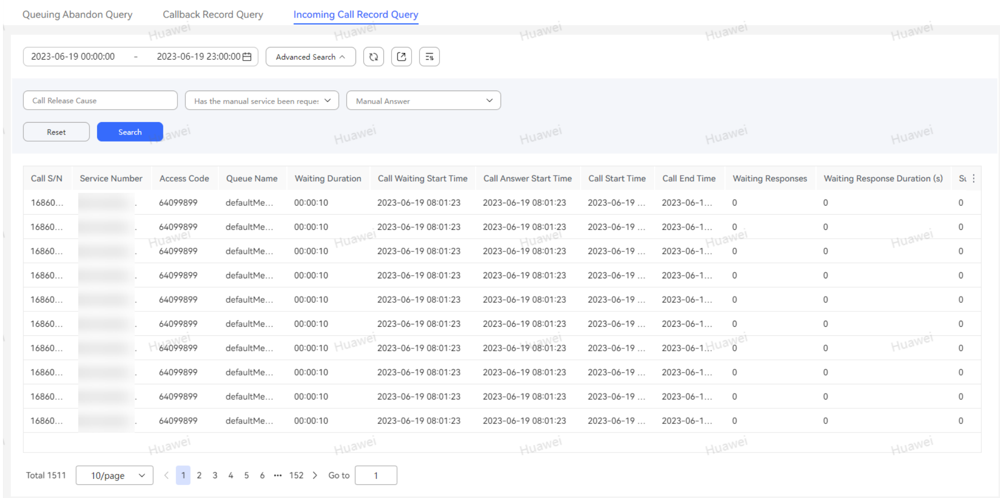
– Click or to deselect a column.
– Drag a selected column to change its sequence.
– Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 Query information about inbound calls.

1. Click the **Incoming Call Record Query** tab to view information about inbound calls in the tenant space. Only data generated within seven days before the current time can be queried, and the query time range cannot span days.

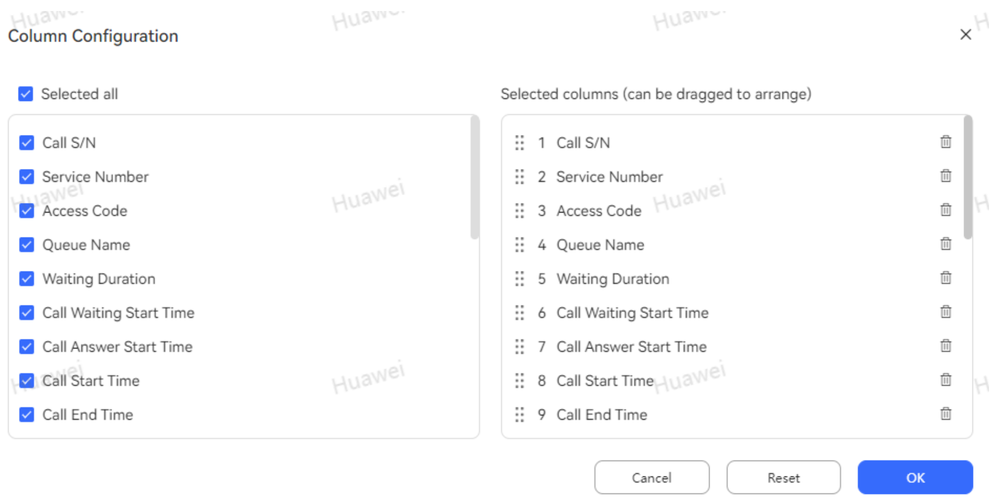
Figure 4-54 Incoming Call Record Query



– You can query inbound calls in the tenant space based on the start time, end time, call release cause, whether manual service is requested, and whether the call is answered.
– By default, the list displays information about inbound calls in the tenant space on the current day.

2. Set data filter criteria.
   – Click **Advanced Search**, enter a call release cause, set whether manual service is requested, and set whether the call is answered, and click **Search** to filter detailed data.
   – Click to refresh real-time data.
3. Click to set the table header.

Figure 4-55 Incoming Call Record Query - Column Configuration



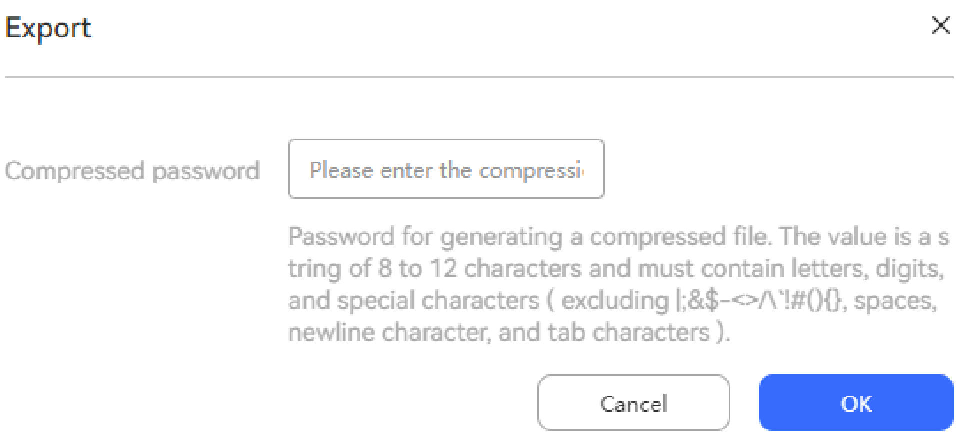
   – Click or to deselect a column.
   – Drag a selected column to change its sequence.
   – Click **Reset** to reset the column configuration to the state when the dialog box is opened.

   After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 5 (Optional) On the **Callback Record Query** or **Incoming Call Record Query** page, export the queried data to the local PC.

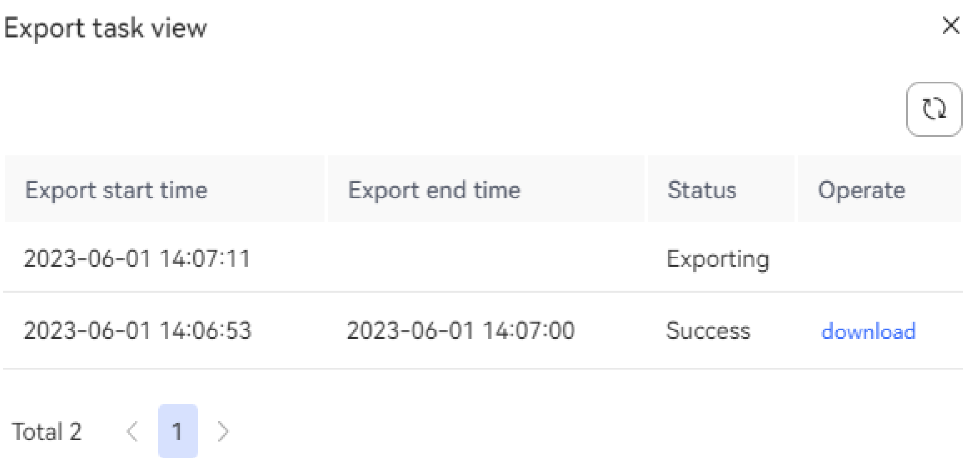
1. Click and enter a compression password based on the password requirements. Click **OK**. An export task is created.

Figure 4-56 Export



2. Click , select the export task whose **Status** is **Success** based on the export time, and click **download** to download the exported data.

Figure 4-57 Export task view



NOTICE

Data files can be exported only in the integration environment.

----End

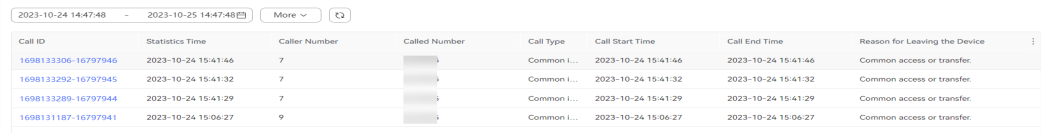
4.3.2.6 Monitoring Call Links

A tenant administrator can view call link information.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Call Link**. Inbound call details are displayed.

Figure 4-58 Call Link

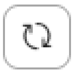


Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.

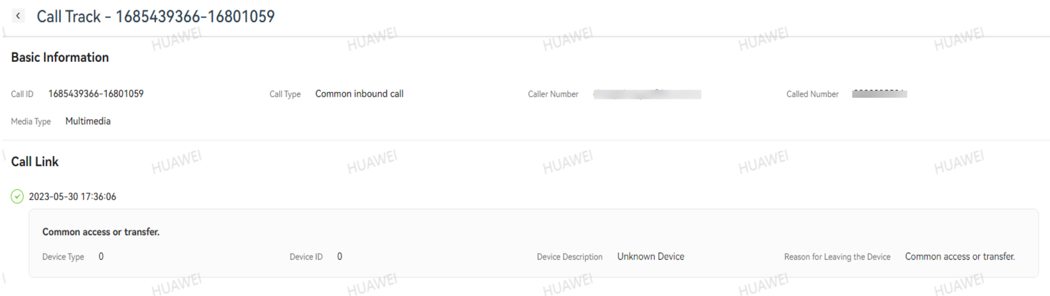
  NOTE

  The earliest start time is 00:00:00 on the previous day, and the latest end time is 23:59:59 on the current day.

- Click **Advanced Search**, enter a calling number and a called number, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

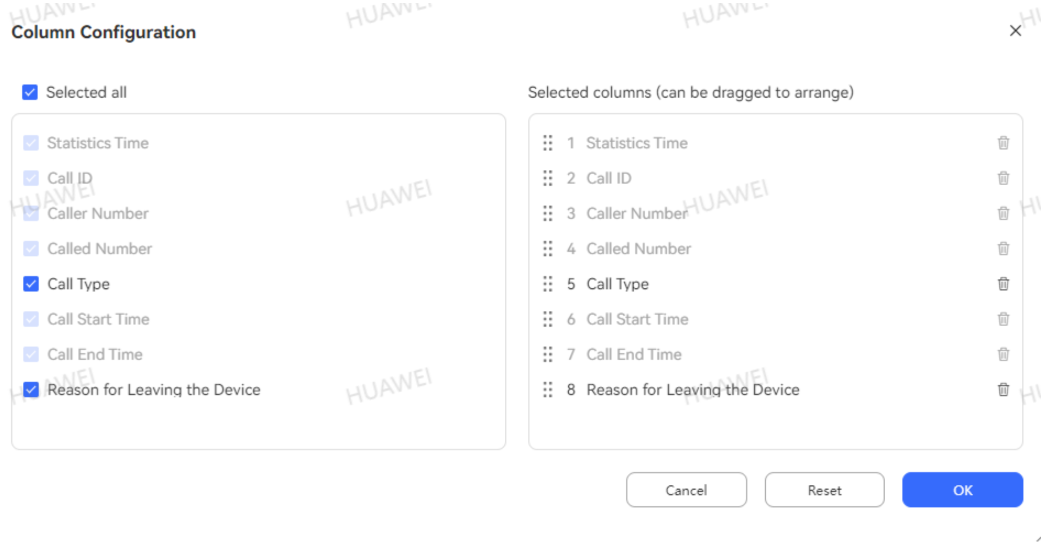
Step 3 Click a call ID to view the call track of a specific call.

Figure 4-59 Call Track



Step 4 Click to set the table header.

Figure 4-60 Column Configuration



- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

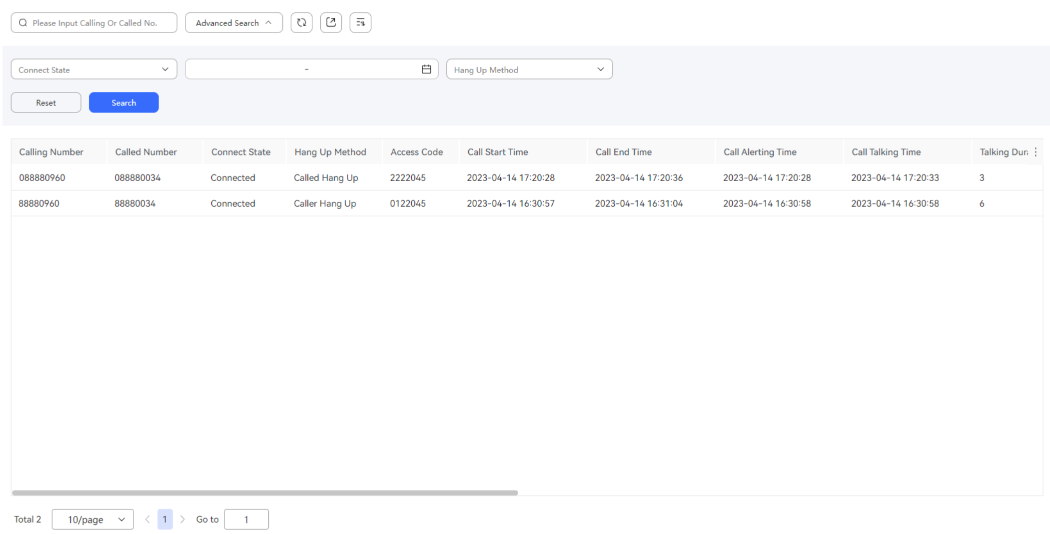
After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

----End

4.3.2.7 Querying Bidirectional Call Details

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Bidirectional Call** to query bidirectional call details.

Figure 4-61 Bidirectional Call



Step 2 Set data filter criteria.

- **Please Input Calling Or Called No.**: Enter a calling or called number.
- Click **Advanced Search** and set the following search criteria:
  - **Connect State**: The options are **Connected** and **Unconnected**.
  - **Hang Up Method**: The options are **Caller Hang Up**, **Called Hang Up**, and **Exception Hang Up**.
  - Start time and end time: Click the time widget and set the time range of the call start time.

    NOTE

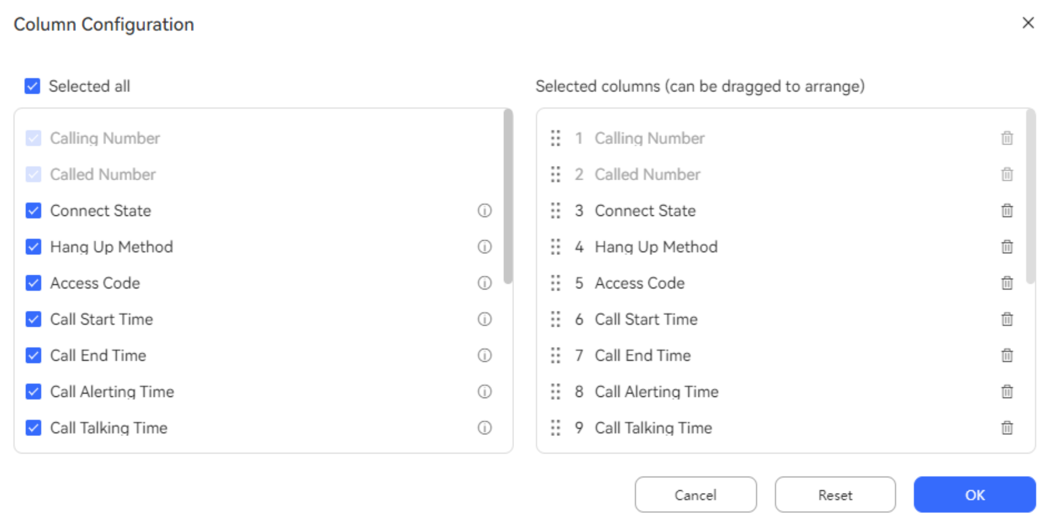
    The call start time and call end time must be both set or left blank. The time range cannot exceed seven days.

  After the filter criteria are set, click **Search** to filter detailed data.
- Click to refresh real-time data.

Step 3 Click to set the table header.

1. Click **Set Table Header**. The **Filter Table Header** page is displayed.

   Figure 4-62 Column Configuration



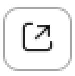
   - For some columns, you cannot deselect them or change their sequence.
   - Click or to deselect a column.
   - Drag a selected column to change its sequence.
   - Hover the pointer over to view the detailed description of a column.
   - Click **Reset** to reset the column configuration to the state when the dialog box is opened.

   After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Table 4-1 Column description

Column	Description
Calling Number	Calling number of a bidirectional call.
Called Number	Called number of a bidirectional call.
Connect State	Connection status.
Hang Up Method	Release mode.
Access Code	Access code.
Call Start Time	Call start time.
Call End Time	Call end time.
Call Alerting Time	Called party ringing time.
Call Talking Time	Talking start time.
Talking Duration(s)	Talking duration (s).
Caller Release Time	Talking end time.
Caller Alerting Time	Calling party ringing time.
Caller Talking Time	Calling party talking time.
Caller Talking Duration(s)	Agent talking duration (s).
Create Time	Call creation time.
Call Type	Call type.
Caller Alerting Duration(s)	Calling party ringing duration (s).
Called Alerting Duration(s)	Called party ringing duration (s).

Step 4 Export data.

1. Click  and enter a compression password to create an export task.

   NOTE

   For details about the requirements of the compression password, see the prompt on the page. The compression password is used to open the downloaded package.

   The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2. Click  to view the export tasks in the last seven days.
3. Click **download** in the **Operation** column corresponding to the created export task to download the exported data to the local PC. When opening the file, you need to enter the compression password set when you create the export task.

----End

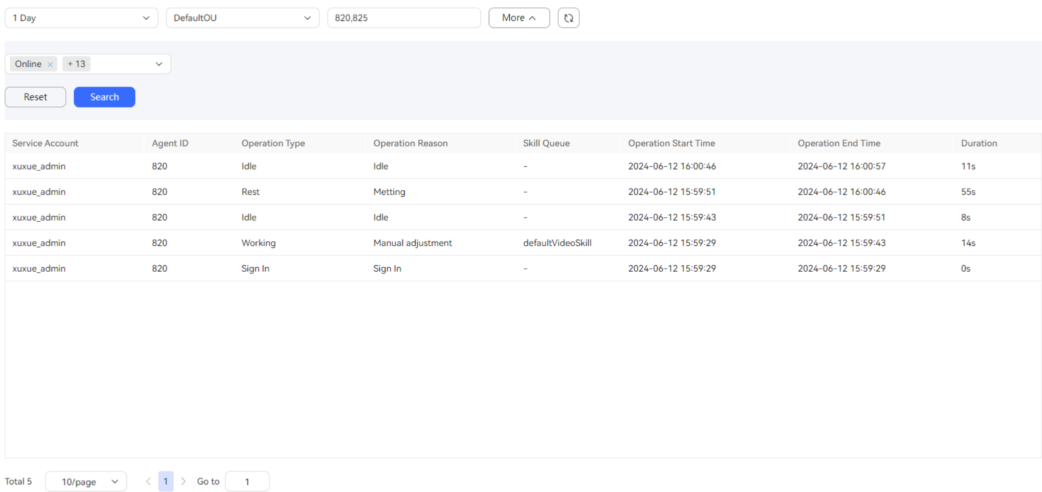
4.3.2.8 Viewing Agent Monitoring Operation Details

A tenant administrator can view the connection operation details of agents in a tenant space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Monitoring** > **Agent Operation Details**, and view the connection operation details of agents in the current tenant space.

Figure 4-63 Agent Operation Details



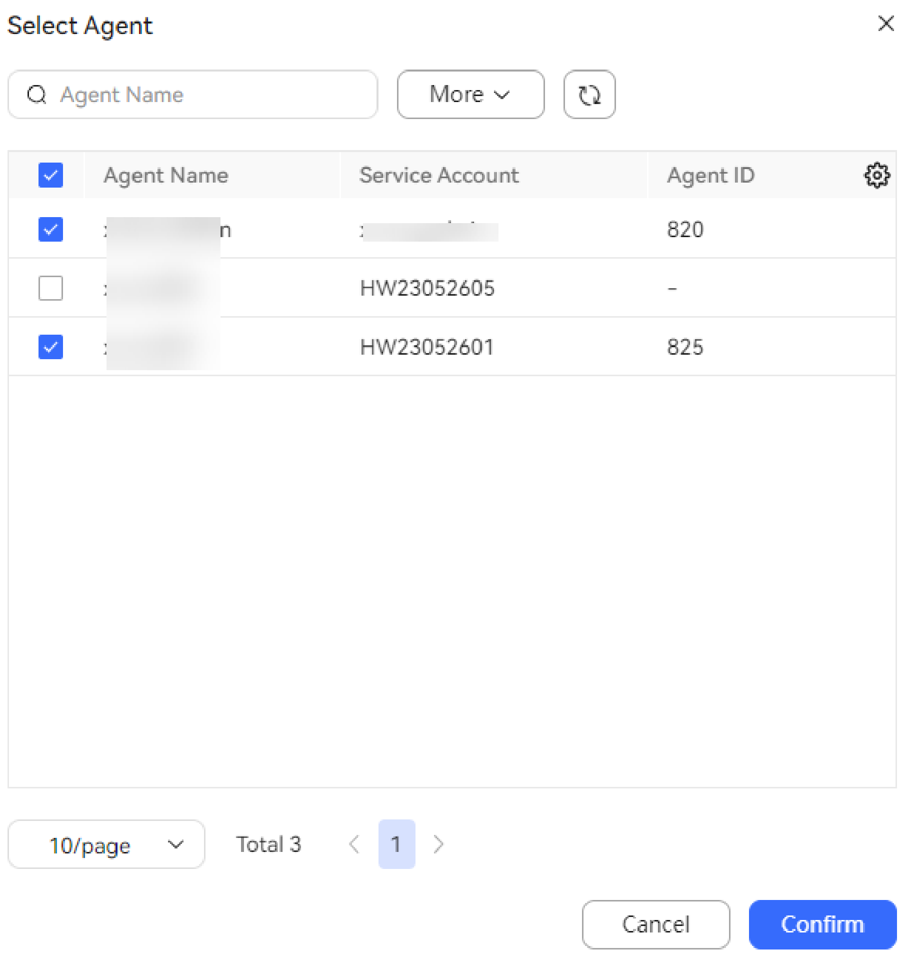
Step 2 Set data filter criteria.

- Select the operation time. You can select **1 Day**, **3 Days**, **7 Days**, or **Customization** and search for agent operation details in the last day, last three days, last seven days, or customized time period.

> **CAUTION**
>
> The customized time period must be equal to or less than seven days. A maximum of the last 60 days are displayed in the start time selector.

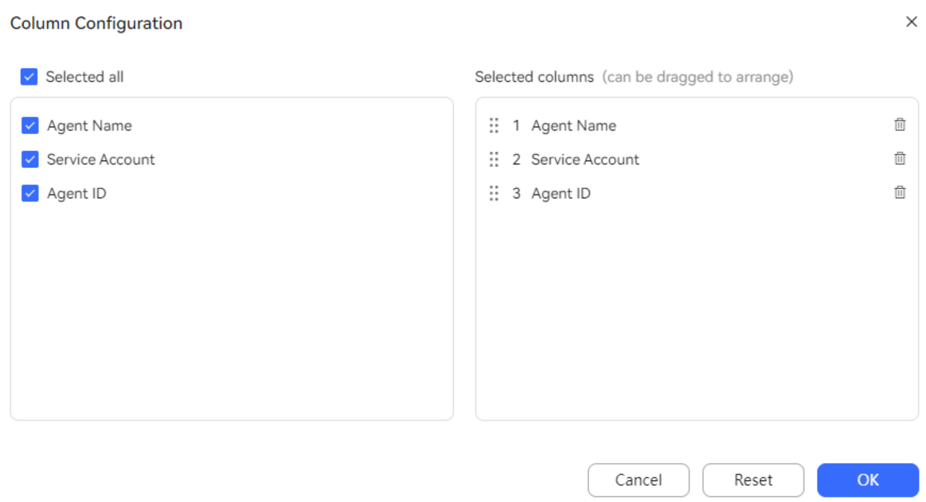
- Select the OU to which agents belongs.
- Click the **Select Agent** selection box and select agents in the specified OU.

Figure 4-64 Select Agent



– Search for an agent by agent name or business account.
– Click  to set the table header.

Figure 4-65 Column Configuration



- For some columns, you cannot deselect them or change their sequence.
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

- Select an operation type and search for agent operation details based on the selected agent operation type.

  When an agent selects the default rest reason, the value of **Operation Type** is **Rest**. When an agent selects a customized rest reason, the value of **Operation Type** is the corresponding rest reason description. For details about how to configure rest reasons, see **2.3.2.2 Configuring Rest Reasons**.
- Click to refresh real-time data.

----End

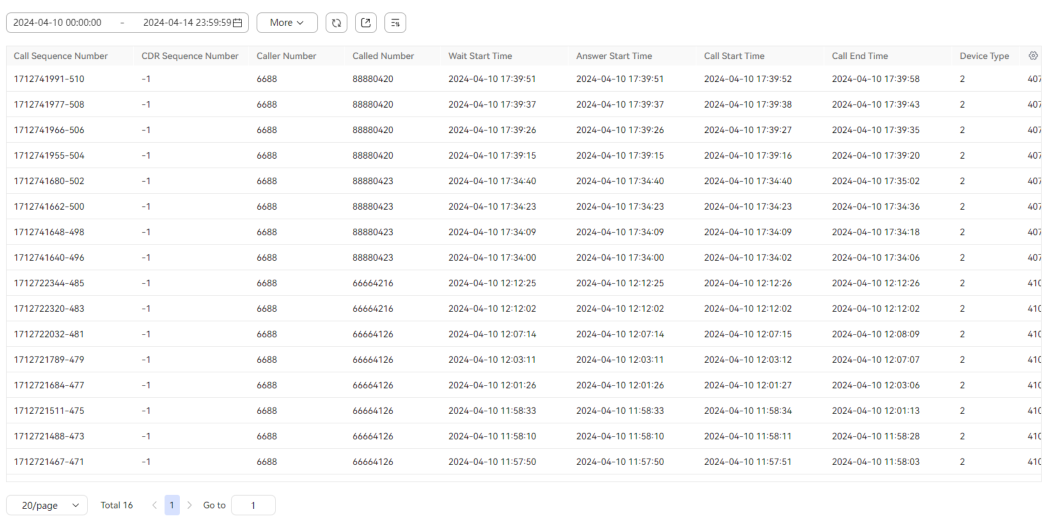
4.3.2.9 Monitoring Call Details

A tenant administrator can view call details.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Call Detail** to view call details of the tenant space.

Figure 4-66 Call Detail



Call Sequence Number	CDR Sequence Number	Caller Number	Called Number	Wait Start Time	Answer Start Time	Call Start Time	Call End Time	Device Type	
1712741991-510	-1	6688	88880420	2024-04-10 17:39:51	2024-04-10 17:39:51	2024-04-10 17:39:52	2024-04-10 17:39:58	2	407
1712741977-508	-1	6688	88880420	2024-04-10 17:39:37	2024-04-10 17:39:37	2024-04-10 17:39:38	2024-04-10 17:39:43	2	407
1712741966-506	-1	6688	88880420	2024-04-10 17:39:26	2024-04-10 17:39:26	2024-04-10 17:39:27	2024-04-10 17:39:35	2	407
1712741955-504	-1	6688	88880420	2024-04-10 17:39:15	2024-04-10 17:39:15	2024-04-10 17:39:16	2024-04-10 17:39:20	2	407
1712741680-502	-1	6688	88880423	2024-04-10 17:34:40	2024-04-10 17:34:40	2024-04-10 17:34:40	2024-04-10 17:35:02	2	407
1712741662-500	-1	6688	88880423	2024-04-10 17:34:23	2024-04-10 17:34:23	2024-04-10 17:34:23	2024-04-10 17:34:36	2	407
1712741648-498	-1	6688	88880423	2024-04-10 17:34:09	2024-04-10 17:34:09	2024-04-10 17:34:09	2024-04-10 17:34:18	2	407
1712741640-496	-1	6688	88880423	2024-04-10 17:34:00	2024-04-10 17:34:00	2024-04-10 17:34:02	2024-04-10 17:34:06	2	407
1712722344-485	-1	6688	66664216	2024-04-10 12:12:25	2024-04-10 12:12:25	2024-04-10 12:12:26	2024-04-10 12:12:26	2	410
1712722320-483	-1	6688	66664216	2024-04-10 12:12:02	2024-04-10 12:12:02	2024-04-10 12:12:02	2024-04-10 12:12:02	2	410
1712722032-481	-1	6688	66664126	2024-04-10 12:07:14	2024-04-10 12:07:14	2024-04-10 12:07:15	2024-04-10 12:08:09	2	410
1712721789-479	-1	6688	66664126	2024-04-10 12:03:11	2024-04-10 12:03:11	2024-04-10 12:03:12	2024-04-10 12:07:07	2	410
1712721684-477	-1	6688	66664126	2024-04-10 12:01:26	2024-04-10 12:01:26	2024-04-10 12:01:27	2024-04-10 12:03:06	2	410
1712721511-475	-1	6688	66664126	2024-04-10 11:58:33	2024-04-10 11:58:33	2024-04-10 11:58:34	2024-04-10 12:01:13	2	410
1712721488-473	-1	6688	66664126	2024-04-10 11:58:10	2024-04-10 11:58:10	2024-04-10 11:58:11	2024-04-10 11:58:28	2	410
1712721467-471	-1	6688	66664126	2024-04-10 11:57:50	2024-04-10 11:57:50	2024-04-10 11:57:51	2024-04-10 11:58:03	2	410

20/page Total 16 1 Go to 1

Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.

NOTE

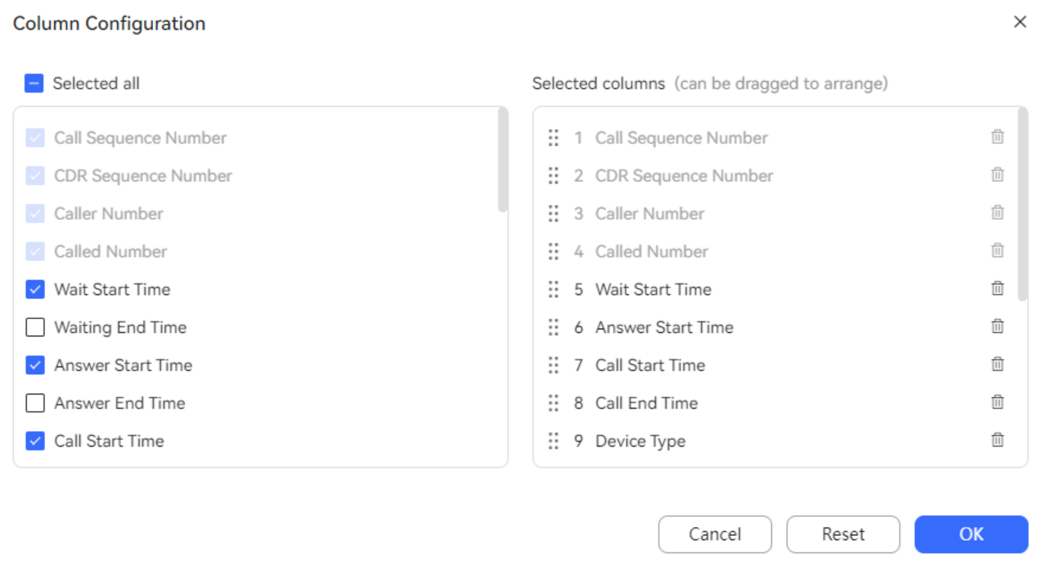
In the integrated deployment environment, the maximum time span between the start time and end time is five days.

In the independent deployment environment, the maximum time span between the start time and end time is one day.

- Click **More**, set **Caller Number**, **Called Number**, **Call Sequence Number**, and **Device No**, and click **Search** to filter detailed data.
- Click to refresh real-time data.

Step 3 Click to set the table header.

Figure 4-67 Column Configuration



- For some columns, you cannot deselect them or change their sequence.
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Hover the pointer over to view the detailed description of a column.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 (Optional) Export details to the local PC.

1. Click and enter a compression password to create an export task.

NOTE

- For details about the requirements of the compression password, see the prompt on the page. The compression password is used to open the downloaded package.

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

- In the independent deployment environment, you can click to export call details without entering a compression password.

2. Click to view the export tasks in the last seven days.
3. Click **download** in the **Operation** column corresponding to the created export task to download the exported details to the local PC. When opening the file, you need to enter the compression password set when you create the export task.

----End

4.3.3 Report Query

The AICC provides 14 reports. The first 13 reports include daily, weekly, and monthly reports. A tenant administrator can view various indicators in the reports and export the reports to the local PC.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

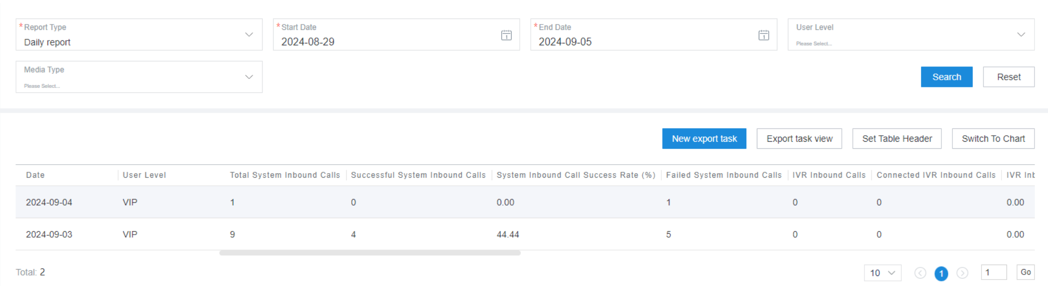
4.3.3.1 VDN Traffic Report

The VDN traffic report collects statistics on the inbound call traffic of the call center in a specified period, and provides indicators including the total number of inbound calls, number of calls answered by IVRs, and number of calls answered by agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **VDN Traffic Report** to query VDN traffic report data.

Figure 4-68 VDN Traffic Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-69 Filter Indicator dialog box

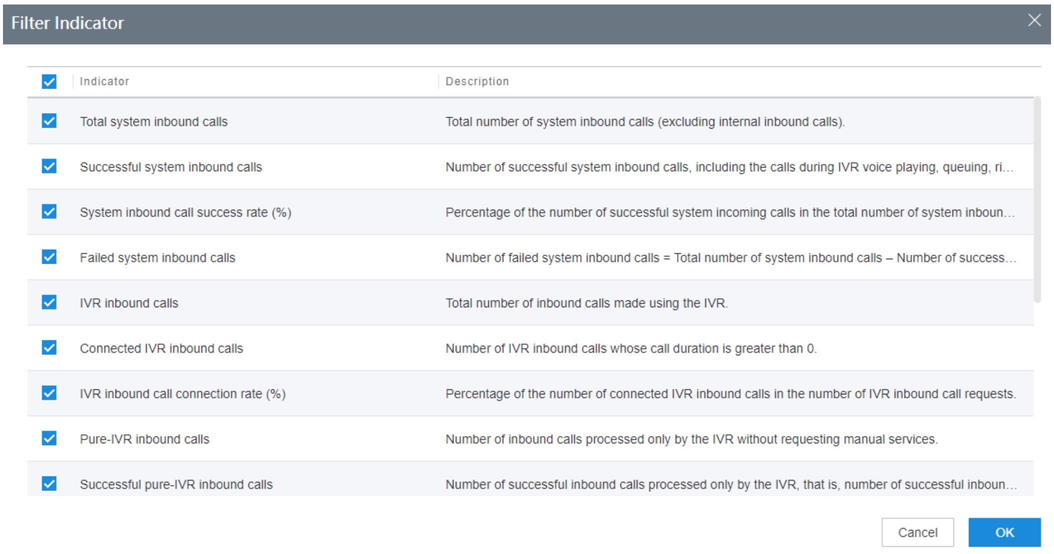


Table 4-2 Indicators in the Filter Indicator dialog box

Indicator	Description
Total system inbound calls	Total number of system inbound calls (excluding internal inbound calls).

Indicator	Description
Successful system inbound calls	Number of successful system inbound calls, including the calls during IVR voice playback, queuing, ringing at agent voice terminals, and agent answering (excluding internal inbound calls).
System inbound call success rate (%)	Percentage of successful system inbound calls to total system inbound calls.
Failed system inbound calls	Number of failed system inbound calls = Total number of system inbound calls – Number of successful system inbound calls
IVR inbound calls	Total number of inbound calls connected to the IVR.
Connected IVR inbound calls	Number of IVR inbound calls whose call duration is greater than 0.
IVR inbound call connection rate (%)	Percentage of connected IVR inbound calls in IVR inbound call requests.
Pure-IVR inbound calls	Number of inbound calls that are processed only by the IVR and do not request manual service.
Successful pure-IVR inbound calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent.
Pure-IVR inbound call success rate (%)	Percentage of calls processed only by the IVR to total inbound calls. Pure-IVR inbound call success rate = Successful pure-IVR inbound calls/(Successful pure-IVR inbound calls + Number of agent answered calls) x 100
Manual inbound calls	Total number of inbound calls requesting agent services.
Manual request rate (%)	Percentage of inbound calls requesting manual service to total inbound calls. Manual request rate = Number of manual inbound calls/(Number of manual inbound calls + Number of pure-IVR inbound calls) x 100
Agent answered calls	Number of calls successfully answered by agents.

Indicator	Description
Manual inbound call success rate (%)	Percentage of agent answered calls to manual inbound calls.
Manual success rate in total inbound calls (%)	Percentage of agent answered calls to total inbound calls. Manual success rate in total inbound calls = Number of agent answered calls/(Number of successful IVR inbound calls + Number of agent answered calls) x 100
Called agents	Number of agents who receive inbound calls.
Agent calls	Number of incoming calls assigned to each agent during the selected time period.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

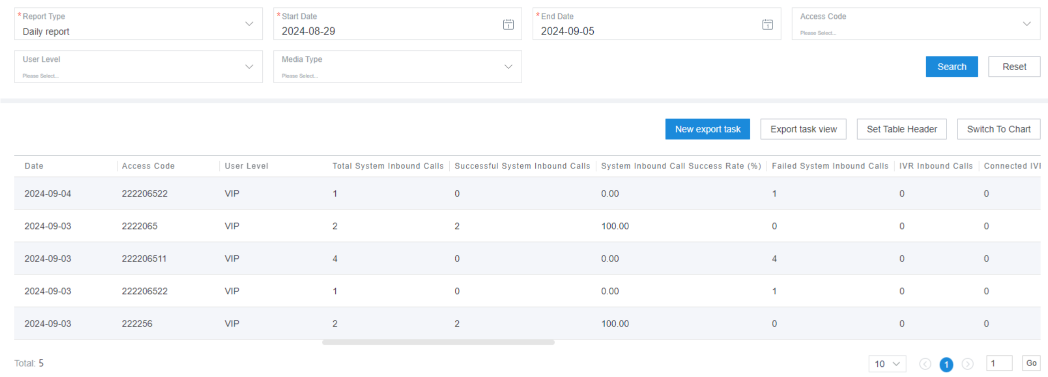
4.3.3.2 VDN Traffic Report by Access Code

The VDN traffic report by access code collects statistics on the inbound call traffic of the call center by access code in a specified period, and provides indicators including the total number of inbound calls, number of calls answered by IVRs, and number of calls answered by agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **VDN Traffic Report by AccessCode** to query VDN traffic report data by access code.

Figure 4-70 VDN Traffic Report by AccessCode



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Access Code**: Fuzzy search is supported. The value is a number of at least three digits. In chart mode, the value can contain fewer than three digits.
- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-71 Filter Indicator dialog box

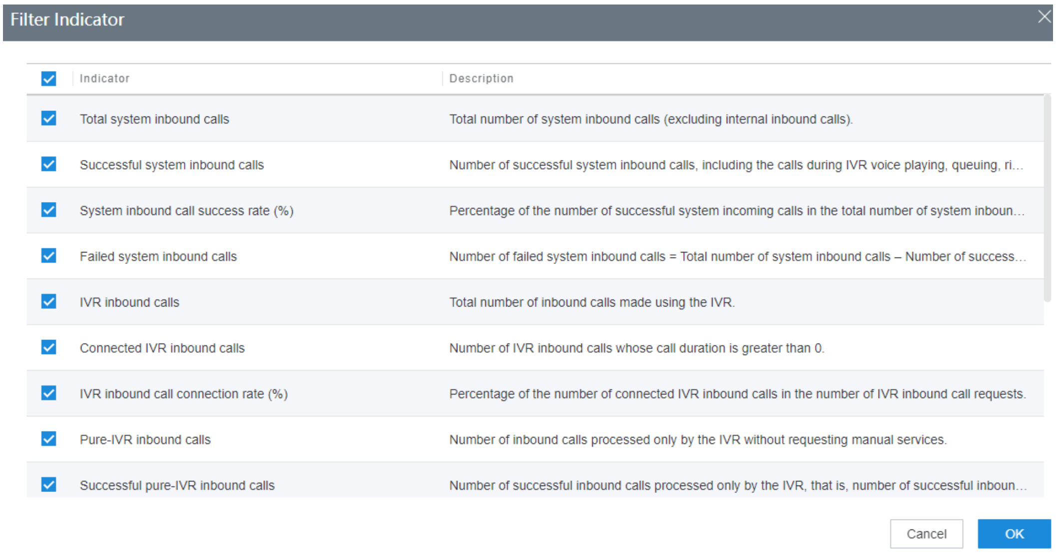


Table 4-3 Indicators in the Filter Indicator dialog box

Indicator	Description
Total system inbound calls	Total number of system inbound calls (excluding internal inbound calls).
Successful system inbound calls	Number of successful system inbound calls, including the calls during IVR voice playback, queuing, ringing at agent voice terminals, and agent answering (excluding internal inbound calls).
System inbound call success rate (%)	Percentage of successful system inbound calls to total system inbound calls.
Failed system inbound calls	Number of failed system inbound calls = Total number of system inbound calls – Number of successful system inbound calls
IVR inbound calls	Total number of inbound calls connected to the IVR.
Connected IVR inbound calls	Number of IVR inbound calls whose call duration is greater than 0.
IVR inbound call connection rate (%)	Percentage of connected IVR inbound calls to IVR inbound call requests.
Pure-IVR inbound calls	Number of inbound calls that are processed only by the IVR and do not request manual service.

Indicator	Description
Successful pure-IVR inbound calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent.
Pure-IVR inbound call success rate (%)	Percentage of calls processed only by the IVR to total inbound calls. Pure-IVR inbound call success rate = Successful pure-IVR inbound calls/(Successful pure-IVR inbound calls + Number of agent answered calls) x 100
Manual inbound calls	Total number of inbound calls requesting agent services.
Manual request rate (%)	Percentage of inbound calls requesting manual service to total inbound calls. Manual request rate = Number of manual inbound calls/(Number of manual inbound calls + Number of pure-IVR inbound calls) x 100
Agent answered calls	Number of calls successfully answered by agents.
Manual inbound call success rate (%)	Percentage of agent answered calls to manual inbound calls.
Manual success rate in total inbound calls (%)	Percentage of agent answered calls to total inbound calls. Manual success rate in total inbound calls = Number of agent answered calls/(Number of successful IVR inbound calls + Number of agent answered calls) x 100
Called agents	Number of agents who receive inbound calls.
Agent calls	Number of incoming calls assigned to each agent during the selected time period.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     ■ The compression password is used to open the downloaded package.

     ■ You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

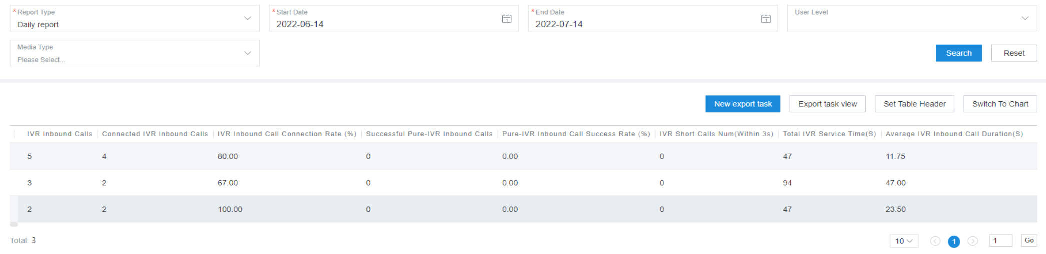
4.3.3.3 IVR Traffic Report

The IVR traffic report collects statistics on the inbound call traffic of IVRs in a specified period, and provides indicators including the number of inbound calls and number of successful inbound calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **IVR Traffic Report** to query IVR traffic report data.

Figure 4-72 IVR Traffic Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.

– **Monthly report**: Set the start year and month as well as the end ones.

NOTE

The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-73 Filter Indicator dialog box

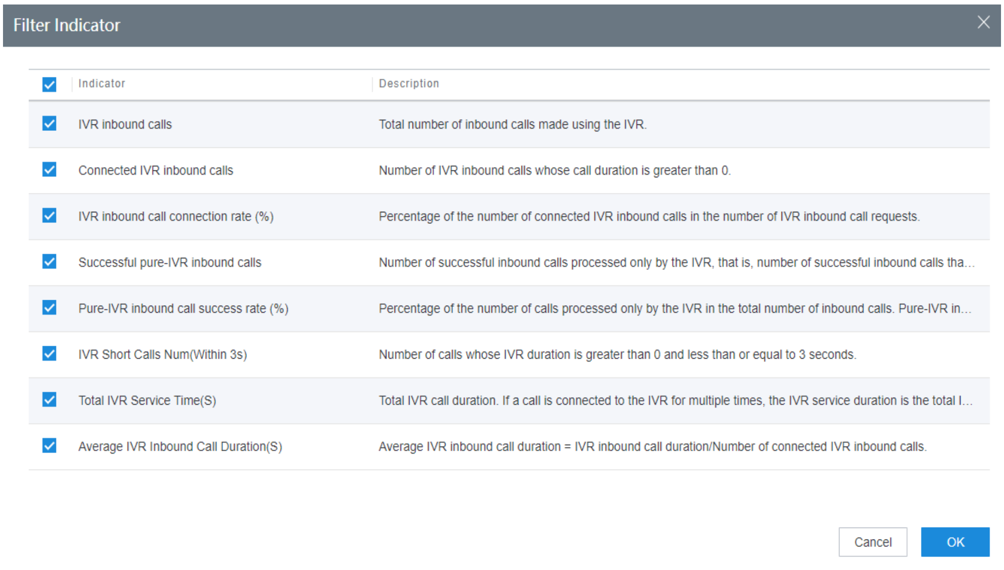


Table 4-4 Indicators in the Filter Indicator dialog box

Indicator	Description
IVR inbound calls	Total number of inbound calls made using the IVR.
Connected IVR inbound calls	Number of IVR inbound calls whose call duration is greater than 0.
IVR inbound call connection rate (%)	Percentage of the number of connected IVR inbound calls in the number of IVR inbound call requests.

Indicator	Description
Successful pure-IVR inbound calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent.
Pure-IVR inbound call success rate (%)	Percentage of the number of calls processed only by the IVR in the total number of inbound calls. Pure-IVR inbound call success rate = Successful pure-IVR inbound calls/(Successful pure-IVR inbound calls + Number of agent answered calls) x 100
IVR Short Calls Num(Within 3s)	Number of calls whose IVR duration is greater than 0 and less than or equal to 3 seconds.
Total IVR Service Time(S)	Total IVR call duration. If a call is connected to the IVR for multiple times, the IVR service duration is the total IVR call duration.
Average IVR Inbound Call Duration(S)	Average IVR inbound call duration = IVR inbound call duration/Number of connected IVR inbound calls

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.

3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

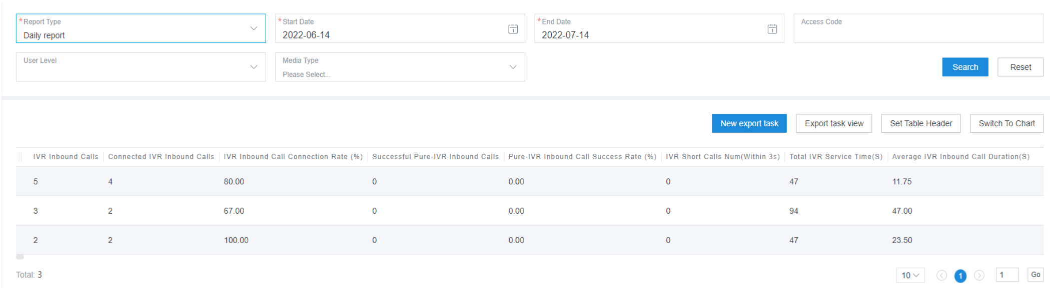
4.3.3.4 IVR Traffic Report by Access Code

The IVR traffic report by access code collects statistics on the inbound call traffic of IVRs by access code in a specified period, and provides indicators including the number of inbound calls and number of successful inbound calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **IVR Traffic Report by AccessCode** to query IVR traffic report data by access code.

Figure 4-74 IVR Traffic Report by AccessCode



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Access Code**: Fuzzy search is supported. The value is a number of at least three digits. In chart mode, the value can contain fewer than three digits.
- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-75 Filter Indicator dialog box

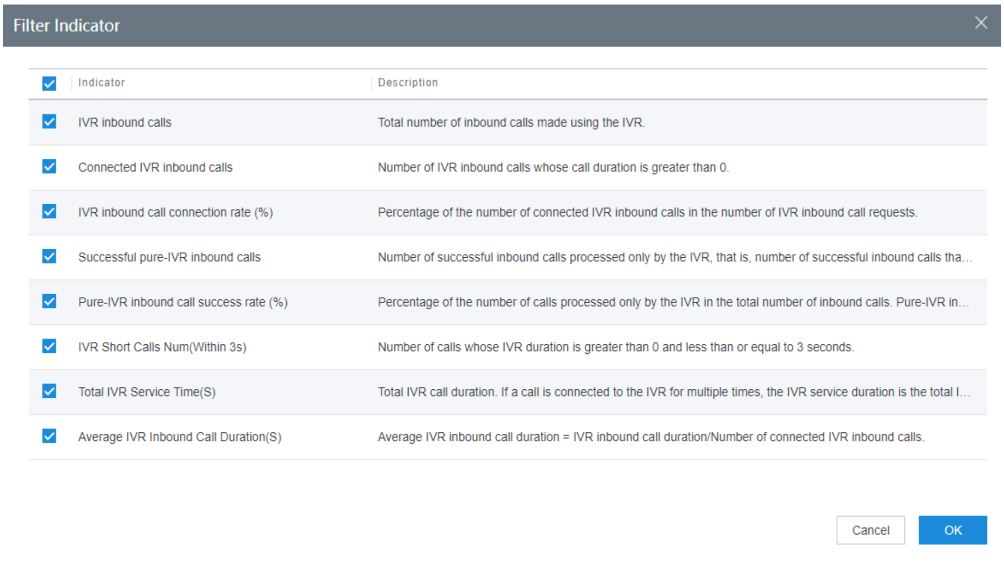


Table 4-5 Indicators in the Filter Indicator dialog box

Indicator	Description
IVR inbound calls	Total number of inbound calls made using the IVR.
Connected IVR inbound calls	Number of IVR inbound calls whose call duration is greater than 0.
IVR inbound call connection rate (%)	Percentage of the number of connected IVR inbound calls in the number of IVR inbound call requests.
Successful pure-IVR inbound calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent.
Pure-IVR inbound call success rate (%)	Percentage of the number of calls processed only by the IVR in the total number of inbound calls. Pure-IVR inbound call success rate = Successful pure-IVR inbound calls/(Successful pure-IVR inbound calls + Number of agent answered calls) x 100
IVR Short Calls Num(Within 3s)	Number of calls whose IVR duration is greater than 0 and less than or equal to 3 seconds.

Indicator	Description
Total IVR Service Time(S)	Total IVR call duration. If a call is connected to the IVR for multiple times, the IVR service duration is the total IVR call duration.
Average IVR Inbound Call Duration(S)	Average IVR inbound call duration = IVR inbound call duration/Number of connected IVR inbound calls

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

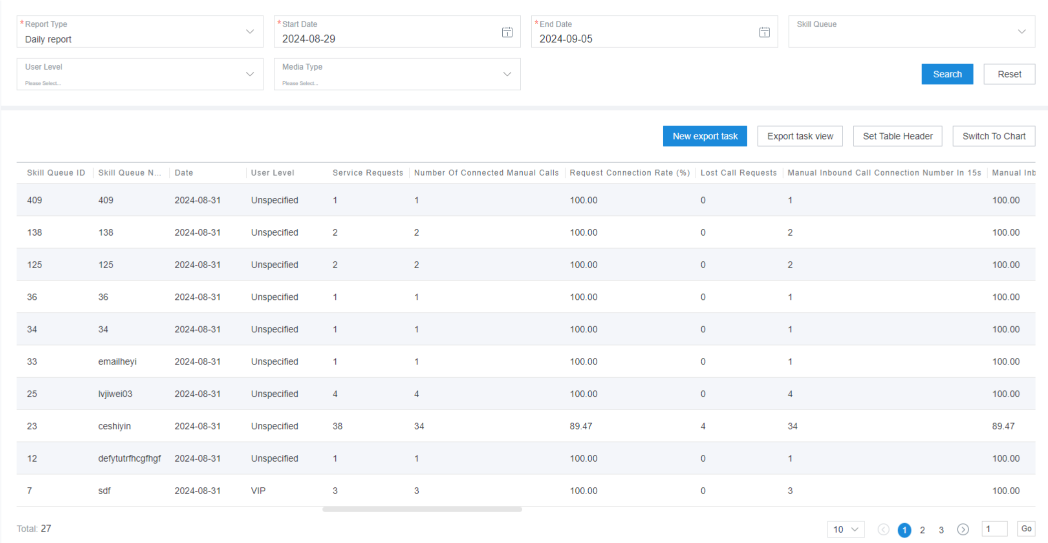
4.3.3.5 Skill Queue Traffic Report

The skill queue traffic report collects statistics on the inbound call traffic of skill queues in a specified period, and provides indicators including the number of inbound calls, call duration, and number of abandoned calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Skill Queue Traffic Report** to query skill queue traffic report data.

Figure 4-76 Skill Queue Traffic Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Skill Queue**: Select a skill queue that has been configured in the call center configuration.
- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-77 Filter Indicator dialog box

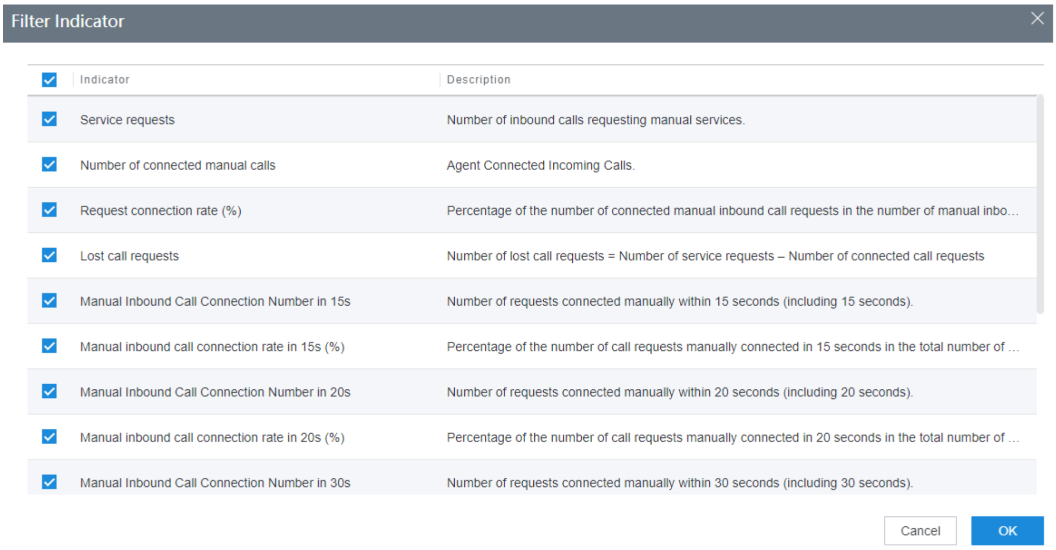


Table 4-6 Indicators in the Filter Indicator dialog box

Indicator	Description
Service requests	Number of inbound calls requesting manual service.
Number of connected manual calls	Number of inbound calls connected by agents.
Request connection rate (%)	Percentage of connected manual inbound call requests to manual inbound calls requesting services.
Lost call requests	Number of lost call requests = Number of service requests – Number of connected call requests
Manual Inbound Call Connection Number in 15s	Number of call requests connected to agents within 15 seconds.
Manual inbound call connection rate in 15s (%)	Percentage of call requests connected to agents within 15 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 20s	Number of call requests connected to agents within 20 seconds.

Indicator	Description
Manual inbound call connection rate in 20s (%)	Percentage of call requests connected to agents within 20 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 30s	Number of call requests connected to agents within 30 seconds.
Manual inbound call connection rate in 30s (%)	Percentage of call requests connected to agents within 30 seconds to total calls requesting manual service.
Average waiting duration (s)	Average waiting duration of all connected calls in a queue.
Average ring duration of lost calls (s)	Average ring duration of all unanswered calls.
Average call duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Average ring duration of manual inbound calls (s)	Average ring duration of an agent's terminal. Average ring duration of manual inbound calls = Total ring duration of manual inbound calls/Number of answering times
Abandoned queuing calls	Number of calls proactively abandoned by customers during queuing.
Unanswered calls	Number of unanswered calls after being assigned to agents.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

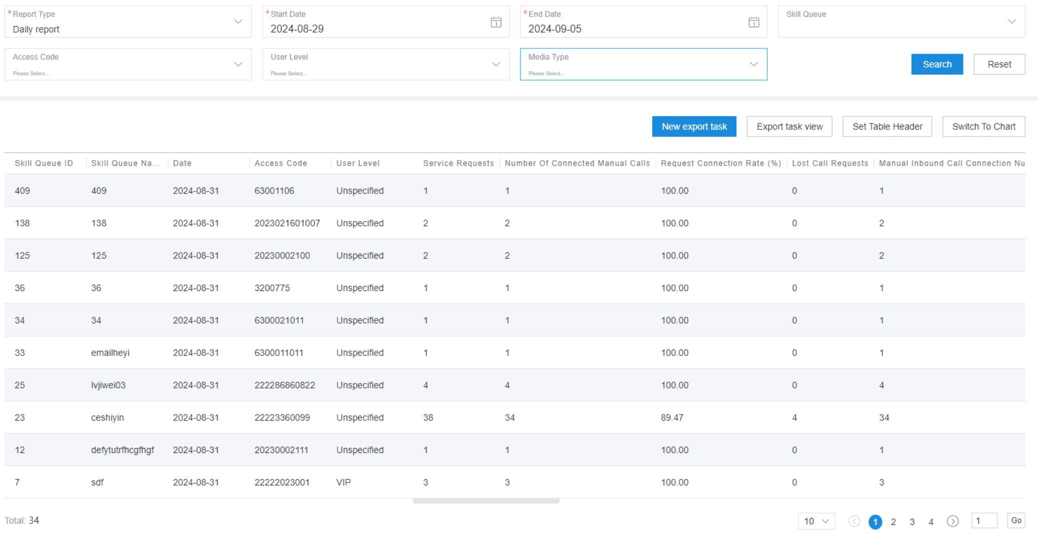
4.3.3.6 Skill Queue Traffic Report by Access Code

The skill queue traffic report by access code collects statistics on the inbound call traffic of skill queues by access code in a specified period, and provides indicators including the number of inbound calls, call duration, and number of abandoned calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Skill Queue Traffic Report by AccessCode** to query skill queue traffic report data by access code.

Figure 4-78 Skill Queue Traffic Report by AccessCode



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Skill Queue**: Select a skill queue that has been configured in the call center configuration.
- **Access Code**: Fuzzy search is supported. The value is a number of at least three digits. In chart mode, the value can contain fewer than three digits.
- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-79 Filter Indicator dialog box

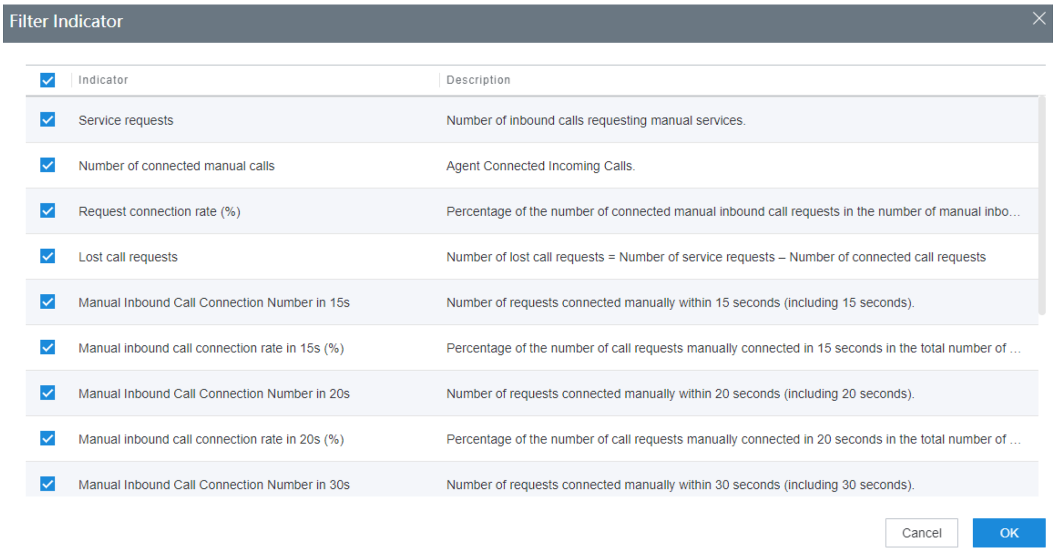


Table 4-7 Indicators in the Filter Indicator dialog box

Indicator	Description
Service requests	Number of inbound calls requesting manual service.
Number of connected manual calls	Number of inbound calls connected by agents.
Request connection rate (%)	Percentage of connected manual inbound call requests to manual inbound calls requesting services.
Lost call requests	Number of lost call requests = Number of service requests – Number of connected call requests
Manual Inbound Call Connection Number in 15s	Number of call requests connected to agents within 15 seconds.
Manual inbound call connection rate in 15s (%)	Percentage of call requests connected to agents within 15 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 20s	Number of call requests connected to agents within 20 seconds.

Indicator	Description
Manual inbound call connection rate in 20s (%)	Percentage of call requests connected to agents within 20 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 30s	Number of call requests connected to agents within 30 seconds.
Manual inbound call connection rate in 30s (%)	Percentage of call requests connected to agents within 30 seconds to total calls requesting manual service.
Average waiting duration (s)	Average waiting duration of all connected calls in a queue.
Average ring duration of lost calls (s)	Average ring duration of all unanswered calls.
Average call duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Average ring duration of manual inbound calls (s)	Average ring duration of an agent's terminal. Average ring duration of manual inbound calls = Total ring duration of manual inbound calls/Number of answering times
Abandoned queuing calls	Number of calls proactively abandoned by customers during queuing.
Unanswered calls	Number of unanswered calls after being assigned to agents.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

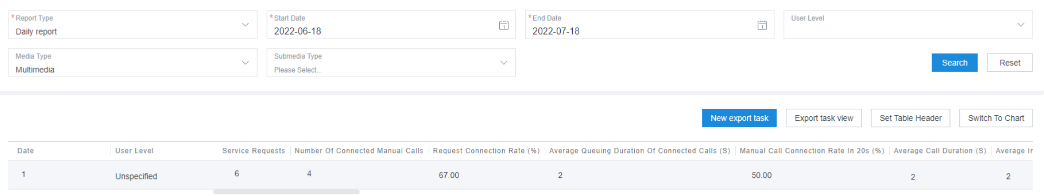
4.3.3.7 Traffic Summary Report

The traffic summary report collects statistics on the call traffic in a specified period, and provides indicators including the number of manual inbound calls, number of manual outbound calls, call duration, wrap-up duration, idle duration, and busy duration.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Traffic Summary Report** to query traffic summary report data.

Figure 4-80 Traffic Summary Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.

– **Weekly report**: Set the start year and week as well as the end ones.
– **Monthly report**: Set the start year and month as well as the end ones.

NOTE

The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-81 Filter Indicator dialog box

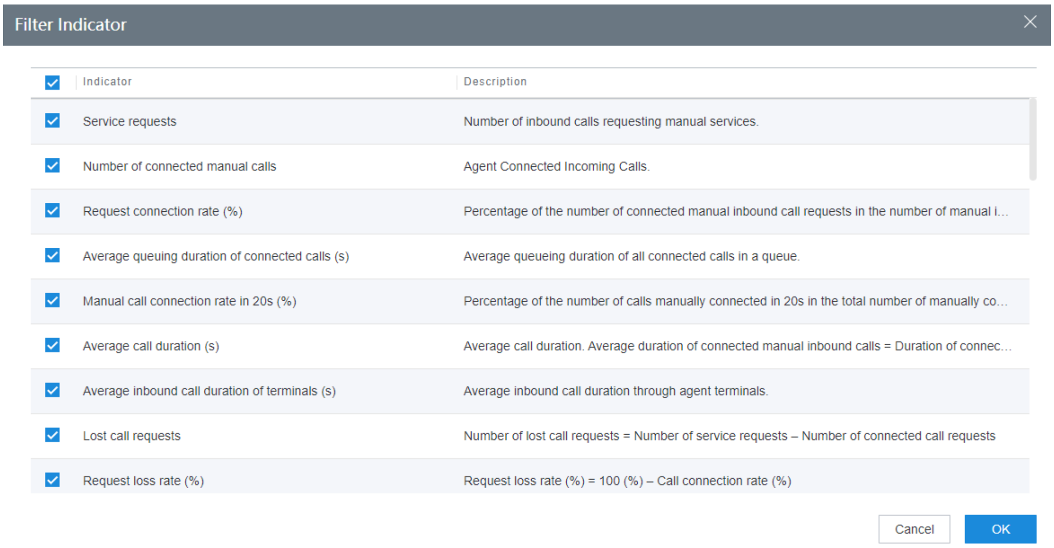


Table 4-8 Indicators in the Filter Indicator dialog box

Indicator	Description
Service requests	Number of inbound calls requesting manual services.
Number of connected manual calls	Number of inbound calls connected by agents.
Request connection rate (%)	Percentage of the number of connected manual inbound call requests in the number of manual inbound calls requesting services.

Indicator	Description
Average queuing duration of connected calls (s)	Average queueing duration of all connected calls in a queue.
Manual call connection rate in 20s (%)	Percentage of the number of calls manually connected in 20s in the total number of manually connected calls.
Average call duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Average inbound call duration of terminals (s)	Average inbound call duration through agent terminals.
Lost call requests	Number of lost call requests = Number of service requests – Number of connected call requests
Request loss rate (%)	Request loss rate (%) = 100 (%) – Call connection rate (%)
Average ring duration of lost calls (s)	Average ring duration of all unanswered calls.
Max. waiting duration (s)	Maximum waiting duration (queuing and ring duration) of all calls.
Outbound calls	Number of calls made by an agent to customers.
Connected manual outbound calls	Number of connected manual outbound calls.
Outbound call connection rate (%)	Percentage of the number of connected outbound calls in the number of outbound calls.
Total failed outbound calls	Total number of failed outbound calls.

Indicator	Description
Average Manual Outbound Call Duration (s)	Average outbound call duration between an agent and customers.
Average ring duration of outbound calls (s)	Average ring duration of outbound calls = Total ring duration of outbound calls/Number of answering times
Total connected calls	Number of connected inbound and outbound calls.
Average successful calls per hour	Average number of successful calls per hour in the selected working time segment.
Called agents	Number of agents who receive inbound calls.
Agent calls	Number of incoming calls assigned to each agent during the selected time period.
Work duration rate (%)	Work duration rate = (Total work duration – Rest duration)/Total work duration x 100
Online rate (%)	Online rate = (Manual call duration + Total wrap-up duration + Total duration of other states)/(Total work duration – Rest duration) x 100
Total work duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out. Total work duration = Manual call duration + Total wrap-up duration + Total busy duration + Total rest duration + Total duration of other states + Idle duration
Manual call duration (s)	Total call duration of an agent, excluding the text chat duration.
Manual call duration rate (%)	Manual call duration rate = Manual call duration/Total work duration x 100
Average manual call duration (s)	Average call duration of an agent. Average manual call duration = Manual call duration/Number of successful manual calls
Total wrap-up duration (s)	Total duration when an agent is in wrap-up state.

Indicator	Description
Wrap-up duration rate (%)	Wrap-up duration rate = (Total wrap-up duration/Total work duration) x 100
Average wrap-up duration (s)	Average duration when an agent is in wrap-up state. Average wrap-up duration = Total wrap-up duration/ Number of wrap-up times
Average processing duration (s)	Average processing duration = (Manual call duration + Total wrap-up duration)/Number of successful manual calls
Total rest duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Rest duration rate (%)	Rest duration rate = (Total rest duration/Total work duration) x 100
Total busy duration (s)	Total duration when an agent is in busy state.
Busy duration rate (%)	Busy duration rate = (Total busy duration/Total work duration) x 100
Total duration of other states (s)	Total duration when an agent is in another state, or call duration of other skills when multiple skills exist.
Other duration rate (%)	Other duration rate = (Total duration of other states/Total work duration) x 100
Total ring duration (s)	Total ringing duration of an agent, excluding the call duration.
Idle duration (s)	Total duration when an agent is in idle state.
Idle Rate (%)	Percentage of an agent's total idle duration in the total work duration.
Hold duration (s)	Total duration when an agent is in call hold state. The call duration of an agent includes the call hold time.
Average hold duration (s)	Average call hold duration. Average hold duration = Hold duration/Number of hold times

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

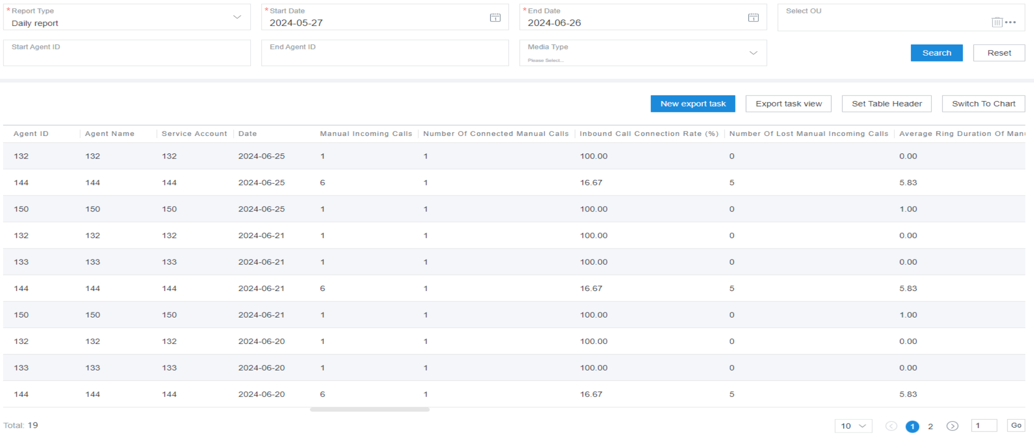
4.3.3.8 Agent Traffic Report

The agent traffic report collects statistics on the activities of each agent in a specified OU, and provides indicators including the number of inbound calls, number of outbound calls, call duration, and connection operation duration of the agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Traffic Report** to query agent traffic report data.

Figure 4-82 Agent Traffic Report



Agent ID	Agent Name	Service Account	Date	Manual Incoming Calls	Number Of Connected Manual Calls	Inbound Call Connection Rate (%)	Number Of Lost Manual Incoming Calls	Average Ring Duration Of Man
132	132	132	2024-06-25	1	1	100.00	0	0.00
144	144	144	2024-06-25	6	1	16.67	5	5.83
150	150	150	2024-06-25	1	1	100.00	0	1.00
132	132	132	2024-06-21	1	1	100.00	0	0.00
133	133	133	2024-06-21	1	1	100.00	0	0.00
144	144	144	2024-06-21	6	1	16.67	5	5.83
150	150	150	2024-06-21	1	1	100.00	0	1.00
132	132	132	2024-06-20	1	1	100.00	0	0.00
133	133	133	2024-06-20	1	1	100.00	0	0.00
144	144	144	2024-06-20	6	1	16.67	5	5.83

- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down lists support search and filtering.
- **Select OU**

  a. Click , select an OU in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

  b. Click to delete the selected OU. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

NOTE

When you have the permission to view report OUs:

– The options are all OUs.
– If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.
– After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

When you do not have the permission to view report OUs:

– The options are only the current OU and its lower-level OUs.
– If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
– After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

- **Select Agent**: Click ••• to select an agent account.
- **Start Agent ID**: The value can contain a maximum of five characters. If no value is entered, the search result contains the agent performance report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of five characters. The end agent ID must be greater than or equal to the start agent ID.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-83 Filter Indicator dialog box

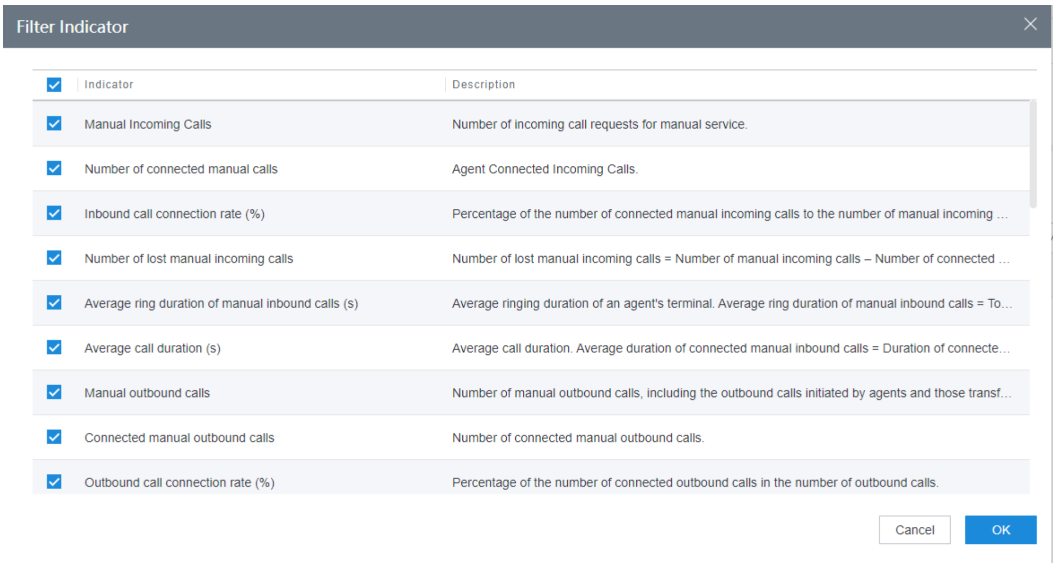


Table 4-9 Indicators in the Filter Indicator dialog box

Indicator	Description
Manual Incoming Calls	Number of incoming call requests for manual service.
Number of connected manual calls	Number of inbound calls connected by an agent.
Inbound call connection rate (%)	Percentage of the number of connected manual incoming calls to the number of manual incoming calls.
Number of lost manual incoming calls	Number of lost manual incoming calls = Number of manual incoming calls – Number of connected manual incoming calls
Average ring duration of manual inbound calls (s)	Average ringing duration of an agent's terminal. Average ringing duration of manual inbound calls = Total ringing duration of manual inbound calls/Number of ringing calls
Average call duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Manual outbound calls	Number of manual outbound calls, including the outbound calls initiated by agents and those transferred from the IVR to manual services.
Connected manual outbound calls	Number of connected manual outbound calls.
Outbound call connection rate (%)	Percentage of the number of connected outbound calls to the number of outbound calls.
Average Ring Duration of Manual Outbound Calls (s)	Average time for an agent to wait for customers to answer outbound calls.
Average Manual Outbound Call Duration (s)	Average outbound call duration between an agent and customers.

Indicator	Description
Total connected calls	Number of connected inbound and outbound calls.
Average manual inbound calls per hour	Average number of calls answered by an agent per hour in the selected working time segment.
Work duration rate (%)	Work duration rate = (Total work duration – Rest duration)/Total work duration x 100
Work state duration rate (%)	Work state duration rate = (Total call duration + Total wrap-up duration)/(Total work duration – Rest duration) x 100
Total work duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out. Total work duration = Manual call duration + Total wrap-up duration + Total busy duration + Total rest duration + Total duration of other states + Idle duration
Manual call duration (s)	Total call duration of an agent, excluding the text chat duration.
Total talk duration (s)	Total duration when an agent is in talking state.
Average manual call duration (s)	Average call duration of an agent. Average manual call duration = Manual call duration/Number of successful manual calls
Total wrap-up duration (s)	Total duration when an agent is in wrap-up state.
Wrap-up duration rate (%)	Wrap-up duration rate = (Total wrap-up duration/Total work duration) x 100
Average wrap-up duration (s)	Average duration when an agent is in wrap-up state. Average wrap-up duration = Total wrap-up duration/ Number of wrap-up times
Average processing duration (s)	Average processing duration = (Manual call duration + Total wrap-up duration)/Number of successful manual calls
Total rest duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Rest duration rate (%)	Rest duration rate = (Total rest duration/Total work duration) x 100

Indicator	Description
Total busy duration (s)	Total duration when an agent is in busy state.
Busy duration rate (%)	Busy duration rate = (Total busy duration/Total work duration) x 100
Total ring duration (s)	Total ringing duration of an agent, excluding the call duration.
Idle duration (s)	Total duration when an agent is in idle state.
Idle Rate (%)	Percentage of an agent's total idle duration to the total work duration.
Hold duration (s)	Total duration when an agent is in call hold state. The call duration of an agent includes the call hold time.
Average hold duration (s)	Average call hold duration. Average hold duration = Hold duration/Number of hold times
Percentage of Call Duration (%)	(Total talk duration/Total work duration) x 100

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.

4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

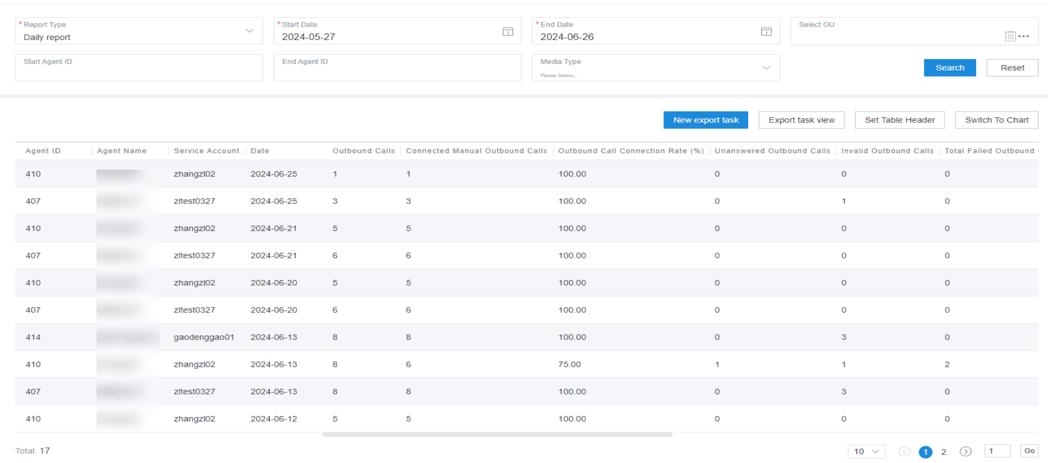
4.3.3.9 Agent Outbound Call Report

The agent outbound call report collects statistics on the outbound call traffic of each agent in a specified OU, and provides indicators including the number of successful outbound calls, number of failed outbound calls, and outbound call duration.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Outbound Call Report** to query agent outbound call report data.

Figure 4-84 Agent Outbound Call Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down lists support search and filtering.
- **Select OU**

  a. Click , select an OU in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

b. Click to delete the selected OU. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

NOTE

When you have the permission to view report OUs:

- The options are all OUs.
- If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.
- After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

When you do not have the permission to view report OUs:

- The options are only the current OU and its lower-level OUs.
- If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
- After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

- **Select Agent**: Click to select an agent account.
- **Start Agent ID**: The value can contain a maximum of five characters. If no value is entered, the search result contains the agent outbound call report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of five characters. The end agent ID must be greater than or equal to the start agent ID.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-85 Filter Indicator dialog box

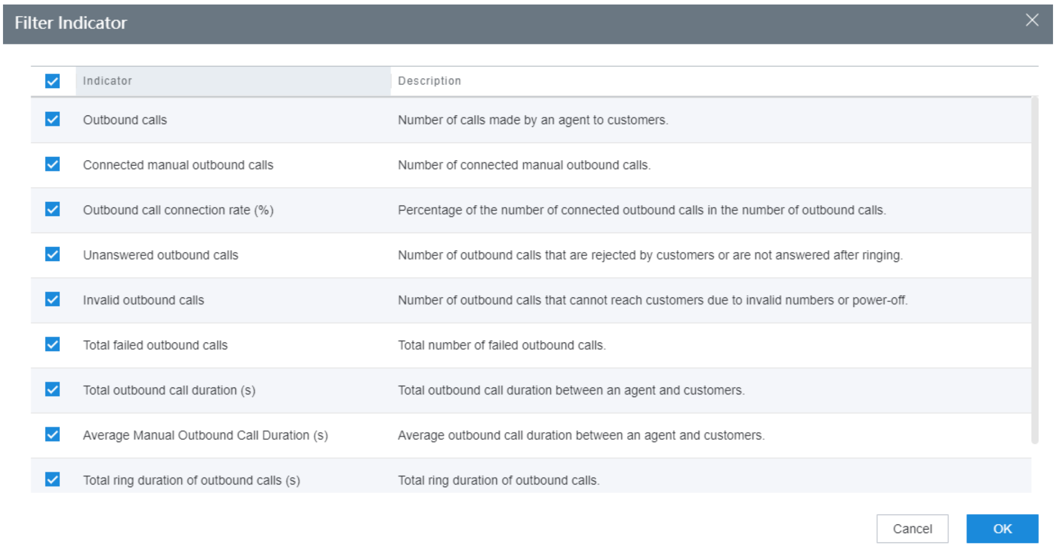


Table 4-10 Indicators in the Filter Indicator dialog box

Indicator	Description
Outbound calls	Number of calls made by an agent to customers.
Connected manual outbound calls	Number of connected manual outbound calls.
Outbound call connection rate (%)	Percentage of the number of connected outbound calls to the number of outbound calls.
Unanswered outbound calls	Number of outbound calls that are rejected by customers or are not answered after ringing.
Invalid outbound calls	Number of outbound calls that cannot reach customers due to invalid numbers or power-off.
Total failed outbound calls	Total number of failed outbound calls.
Total outbound call duration (s)	Total outbound call duration between an agent and customers.

Indicator	Description
Average Manual Outbound Call Duration (s)	Average outbound call duration between an agent and customers.
Total ring duration of outbound calls (s)	Total ringing duration of outbound calls.
Average ring duration of outbound calls (s)	Average ringing duration of outbound calls = Total ringing duration of outbound calls/Number of ringing calls

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

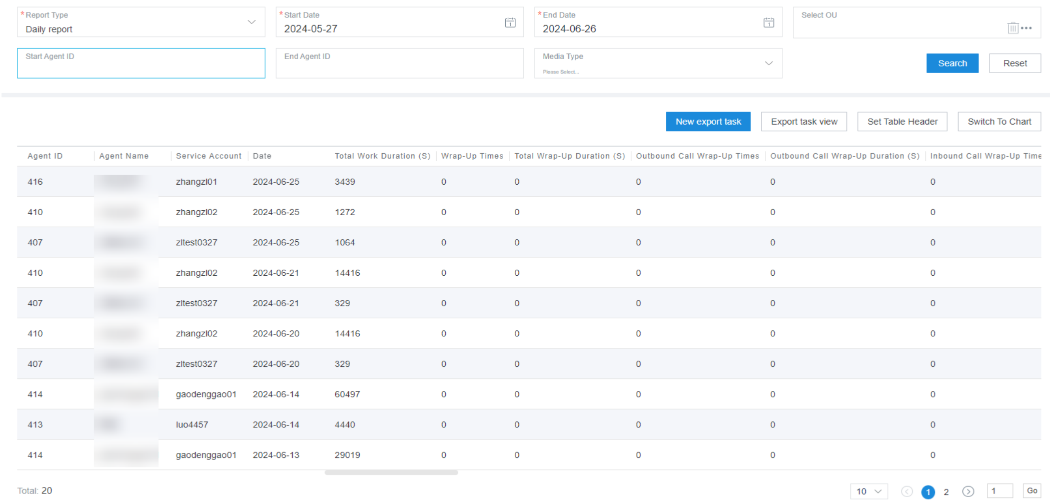
4.3.3.10 Agent Operation Report

The agent operation report collects statistics on the connection operations and duration of each agent in a specified OU, and provides indicators including the number of sign-in times, number of sign-out times, connection status duration, number of call transfers, and number of call hang-ups.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Operation Report** to query agent connection report data.

Figure 4-86 Agent Operation Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down lists support search and filtering.
- **Select OU**

  a. Click , select an OU in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

  b. Click to delete the selected OU. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

NOTE

When you have the permission to view report OUs:

- The options are all OUs.
- If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.
- After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

When you do not have the permission to view report OUs:

- The options are only the current OU and its lower-level OUs.
- If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
- After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

- **Select Agent**: Click ••• to select an agent account.
- **Start Agent ID**: The value can contain a maximum of five characters. If no value is entered, the search result contains the agent connection operation report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of five characters. The end agent ID must be greater than or equal to the start agent ID.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-87 Filter Indicator dialog box

Table 4-11 Indicators in the Filter Indicator dialog box

Indicator	Description
Total work duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out. Total work duration = Manual call duration + Total wrap-up duration + Total busy duration + Total rest duration + Total duration of other states + Idle duration
Wrap-up times	Number of times that an agent enters the wrap-up state.
Total wrap-up duration (s)	Total duration when an agent is in wrap-up state.
Outbound call wrap-up times	Number of times that an agent enters the wrap-up state after outbound calls end.
Outbound call wrap-up duration (s)	Wrap-up duration after outbound calls end.
Inbound call wrap-up times	Number of times that an agent enters the wrap-up state after inbound calls end.
Inbound call wrap-up duration (s)	Wrap-up duration after inbound calls end.
Rest times	Number of times an agent enters the rest state.
Total rest duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Hold times	Number of hold times.
Hold duration (s)	Total duration when an agent is in call hold state. The call duration of an agent includes the call hold time.
Silence times	Number of silence times.
Total silence duration (s)	Silence duration.
Internal help requests	Number of internal help requests.
Internal help request duration (s)	Duration of internal help requests.
Busy times	Number of times an agent enters the busy state.
Total busy duration (s)	Total duration when an agent is in busy state.

Indicator	Description
Voice playing times	Number of voice playing times.
Voice playing duration (s)	Voice playing duration.
Total duration of other states (s)	Total duration when an agent is in another state, or call duration of other skills when multiple skills exist.
Sign-in times	Number of sign-in times.
Sign-out times	Number of sign-out times.
Three-party calls	Number of three-party calls.
Internal transfers	Number of internal transfer times.
Manual transfer-out times	Number of manual transfer-out times.
Manual-to-IVR transfer times	Number of manual-to-IVR transfer times.
Internal calls	Number of internal calls.
Internal call duration (s)	Internal call duration.
Manual-to-skill queue transfers	Number of manual-to-skill queue transfers.
Agent hang-ups	Number of agent hang-ups.
Customer hang-ups	Number of customer hang-ups.
System hang-ups	Number of system hang-ups.
Number of times that an agent is suspended to transfer to the IVR	Number of times that the agent suspends the call and transfers the call to the IVR after the call is connected.

Indicator	Description
Number of manual transfers to IVR and re-transfers out	Number of times that the agent transfers to the IVR and then transfers out.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

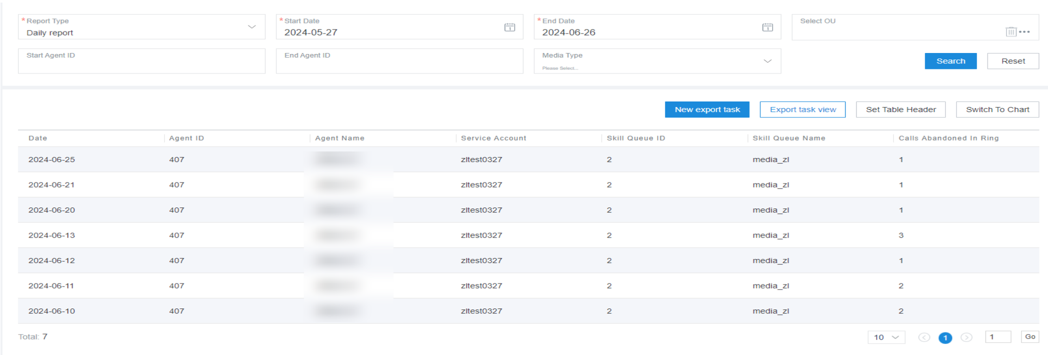
4.3.3.11 Abandoned Call in Ringing Report

The abandoned call in ringing report collects statistics on the number of calls abandoned by customers before agents answer the calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Abandoned Call in Ringing Report** to query abandoned call in ringing report data.

Figure 4-88 Abandoned Call in Ringing Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down lists support search and filtering.
- **Select OU**

  a. Click ..., select an OU in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

  b. Click to delete the selected OU. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

NOTE

When you have the permission to view report OUs:

- The options are all OUs.
- If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.
- After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

When you do not have the permission to view report OUs:

- The options are only the current OU and its lower-level OUs.
- If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
- After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

- **Select Agent**: Click ••• to select an agent account.
- **Start Agent ID**: The value can contain a maximum of five characters. If no value is entered, the search result contains the abandoned calls (during ringing) summary report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of five characters. The end agent ID must be greater than or equal to the start agent ID.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-89 Filter Indicator dialog box

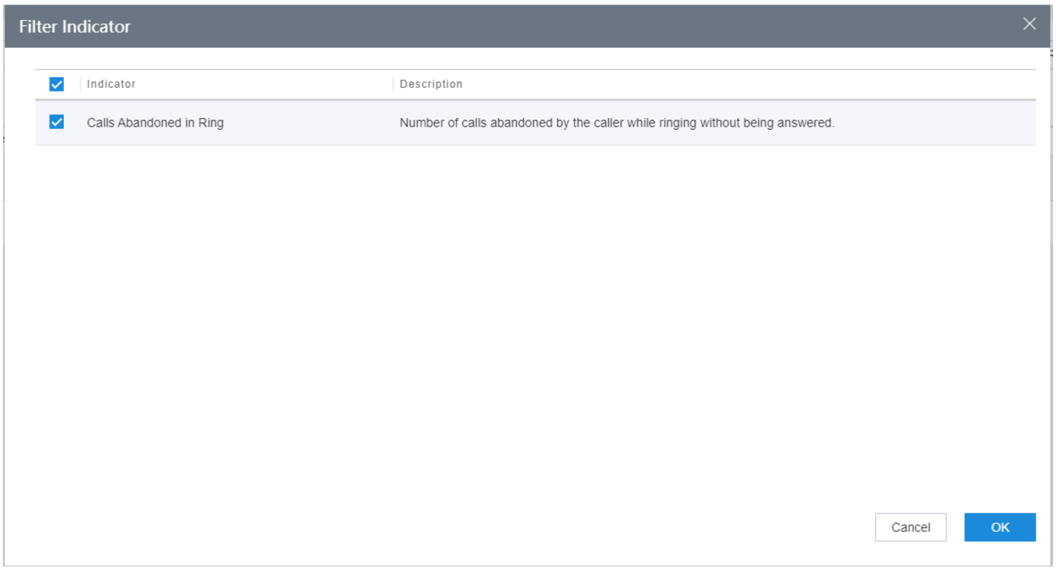


Table 4-12 Indicators in the Filter Indicator dialog box

Indicator	Description
Calls Abandoned in Ring	Number of calls abandoned by the caller while ringing without being answered.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   – **Export File Format**: The exported file can be in CSV or PDF format.
   – **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

   NOTE

   ■ The compression password is used to open the downloaded package.

   ■ You do not need to configure the compression password in the independent deployment environment.

   – Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

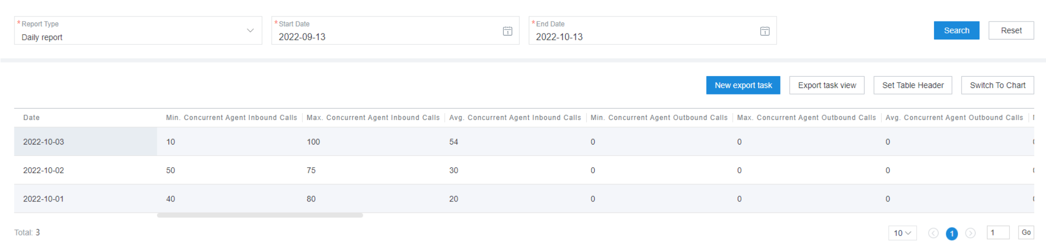
4.3.3.12 Interval-based VDN Traffic Report

The interval-based VDN traffic report collects statistics on the inbound call traffic of the call center at a specified interval in a specified period, and provides indicators including the total number of inbound calls, number of calls answered by IVRs, and number of calls answered by agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Interval-Based VDN Traffic Report** to query interval-based VDN traffic report data.

Figure 4-90 Interval-Based VDN Traffic Report



- **Statistical Step**: The options are **15 minutes**, **30 minutes**, and **1 hour**. The default value is **15 minutes**.
- **Start Time**: Only data of the last seven days can be queried. The time range cannot exceed one day.
- **End Time**: Only data of the last seven days can be queried. The time range cannot exceed one day.
- **User Level**: The options are existing customer levels of the VDN on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook**, **X (Twitter)**, **5G RCS**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-91 Filter Indicator dialog box

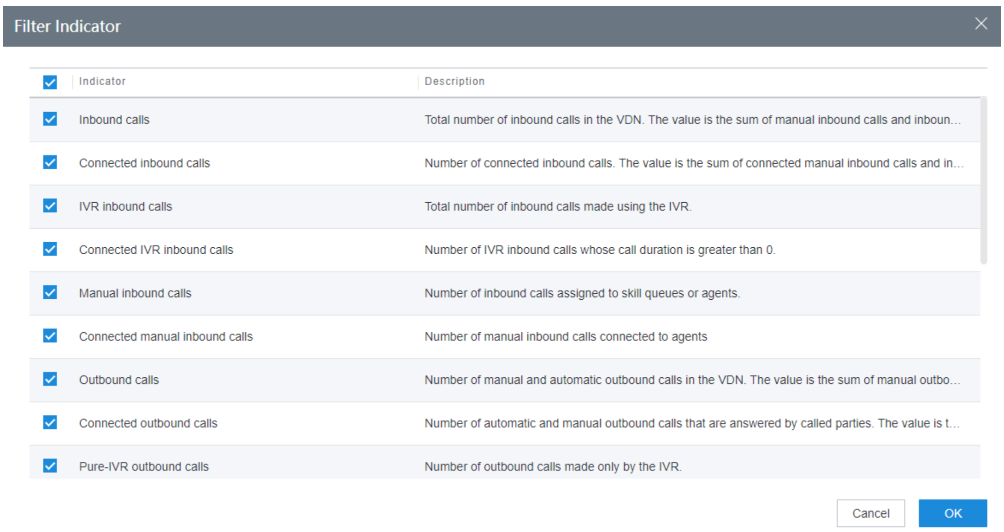


Table 4-13 Indicators in the Filter Indicator dialog box

Indicator	Description
Inbound calls	Total number of inbound calls in the VDN. The value is the sum of manual inbound calls and inbound calls automatically made using the IVR.
Connected inbound calls	Number of connected inbound calls. The value is the sum of connected manual inbound calls and inbound calls automatically connected using the IVR.
IVR inbound calls	Total number of calls connected to the IVR.
Connected IVR inbound calls	Number of IVR inbound calls whose call duration is greater than 0.
Manual inbound calls	Number of inbound calls assigned to skill queues or agents.
Connected manual inbound calls	Number of manual inbound calls connected to agents, which is the number of manual inbound calls whose call duration is greater than 0.
Outbound calls	Number of manual and automatic outbound calls in the VDN. The value is the sum of manual outbound calls and outbound calls automatically made using the IVR.
Connected outbound calls	Number of automatic and manual outbound calls that are answered by called parties. The value is the sum of connected manual outbound calls and outbound calls automatically connected using the IVR.
Pure-IVR outbound calls	Number of outbound calls made only by the IVR.
Connected pure-IVR outbound calls	Number of connected pure-IVR outbound calls whose IVR device occupation duration is greater than 0.
Manual outbound calls	Number of manual outbound calls made by agents.
Connected manual outbound calls	Number of manual outbound calls connected to users, which is the number of manual outbound calls whose call duration is greater than 0.
Inbound call connection rate (%)	Percentage of connected inbound calls to total inbound calls.

Indicator	Description
IVR inbound call connection rate (%)	Percentage of connected IVR inbound calls to total IVR inbound calls.
Manual inbound call connection rate (%)	Percentage of connected manual inbound calls to total manual inbound calls.
Outbound call connection rate (%)	Percentage of connected outbound calls to total outbound calls.
Pure-IVR outbound call connection rate (%)	Percentage of connected pure-IVR outbound calls to total pure-IVR outbound calls.
Manual outbound call connection rate (%)	Percentage of connected manual outbound calls to total manual outbound calls.
Average inbound call duration in VDN (s)	Average inbound call duration in the VDN. The value is the total inbound call duration divided by the number of inbound calls.
Average outbound call duration in VDN (s)	Average outbound call duration in the VDN. The value is the total outbound call duration divided by the number of outbound calls.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.

– **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

NOTE

- The compression password is used to open the downloaded package.
- You do not need to configure the compression password in the independent deployment environment.

– Click **OK** to create an export task.

3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

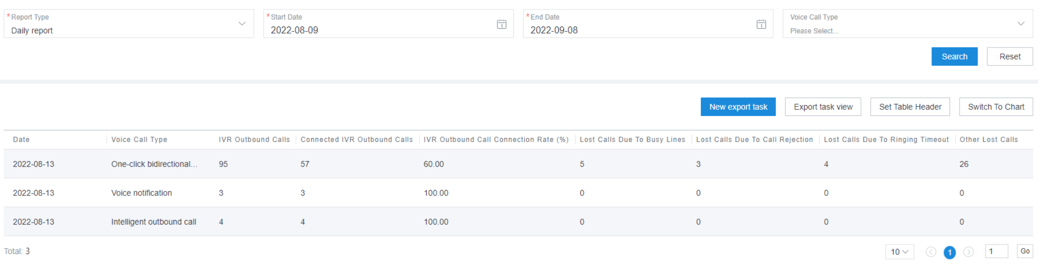
4.3.3.13 IVR Outbound Call Report

The IVR outbound call report collects statistics on the outbound call traffic of IVRs in a specified period, and provides indicators including the number of outbound calls and number of lost calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or inspector and choose **Report** > **IVR Outbound Call Report** to query IVR outbound call report data.

Figure 4-92 IVR Outbound Call Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  – **Daily report**: The time range cannot exceed 31 days.
  – **Weekly report**: Set the start year and week as well as the end ones.
  – **Monthly report**: Set the start year and month as well as the end ones.

NOTE

The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

- **Voice Call Type**: The options are **One-click bidirectional call**, **Voice notification**, and **Intelligent outgoing call**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-93 Filter Indicator dialog box

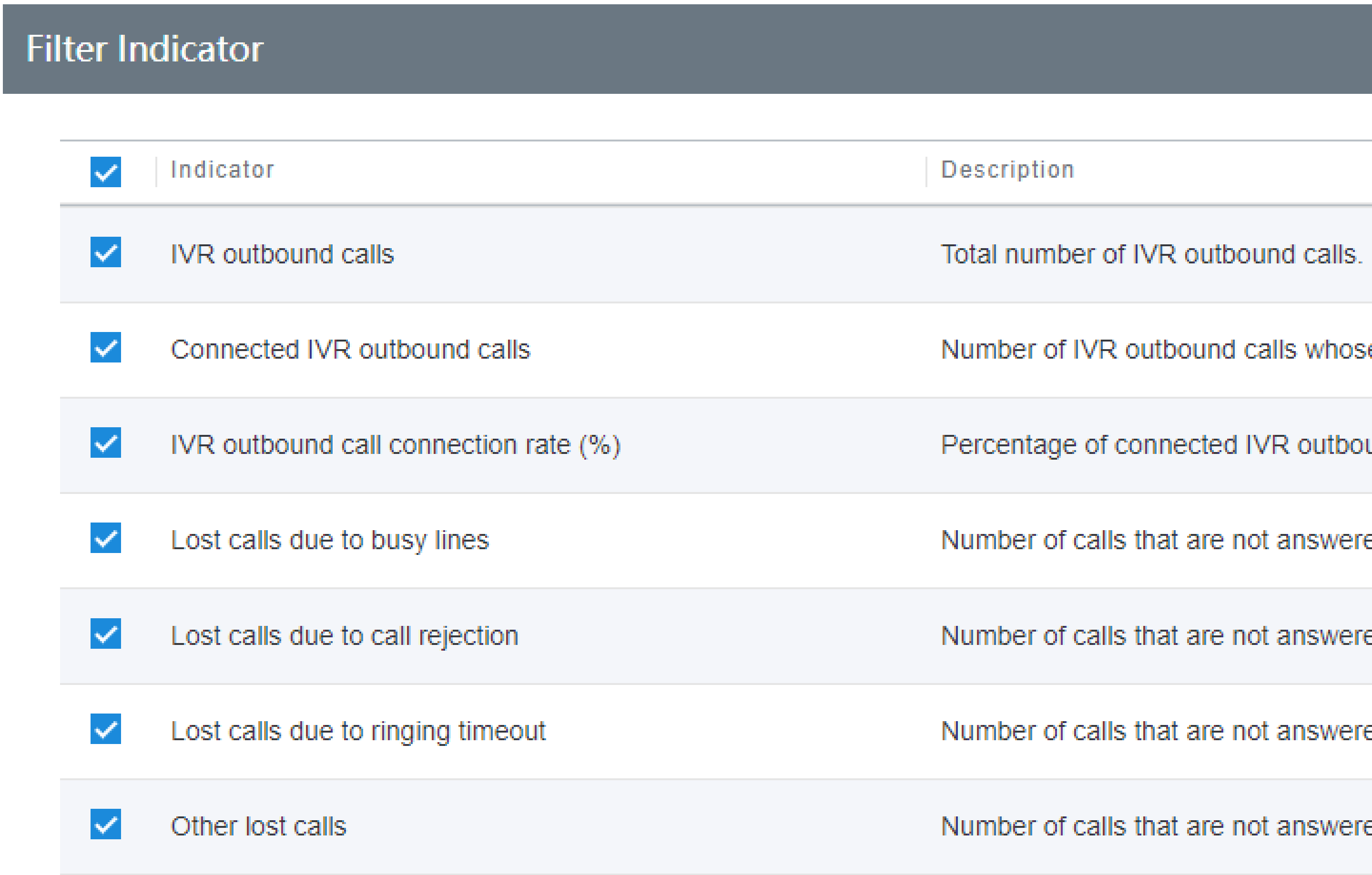


Table 4-14 Indicators on the Filter Indicator page

Indicator	Description
IVR outbound calls	Total number of IVR outbound calls.

Indicator	Description
Connected IVR outbound calls	Number of IVR outbound calls whose call duration is greater than 0.
IVR outbound call connection rate (%)	Percentage of connected IVR outbound calls to total IVR outbound call requests.
Lost calls due to busy lines	Number of calls that are not answered due to busy lines.
Lost calls due to call rejection	Number of calls that are not answered due to call rejection.
Lost calls due to ringing timeout	Number of calls that are not answered due to ringing timeout.
Other lost calls	Number of calls that are not answered due to reasons other than busy lines, call rejection, and ringing timeout.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     The compression password is used to open the downloaded package.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report

file on the local PC, you need to enter the compression password set when you create the export task.

----End

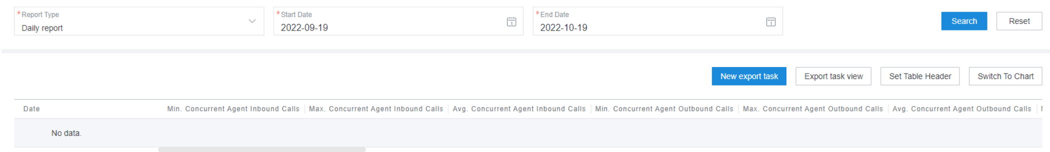
4.3.3.14 System Performance Report

The system performance report collects statistics on the number of concurrent calls of IVRs, agents, and skill queues, and provides indicators including the maximum number of concurrent calls, minimum number of concurrent calls, and average number of concurrent calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or inspector and choose **Report** > **System Performance Report** to query system performance report data.

Figure 4-94 System Performance Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-95 Filter Indicator dialog box

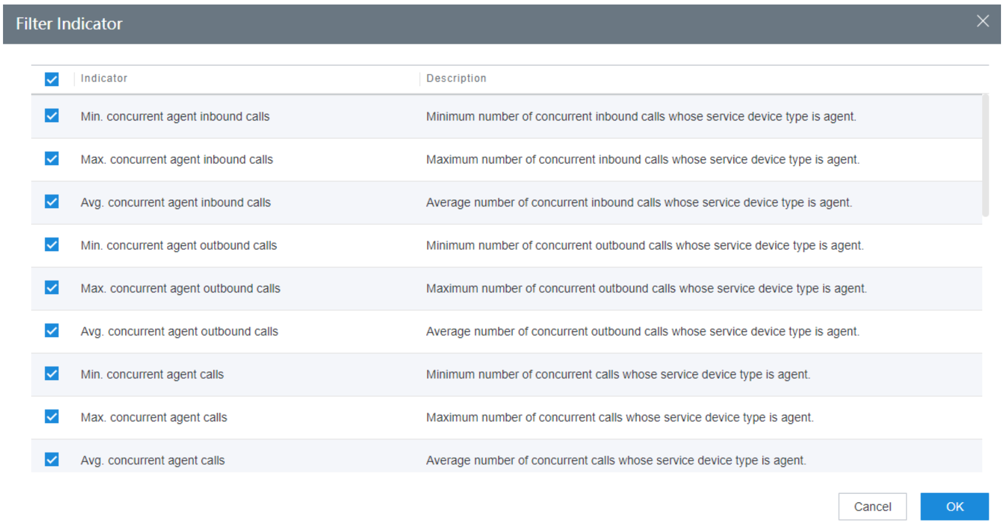


Table 4-15 Indicators on the Filter Indicator page

Indicator	Description
Min. concurrent agent inbound calls	Minimum number of concurrent inbound calls whose service device type is agent.
Max. concurrent agent inbound calls	Maximum number of concurrent inbound calls whose service device type is agent.
Avg. concurrent agent inbound calls	Average number of concurrent inbound calls whose service device type is agent.
Min. concurrent agent outbound calls	Minimum number of concurrent outbound calls whose service device type is agent.
Max. concurrent agent outbound calls	Maximum number of concurrent outbound calls whose service device type is agent.
Avg. concurrent agent outbound calls	Average number of concurrent outbound calls whose service device type is agent.

Indicator	Description
Min. concurrent agent calls	Minimum number of concurrent calls whose service device type is agent.
Max. concurrent agent calls	Maximum number of concurrent calls whose service device type is agent.
Avg. concurrent agent calls	Average number of concurrent calls whose service device type is agent.
Min. concurrent IVR inbound calls	Minimum number of concurrent inbound calls whose service device type is IVR.
Max. concurrent IVR inbound calls	Maximum number of concurrent inbound calls whose service device type is IVR.
Avg. concurrent IVR inbound calls	Average number of concurrent inbound calls whose service device type is IVR.
Min. concurrent IVR outbound calls	Minimum number of concurrent outbound calls whose service device type is IVR.
Max. concurrent IVR outbound calls	Maximum number of concurrent outbound calls whose service device type is IVR.
Avg. concurrent IVR outbound calls	Average number of concurrent outbound calls whose service device type is IVR.
Min. concurrent IVR calls	Minimum number of concurrent calls whose service device type is IVR.
Max. concurrent IVR calls	Maximum number of concurrent calls whose service device type is IVR.
Avg. concurrent IVR calls	Average number of concurrent calls whose service device type is IVR.

Indicator	Description
Min. concurrent skill queue inbound calls	Minimum number of concurrent inbound calls whose service device type is skill queue.
Max. concurrent skill queue inbound calls	Maximum number of concurrent inbound calls whose service device type is skill queue.
Avg. concurrent skill queue inbound calls	Average number of concurrent inbound calls whose service device type is skill queue.
Min. concurrent skill queue outbound calls	Minimum number of concurrent outbound calls whose service device type is skill queue.
Max. concurrent skill queue outbound calls	Maximum number of concurrent outbound calls whose service device type is skill queue.
Avg. concurrent skill queue outbound calls	Average number of concurrent outbound calls whose service device type is skill queue.
Min. concurrent skill queue calls	Minimum number of concurrent calls whose service device type is skill queue.
Max. concurrent skill queue calls	Maximum number of concurrent calls whose service device type is skill queue.
Avg. concurrent skill queue calls	Average number of concurrent calls whose service device type is skill queue.

NOTE

All minimum numbers of concurrent calls are 0 only when the values of all related indicators of the day are 0. Otherwise, the value is the minimum indicator value after related indicators of the day whose values are 0 are excluded.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     The compression password is used to open the downloaded package.

   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

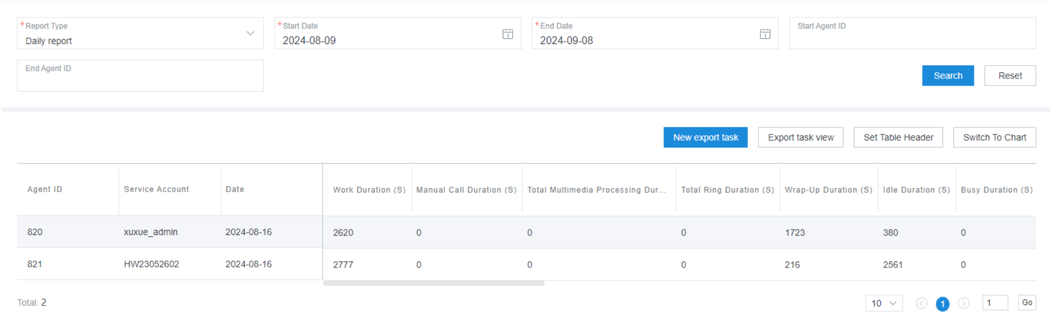
4.3.3.15 Agent Timesheet Report

The agent timesheet report collects statistics on the working status of agents in a specified period, and provides indicators such as the connection operation duration and number of connection operations.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Timesheet Report** to query agent timesheet report data.

Figure 4-96 Agent Timesheet Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Start Agent ID**: The value can contain a maximum of five characters. If no value is entered, the search result contains the agent timesheet report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of five characters. The end agent ID must be greater than or equal to the start agent ID.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-97 Filter Indicator dialog box

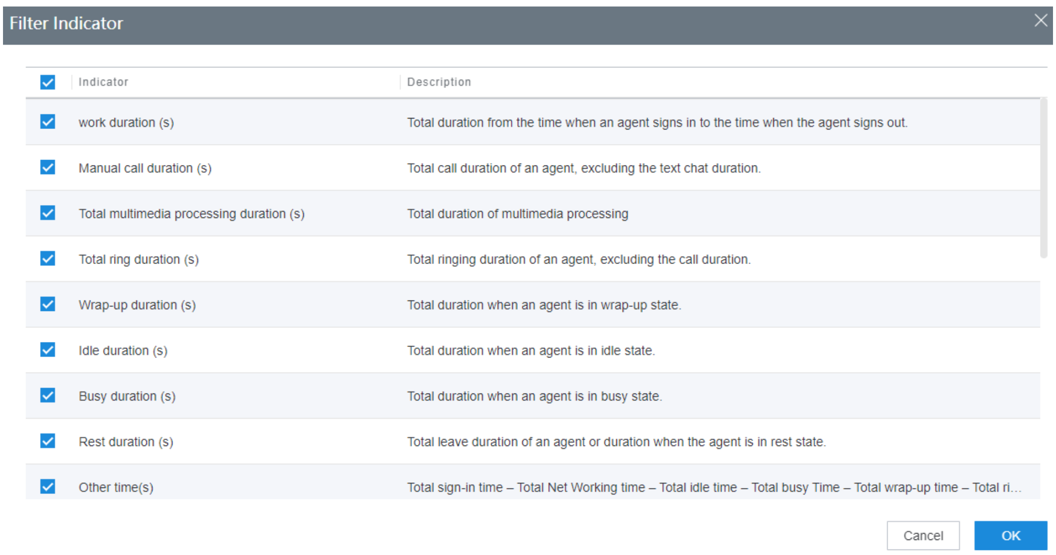


Table 4-16 Indicators in the Filter Indicator dialog box

Indicator	Description
work duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out.
Manual call duration (s)	Total call duration of an agent, excluding the text chat duration.
Total multimedia processing duration (s)	Total multimedia session duration.
Total ring duration (s)	Total ring duration of an agent, excluding the call duration.
Wrap-up duration (s)	Total duration when an agent is in wrap-up state.
Idle duration (s)	Total duration when an agent is in idle state.
Busy duration (s)	Total duration when an agent is in busy state.
Rest duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Other time(s)	Other time = Total signed-in duration – Total net work duration – Total idle duration – Total busy duration – Total wrap-up duration – Total ring duration – Total rest duration **NOTE** The total net work duration indicates the duration when an agent is in talking state. If the agent is in both a multimedia call and a voice call for a period of time, the period is counted only once.
Total Incoming Voice Calls	Total number of voice inbound calls.
Total Number of Outgoing Voice Calls	Total number of voice outbound calls.
Total Incoming Multimedia Calls	Total number of multimedia inbound calls.
Total number of multimedia outgoing calls	Total number of multimedia outbound calls.
Rest times	Number of times that an agent enters the rest state.

Indicator	Description
Busy times	Number of times an agent enters the busy state.
Wrap-up times	Number of times that an agent enters the wrap-up state.
Voice Call Ratio (%)	Percentage of voice call duration to total work duration.
Idle Rate (%)	Percentage of an agent's total idle duration to total work duration.
Busy duration rate (%)	Busy duration rate = (Total busy duration/Total work duration) x 100
Rest duration rate (%)	Rest duration rate = (Total rest duration/Total work duration) x 100
Wrap-up duration rate (%)	Wrap-up duration rate = (Total wrap-up duration/Total work duration) x 100

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New export task**. The export task page is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`!#(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report

file on the local PC, you need to enter the compression password set when you create the export task.

----End